



Strike West Pty Ltd  
EP 469 West Erregulla-3 Exploration Well

SUMMARY ENVIRONMENT PLAN – REVISION 5

9 June 2020

WER03-HSE-PLN-004

JBS&G Australia Pty Ltd T/A Strategen-JBS&G

## Document control

<b>Operator name</b>	Strike West Pty Ltd
<b>Document title</b>	EP 469 West Erregulla-3 Exploration Well
<b>Document type</b>	Environmental Plan Summary
<b>Document number</b>	WER03-HSE-PLN-004
<b>Current revision</b>	Rev 5
<b>Changes since first approval</b>	Updated to reflect DMIRS changes to EP

## Document Approval

Approvals	Responsibility	Signed
Custodian	Review document to ensure it is consistent with the planned operations.	HSE Manager – Greg Heinjus
Approvals	Responsibility	Signed
Approver	As the ultimate owner of the Project, accepts the content of this document.	Chief Operating Officer – Pax Barkla

## Table of Contents

Document control .....	ii
1. Introduction .....	1
1.1 Background .....	1
1.2 Purpose and scope .....	1
1.3 Proponent and contact details .....	1
2. Overview of activity .....	2
2.1 Geotechnical/ground-truthing investigations .....	3
2.2 Site preparation .....	3
2.3 Mobilisation of equipment .....	4
2.4 Drilling and completion of the well .....	4
2.5 Well testing .....	4
2.6 Well suspension .....	4
2.7 Well abandonment, demobilisation of equipment and rehabilitation .....	4
2.8 Post-rehabilitation monitoring .....	4
3. Existing environment .....	6
3.1 Regional context .....	6
3.2 Geology and soils .....	6
3.3 Hydrology .....	6
3.3.1 Surface water .....	6
3.3.2 Groundwater .....	6
3.4 Air and noise emissions .....	7
3.5 Vegetation .....	7
3.6 Fauna .....	7
4. Socio-economic environment .....	8
4.1 Native title .....	8
4.2 Aboriginal heritage .....	8
4.3 European heritage .....	8
4.4 Geo-heritage .....	8
5. Environmental impacts and management .....	9
6. Implementation .....	13
7. Stakeholder consultation .....	16
8. Limitations .....	18

## List of Tables

Table 1.1: Operator details .....	1
Table 2.1: Project details.....	2
Table 5.1: Summary of the existing environment, potential impacts and management measures.....	9

## List of Figures

Figure 2.1: Project Area .....	5
--------------------------------	---

## Appendices

Appendix A Chemical Disclosure

Appendix B Environmental performance objectives, standards and measurement criteria

# 1. Introduction

## 1.1 Background

Strike West Pty Ltd (Strike Energy), on behalf of EP 469 Joint Venture is proposing to drill the onshore conventional West Erregulla-3 (WE3) exploration well (the Project) in the Shire of Three Springs in the Midwest region of Western Australia, within petroleum exploration permit EP 469. The Project development envelope (Project Area) is located approximately 50 km southeast of Dongara and 234 km north of Perth.

The purpose of the Project is to intersect and test the deep conventional Permian age Kingia and Highcliff Sandstones in the West Erregulla field. Secondary to this, the Permian basal Wagina sandstone. This Project involves the drilling and testing of the well only. Any future exploration, appraisal or development activities (unrelated to the preparation for, and implementation of, the project) do not form part of this project.

## 1.2 Purpose and scope

An Environment Plan (EP) has been prepared for the for the management of environmental aspects associated with the Project. The EP has been prepared in accordance with Regulation 11(7) of the *Petroleum and Geothermal Energy Resources Act 1967* (PGER Act) and in consideration of the Department of Mines, Industry Regulation and Safety (DMIRS) Guideline for the Development of Petroleum and Geothermal Environment Plans in Western Australia - November 2016.

This EP Summary Document summarises the operations and mitigation and management measures in the EP, including:

- contact details of the nominated operator of the activity or nominated liaison person for the Project
- location of the activity including coordinates and locality maps of the Project
- description of the existing environment that may be affected by the Project
- operational details of the Project and proposed timing
- environmental impacts and environmental risks of the Project
- the implementation strategy included in the EP
- stakeholder consultation.

## 1.3 Proponent and contact details

Strike West Pty Ltd is a wholly-owned subsidiary of Strike Energy Limited, a publicly listed oil and gas company with exploration and production assets in Western Australia and South Australia. Strike Energy operates EP 469 on behalf of a joint venture with Warrego Energy Pty Ltd (Warrego Energy).

Contact details for the Project are provided in Table 1.1 below.

**Table 1.1: Operator details**

Instrument title / Permit number	EP 469
Instrument holder(s) / operator names	Strike West Pty Ltd (ABN 91 625 161 846)
Email Address:	<a href="mailto:web.query@strikeenergy.com.au">web.query@strikeenergy.com.au</a>
Telephone Number:	+61 8 7099 7464
Postal Address:	PO Box 639, Torrensville Plaza, Thebarton, SA 5031

## 2. Overview of activity

The Project involves drilling of the onshore conventional West Erregulla-3 (WE3) exploration well within petroleum exploration permit EP 469, in the Shire of Three Springs in the Midwest region of Western Australia. The Project Area is located on land previously cleared for agricultural activities. There is no native vegetation present within the Project Area and therefore no clearing of native vegetation is needed for any construction activities.

Location and operational details specific to the Project are provided in Table 2.1. The location of the Project Area is shown in Figure 2.1.

**Table 2.1: Project details**

Location	The Project Area is located in the Shire of Three Springs in the Midwest region of Western Australia, within petroleum exploration permit EP 469, approximately 50 km southeast of Dongara and 234 km north of Perth.		
Project area coordinates	<b>Easting Coordinates</b>	<b>Northing Coordinates</b>	
	335693.201264	6749069.85544	
	335963.407534	6749070.45075	
	335963.076804	6748953.96771	
	335986.558622	6748954.03386	
	335986.889352	6748883.32382	
	336034.514447	6748850.78	
	336035.308199	6748833.31747	
335692.870535	6748832.07723		
Exploration Permit(s)	EP 469.		
Accommodation	Main accommodation camp located within Project Area on private land adjacent to the corner of Carey Road and Natta Road. A Mini-camp will also be located within the well site.		
Project duration	Approximately seven (7) months.		
Indicative schedule  *Activities are indicative only and subject to change depending on results from the drilling	<b>Activity</b>	<b>Estimated Duration</b>	<b>Estimated Timing</b>
	Geotechnical/ground-truthing investigations and site preparation	4- 8 weeks	April-July 2020
	Mobilisation of drilling equipment	3 weeks	May-June 2020
	Drilling and completion of well	13 weeks	July-October 2020
	Wireline Perforating and Well testing*	4 weeks	October 2020
	Well suspension*	1 week	November 2020
	Demobilisation of all other equipment*	1 week	November 2020
	Rehabilitation*	2 weeks	October- November 2021
Post-rehabilitation monitoring (i.e. groundwater)*	2 years	November 2021 – November 2023	
Hours of activity	Project activities will be undertaken during daylight hours, seven days per week.		
Site access	The Project Area will be accessed via an entrance from Natta Road into private property, that then joins an existing track inside the farm boundary fence. A light vehicle turnout will be provided onto Carey Road, at an existing gate.		
Well site	Drilling will be conducted on a well pad surrounded by a cleared 20 m fire management area. The Well site will include two flare pits for flaring gas during drilling and testing.		
Hygiene station	One vehicle and equipment hygiene station will be operated as part of Project. All vehicles, equipment, plant and machinery must be documented as clean before initially arriving in the Project Area and will be required to pass through the hygiene station when travelling to the well site or accommodation camp.		
Water supply	Water will be required for operational (non-potable water) and domestic use (potable water). Non-potable water will be required for construction, dust suppression and drilling activities and will be sourced from the existing landowner bore. Potable water will be required for drinking and other domestic uses and will be delivered to storage tanks within the site.		
Power supply	Self-bunded portable diesel generator(s) will supply power for the Project.		

Storage of chemical and hazardous substances	Oil, fuel, chemicals and other hazardous substances will be stored in a bunded chemical storage area or in self-bunded tanks on the well site. A Safety Data Sheet (SDS) for each chemical handled and stored on-site will be held in the site office and displayed in the chemical storage area. A Hazardous Materials Register will be maintained on-site. Chemicals proposed for use in drilling are provided in the Chemical Disclosure (WER-HSE-PGK-001 R1) which is provided in Appendix A.
Waste	Wastes will comprise of domestic waste, inert waste, recyclables, hazardous waste, septic waste and treated wastewater. All wastes will be handled, stored, treated and disposed of in accordance with relevant legislation and Shire of Three Springs local requirements.
Groundwater monitoring	Two bores will be used to monitor groundwater during project activities and after demobilisation activities, including baseline monitoring prior to commencement of drilling.

The Project will comprise the following stages, which are described further below:

- geotechnical/ground-truthing investigations
- site preparation
- mobilisation of equipment
- drilling and completion of the well
- well testing
- well suspension
- demobilisation of equipment and rehabilitation
- post-rehabilitation monitoring.

## 2.1 Geotechnical/ground-truthing investigations

Minor ground-truthing and geotechnical investigations will be required to determine construction requirements, and accurately locate and demarcate all areas of construction, and areas that need to be avoided ahead of site preparation. These investigations may require minor ground disturbance, including, for example, digging shallow pits to determine soil composition.

## 2.2 Site preparation

Site preparation activities that may be required include:

- surveying activities prior to breaking ground to delineate work areas
- installation of a groundwater supply bore on the well site
- installation of at least one downstream groundwater monitoring bore
- construction of site access road permitting passage of heavy goods vehicles and relatively long and/or wide loads during mobilisation and demobilisation
- construction of a well site with a surrounding fire management area including:
  - bulk earthworks
  - final earthworks trim
  - generation of water storage and drill mud storage ponds/nests/sumps
  - pond lining
  - fencing
  - signage.

### **2.3 Mobilisation of equipment**

A range of vehicles and equipment will be required on-site for the Project. Vehicles will access the site using public roads, turning off Natta Road and driving along the Project access track into the WE3 Project Area (Figure 3.3). A ring track will also be constructed within the well site layout to allow trucks a turning radius.

All equipment, vehicles and personnel entering the Project Area will be subject to hygiene controls to prevent the spread of weeds.

### **2.4 Drilling and completion of the well**

The well will be drilled using standard onshore drilling techniques that are consistent with industry best practice. Drilling operations will be conducted within the well site, which is designed to contain the majority of equipment and infrastructure required for the drilling operation and will be surrounded by a 20 m wide cleared fire management area. The primary targets for WE3 are the Permian age Kingia and Highcliff sandstones. The secondary targets are the Permian basal Wagina sandstone. The well will be drilled to approximately 5,100 m depth to intercept all of these targets.

Chemicals proposed for use in drilling are provided in the Chemical Disclosure (WER-HSE-PGK-001 R1) which is provided in Appendix A.

### **2.5 Well testing**

If drill cuttings, logs and/or side-wall cores acquired during drilling show favourable results, well testing will be performed to assess reservoir and flow characteristics. No stimulation is proposed.

Strike Energy will construct two flare pits during the well activity. The first (a small flare pit) will be constructed during initial civils works for use during drilling in the event of a kick or well control incident as is required by Strike Energy as Operator. For the well test, a second flare pit will be constructed by repurposing the turkey's nest used during drilling. The liner from the old turkey's nest will be removed, and the turkey's nest will be excavated to a depth of approximately 1 m below ground level.

Relevant authorities will be notified (including the DMIRS and local/regional premises of the Department of Fire and Emergency Services [DFES]) during operations when flaring is expected to occur. Other stakeholders, e.g. landholders, will also be notified where appropriate.

### **2.6 Well suspension**

Following production testing, WE3 will be suspended until the results of the test have been analysed and any further well operations, suitable long term production opportunities, or further exploration opportunities, are identified.

If Strike Energy determines to proceed beyond the production testing phase in the future, these activities will be subject to further approvals by the relevant agencies at that time.

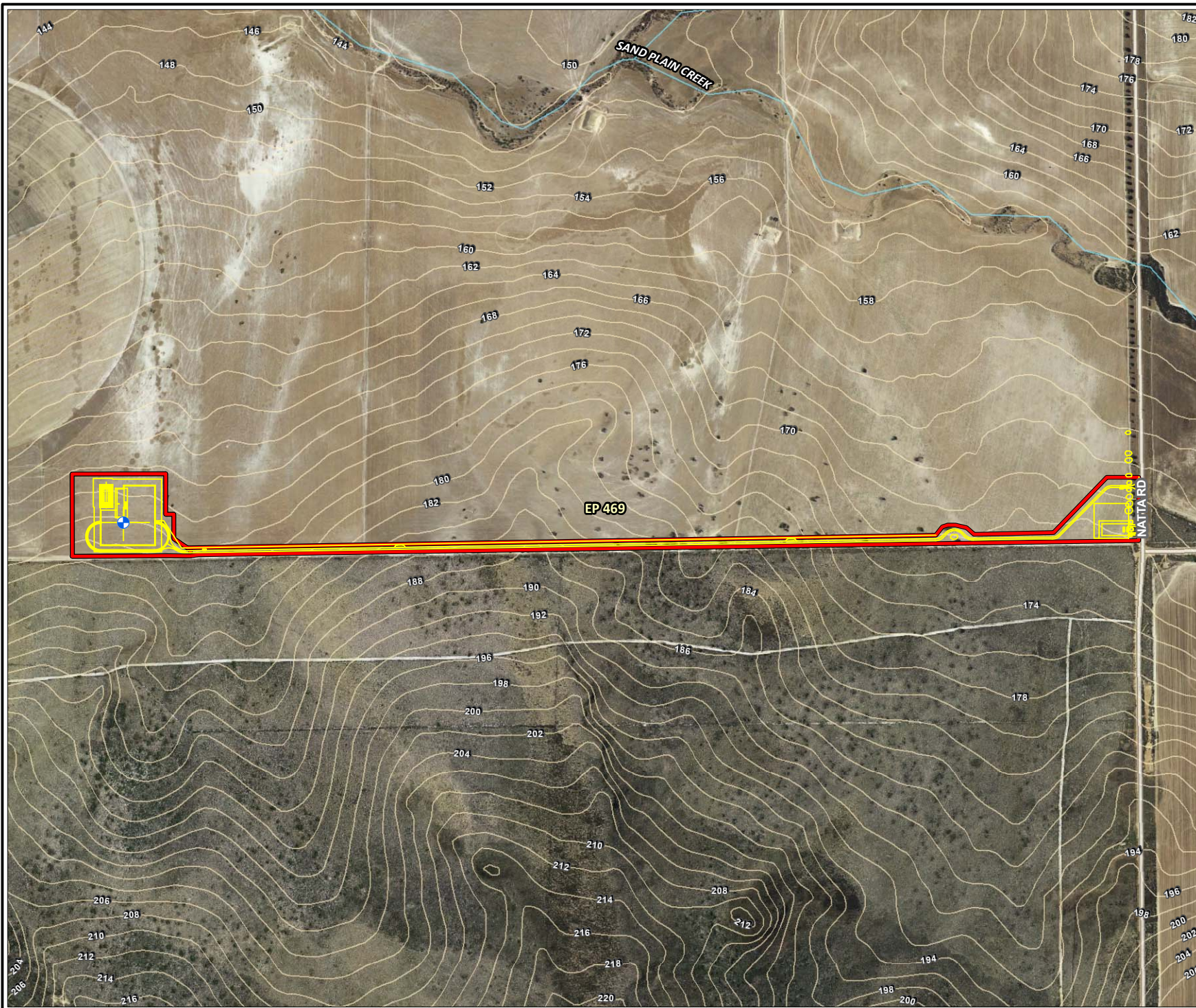
### **2.7 Well abandonment, demobilisation of equipment and rehabilitation**

Following a decision to decommission and abandon WE3, the well will be abandoned in accordance with the relevant regulations, infrastructure will be removed and equipment will be demobilised. All areas disturbed by the Project will be returned to pre-disturbance condition and in accordance with the land-owner access agreement.

### **2.8 Post-rehabilitation monitoring**

A Groundwater Monitoring Plan (GMP) has been prepared which details how groundwater monitoring will be undertaken throughout the Project lifecycle. The proposed groundwater monitoring program will continue for the duration of the Project. Quarterly monitoring will cease after completion of the exploration drilling if no impact has been identified and up to two years if an impact has been identified.





**Legend:**

- Project area
- Petroleum Titles (DMIRS)
- Cadastral boundary
- Strike Energy proposed wells
- Site layout
- Topographic contours (mAHD)
- Watercourses
- Roads (MRWA)


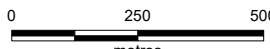
  

Job No: 58115

Client: Strike West

Version: A	Date 13/02/2020
Drawn By: cthatcher	Checked By: AL

Scale 1:15,000

**West Erregulla 3**

**PROJECT AREA**

**FIGURE 2.1**

### **3. Existing environment**

#### **3.1 Regional context**

The Project Area is located within the Lesueur Sandplain subregion of the Geraldton Sandplains bioregion, as defined by the Interim Biogeographic Regionalisation for Australia (IBRA). The Lesueur Sandplain subregion (GS3) comprises coastal Aeolian and limestones, Jurassic siltstones and sandstones (often heavily lateritised) of central Perth Basin.

The climate of the region is described as Mediterranean, with dry, warm summers and wet, cool winters. The nearest open weather station is Carnamah, approximately 56.6 km east of the Project Area, shows the warmest period in the region is from December to March, with average maximum temperatures from 1940 to 2019 ranging from 32.8 to 36.1°C during these months.

#### **3.2 Geology and soils**

Regionally, the Project Area is located in the northern part of the onshore Northern Perth Basin. Structurally, the Project Area straddles the transition between the Allanooka High and the Dandaragan Trough between the Eneabba and Urella Faults (RPS, 2011).

Soils in this region are described as yellow sands inland and leached sandy soils near the coast, which overlay laterite. This region is almost completely underlain by sedimentary rocks of siliceous nature. The sedimentary rocks form a series of plateaux, including the Dandaragan Plateau, on which the permit is located. These plateaux have been eroded by the sea on the west and dissected by rivers, but substantial stretches of the plateau surfaces are still preserved and form extensive monotonous sandplains.

#### **3.3 Hydrology**

##### **3.3.1 Surface water**

There are no surface water features within the Project Area (Figure 2.1). Numerous small watercourses dissect the surrounding area, draining either westwards from the Arrowsmith Region onto the Swan Coastal Plain, or north or south towards the two nearest river systems. The most significant surface water features in the vicinity of the Project are two regional drainage systems – the Arrowsmith River, about 19.5 km to the south of the Project Area, and the Irwin and Lockier Rivers (both rivers approximately 17.5 km) to the north of the Project Area.

There are also several small ephemeral creeks within EP 469 but these are not located within the Project Area. The nearest watercourse is Sand Plain Creek, about 1.5 km north of the well site.

##### **3.3.2 Groundwater**

The Project Area overlies the Yarragadee Formation aquifer, which is the largest aquifer in the Perth Basin. The Yarragadee Formation is comprised mainly of sand with minor shale and siltstone interbedded within it and lies over the Cadda Formation. It covers an area from north of Dongara to the Serpentine area south of Perth.

The water table is in the Yarragadee Formation around 145 m below ground level (about 70 mAHD). Groundwater in the Yarragadee Formation has a multilayered flow system and generally moves downwards and to the southwest.

The Cadda Formation underlies the Yarragadee Formation at around 1,700 mAHD. This unit has low permeability and acts as a regional aquiclude, separating the Yarragadee Formation above from the Cattamarra Coal Measures below.

### **3.4 Air and noise emissions**

Ambient air quality in the vicinity of the Project Area is expected to be representative of surrounding dust generating activities being primarily pastoral and tourism activities, use of agricultural machinery and vehicle movements. Industrial uses within the region that may contribute to regional air emissions, but given the proximity to the WE3 well site, are unlikely to have a significant impact on overall ambient air quality in the Project Area.

Ambient noise levels in the vicinity of the Project Area is expected to be affected by pastoral, industrial and tourism activities. These sources of emissions are anticipated to have a relatively low or insignificant impact on the overall noise levels in the local area.

Activities associated with the Project generate noise and greenhouse gas emissions similar to rural plant and machinery use activities. The drilling rig may produce higher levels of noise, particularly associated with well testing and flaring, however this is expected to be attenuated with the distance to the nearest sensitive receptor, which is a residence approximately 2.5 km to the northwest of the well site.

The Project will be conducted in accordance with the *Environmental Protection (Noise) Regulations 1997* (Noise Regulations).

### **3.5 Vegetation**

The Project Area is located entirely within existing cleared areas used for agricultural activities. No clearing of native vegetation is required for the Project.

#### **3.5.1.1 Weeds**

Previous surveys undertaken within EP 469 have recorded 22 species of introduced flora. However, none of these weeds are listed as weeds of national significance. One species, *Echium plantagineum* (Paterson's Curse), is a declared pest under the *Biosecurity and Agricultural Management Act 2007* (BAM Act), but not for the Local Government Authority (Three Springs) within which the Project Area is located.

### **3.6 Fauna**

The Project Area is located entirely within existing cleared areas used for agricultural activities and is therefore expected to have limited value for native fauna given limited habitat. No clearing of fauna habitat is required for the Project. The fauna most at risk will be reptiles and birds who may be attracted to open water storage on site or putrescible wastes.

Given the temporary nature of the Project and the Project Area being located on cleared agricultural land, the risk of impacts to fauna is considered low.

Cattle or other stock may also be present in the vicinity of the Project Area.

## **4. Socio-economic environment**

The Project Area is located within the Shire of Three Springs on a single private landholding which is currently used for agricultural purposes. The Shire of Three Springs has a population of 594 (ABS, 2020). Roads in reasonable proximity to the Project Area include Carey Road to the east, Natta Road to the east and Yandanooka West Road to the north.

The dominant industries within the Shire of Three Springs are farming (grain production and livestock grazing), mining, and government-based operations.

The Shire hosts the largest talc mine in the southern hemisphere which has been in operation since 1948. The mine lies approximately 54.5 km to the south east of the Project Area. The mine is the largest employer in the Shire (Shire of Three Springs, 2011).

The townships of Port Denison and Dongara 40 km and 50 km to the northwest of the Project Area respectively are the closest population centres. The City of Geraldton, approximately 100 km to the north of the Project Area, is the closest major population centre, with a population of 39 311 (ABS, 2020).

### **4.1 Native title**

Warrego Energy, as previous operator of the permit, consulted with the Amangu People and their representatives, the Yamatji Marlpa Aboriginal Corporation, following the acquisition of EP 469 in 2008 with respect to their native title claim (WC04/2) over lands including the Project Area. A Heritage Protection Agreement (HPA) with the Amangu People for undertaking low impact and ground disturbing petroleum operations on the land within EP 469 (previously referred to as EP 25/07-8) has been in place since 2009, but remains unsigned.

In February 2020, the Yamatji Nation claim was determined and Native Title was awarded to the Yamatji Nation. Strike, as Operator of EP469, will continue to consult and engage with these stakeholders to implement the Cultural Heritage Management Plan, and amend as appropriate, and ensure an appropriate level of awareness of all Strike Energy personnel and contractors with regard to cultural heritage matters.

### **4.2 Aboriginal heritage**

No Registered Aboriginal Sites or Other Heritage Places occur within EP 469.

In the event of a discovery or the identification of an object reasonably suspected of being an Aboriginal artefact a “Stop Work” procedure, including notification and reporting, will apply will be implemented.

### **4.3 European heritage**

No European culturally significant sites are located within the Project Area.

### **4.4 Geo-heritage**

No geo-heritage sites are located within the Project Area.

## 5. Environmental impacts and management

A summary of the potential impacts that could result from the Project and the management and mitigation measures that form part of the implementation strategy to minimise environmental risk is provided in Table 5.1. A summary of the environmental protection objectives, standards and measurement criteria for the aspects and impacts associated with the Project are provided in Appendix B.

**Table 5.1: Summary of the existing environment, potential impacts and management measures**

Aspect	Potential Impacts	Management measures
Weeds / dieback	Introduction and spread of weeds / dieback.	<ul style="list-style-type: none"> <li>No access will be permitted into the adjacent Unallocated Crown Land (UCL) or other areas of native vegetation.</li> <li>Vehicle and machinery movements to be restricted to the Project Area or existing roads and tracks.</li> <li>The Project Area is located on cleared agricultural land and access will be in accordance with the landowner access agreement.</li> <li>Hygiene stations to be utilised on entry to the Project Area at Natta Road.</li> <li>Soil, fill or sheeting material required for site preparations to be sourced from outside the Project Area (e.g. via contractors) and handled in accordance with the hygiene requirements of the landowner.</li> <li>All personnel to be instructed (e.g. via inductions) on weed risks and correct hygiene procedures (such as the use of wet hygiene facilities and kits for cleaning of all vehicles and machinery moving into the Project Area).</li> </ul>
Flora and vegetation	Loss of conservation significant flora or fauna habitat.	<ul style="list-style-type: none"> <li>The Project Area is located on cleared agricultural land and access will be in accordance with the landowner access agreement.</li> <li>No clearing of native vegetation or fauna habitat is permitted.</li> <li>Vehicle and machinery movements will be restricted to the Project Area and existing disturbance, tracks and firebreaks.</li> <li>All personnel will be instructed on conservation significant values of the adjacent UCL land and related responsibilities (e.g. via inductions).</li> </ul>
Erosion	Erosion of soil and generation of dust.	<ul style="list-style-type: none"> <li>Screening or sheeting material (e.g. crushed rock) to be spread over the well site and access road as required.</li> <li>Erosion fences etc. may be used if required.</li> <li>Civil equipment to be mobilised to repair/stabilise any erosion as required.</li> <li>Sites where erosion has been repaired/stabilised to be monitored to ensure effectiveness of works.</li> </ul>
Air Emissions	Generation of dust.	<ul style="list-style-type: none"> <li>Screening or sheeting material (e.g. crushed rock) to be spread over the well site and access road as required.</li> <li>Vehicle speeds to be restricted within the Project Area.</li> <li>Vehicle and machinery movements to be restricted to the Project Area.</li> <li>Dust suppression techniques such as watering, to be used when required.</li> </ul>
Surface water flow	Alteration of surface water flow.	<ul style="list-style-type: none"> <li>Stormwater drains, culverts or pipes to be installed if required to redirect surface flow.</li> <li>Site activities are temporary and the site to be rehabilitated to former land use, including drainage (agricultural land) as per landowner access agreement.</li> </ul>
Native fauna and livestock	Fauna and stock mortalities/disturbance.	<ul style="list-style-type: none"> <li>Vehicle speeds to be restricted within the Project Area.</li> <li>Vehicle and machinery movements to be restricted to the to the Project Area.</li> <li>All activities other than drilling, well testing and completions to be conducted during daylight hours only.</li> <li>Fencing between surrounding vegetation and sumps, turkey's nests and the flare pit to be installed (e.g. well site perimeter fencing).</li> </ul>

Aspect	Potential Impacts	Management measures
		<ul style="list-style-type: none"> <li>• Installation of egress matting for ground dwelling fauna to escape from open water storage areas.</li> <li>• Lighting to be directed towards the operation, light spillage on surrounding areas minimised.</li> <li>• Sumps, well cellar, turkey's nest dams and the flare pit to be monitored for presence of fauna.</li> <li>• Pets and firearms will be prohibited in the Project Area.</li> <li>• All personnel to be instructed on conservation significant values and related responsibilities (e.g. via inductions).</li> <li>• Site Induction addressing risks to livestock and fauna resulting from site activities.</li> </ul>
Soil and water	Contamination of soil, surface water or groundwater.	<ul style="list-style-type: none"> <li>• All vehicles and machinery will only be refuelled, serviced and maintained where spill containment is in use.</li> <li>• Spill kits to be available during all refuelling operations and in areas where dangerous goods and hazardous materials are stored and used.</li> <li>• All hazardous materials (including chemicals and hydrocarbons) will be managed in accordance with the following standards:               <ul style="list-style-type: none"> <li>○ All vehicles and machinery will only be refuelled, serviced or maintained where spill containment is in use.</li> <li>○ Hazardous materials will be stored in containment facilities designed to hold 110% of the capacity of the largest container or 25% of the total, whichever is greater (e.g. bunded areas; leak proof trays).</li> <li>○ Storage containers will be closed when not in use.</li> <li>○ Storage containers will be labelled with the technical product name as per the SDS.</li> <li>○ Spill response equipment will be readily available at site of hazardous material storage or use.</li> </ul> </li> <li>• Remove and dispose of any contaminated material offsite to a licenced facility using a licensed contractor.</li> <li>• Controlled waste (other than treated wastewater) to be contained and removed and disposed of offsite using a licensed contractor.</li> <li>• Effluent to be treated onsite using an approved wastewater treatment system with an irrigation system for the disposal of treated wastewater.</li> <li>• Adopt Oil Spill Contingency Plan (OSCP) (WER-HSE-PLN-001) and Emergency Response Plan (ERP) [WAO-HSE-PLN-001].</li> <li>• Implement bunding to capture spills where possible.</li> <li>• All spills to be recorded and immediately cleaned up in accordance with the OSCP and ERP.</li> <li>• A register of spills to be kept.</li> <li>• Drilling to be conducted according to an approved drilling program by qualified drilling contractors in accordance with industry best practice standards and procedures.</li> <li>• Water-based muds (WBM) to be used to prevent contamination of aquifers.</li> <li>• Cuttings from water-based drilling to be discharged into a suitably lined sump located on the well site.</li> <li>• The Well Integrity Management Plan (STD-COE-PLN-003) to be implemented, including:               <ul style="list-style-type: none"> <li>○ A blowout preventer to be installed after cementing the surface casing, surface casing for the duration of drilling.</li> <li>○ The well head to be bunded by the cellar.</li> <li>○ A series of control valves (Christmas tree) to be installed at the surface as secondary barriers preventing the unwanted egress of formation fluids. The primary barrier to remain wellbore fluid density.</li> </ul> </li> <li>• Only DMIRS approved fluids and chemicals to be used.</li> <li>• Flare line and flare pit to have noise attenuation applied.</li> <li>• The flare pit to be monitored during flaring.</li> <li>• Gas will be safely diverted and burnt by flaring after separation and removal of entrained fluids.</li> <li>• Sump and flare pit levels to be monitored for overflow during and after high rainfall at all times while drilling.</li> </ul>

Aspect	Potential Impacts	Management measures
		<ul style="list-style-type: none"> <li>For testing, the first half of the flare pit (repurposed turkey's nest) will have a layer of laterite with a bentonite cover installed.</li> <li>Soil in sumps and the flare pit to be tested for the presence of contaminants following completion of operations.</li> <li>A groundwater monitoring program to be implemented.</li> <li>Well to be suspended in accordance with relevant regulations.</li> <li>The well site to be inspected regularly during well suspension using physical inspections.</li> <li>In the event of loss of well control, ERP and OSCP implemented and all spills recorded and immediately cleaned up.</li> <li>All vehicles, equipment, plant and materials to be removed from the well site during well suspension.</li> <li>Rehabilitation of the well site to commence as soon as practicable (assuming well is no longer required) following abandonment of well.</li> <li>Removal / dismantling of all facilities within the Project Area unless otherwise requested by the landowner.</li> <li>All areas disturbed by Project returned to pre-disturbance condition in accordance with land-owner access agreement.</li> <li>Groundwater monitoring program will in accordance with the Groundwater Monitoring Plan (WER03-HSE-PLN-005).</li> </ul>
Fire	<ul style="list-style-type: none"> <li>Degradation of the area.</li> <li>Damage to infrastructure.</li> <li>Risk of injury of death to people, fauna and livestock.</li> </ul>	<ul style="list-style-type: none"> <li>Appropriate fire response equipment will be maintained on site for the duration of operations.</li> <li>All vehicles and machinery to operate on diesel fuel.</li> <li>Vehicle and machinery movements to be restricted to the Project Area.</li> <li>Smoking only to be permitted in designated smoking areas.</li> <li>All personnel to be appropriately trained in how to prevent and respond to fires.</li> <li>Local fire authorities to be consulted prior to and during operations.</li> <li>Drilling to be conducted according to an approved drilling program by qualified drilling contractors in accordance with industry best practice standards and procedures.</li> <li>A blowout preventer to be installed after cementing the surface casing, for the duration of drilling.</li> <li>A 20 m fire break to be maintained around the well site during Project activities.</li> <li>A pilot light, automatic sparker or other measure will be used in the flare pit to prevent loss of ignition.</li> <li>Adopt OSCP (WER-HSE-PLN-001) and ERP [WAO-HSE-PLN-001].</li> <li>The flare pits to be monitored during flaring.</li> <li>The flare will be oriented horizontally and contained inside an earthen bund.</li> <li>Well to be suspended in accordance with relevant regulations.</li> <li>Well site fencing and signage to be retained during well suspension to prevent third party access.</li> <li>The well site to be inspected regularly during well suspension using physical inspections.</li> <li>All vehicles, equipment, plant and materials to be removed from the well site during well suspension.</li> </ul>
Heritage	Disturbance to indigenous or non-indigenous heritage sites.	<ul style="list-style-type: none"> <li>No access will be permitted into the adjacent Unallocated Crown Land (UCL).</li> <li>The Project Area is located on cleared agricultural land and access will be in accordance with a landowner access agreement.</li> <li>Vehicle and machinery movements to be restricted to the Project Area.</li> <li>All personnel to be instructed (e.g. via inductions) on heritage values and related responsibilities.</li> </ul>
Air emissions	Greenhouse gas emissions.	<ul style="list-style-type: none"> <li>Ensure well control and integrity to minimise fugitive emissions.</li> <li>Monitor volume of gas flared for reporting purposes.</li> <li>Record all greenhouse gas emissions.</li> </ul>

Aspect	Potential Impacts	Management measures
Amenity	<ul style="list-style-type: none"> <li>Disturbance to surrounding landholders (noise/visual impacts).</li> <li>Additional vehicles on local roads., causing disruption to traffic.</li> <li>Unauthorised access by Project personnel.</li> <li>Breach of landowner's agreement.</li> <li>Disruption to landowners and/or local residents.</li> </ul>	<ul style="list-style-type: none"> <li>The flare to be oriented horizontally and contained inside an earthen bund.</li> <li>Lighting to be directed towards the operation, light spillage on the surrounding areas to be minimised.</li> <li>Ensure vehicles and machinery have standard noise control devices fitted and maintained.</li> <li>All personnel to be instructed on landowner and stakeholder sensitivities and related responsibilities (e.g. via inductions).</li> <li>Liaise with stakeholders before, during and after Project activities.</li> <li>Adherence to landowner access agreement.</li> <li>Implement a traffic management plan (approved by local shire if approval is required by the shire) where required.</li> </ul>
Waste	<ul style="list-style-type: none"> <li>Attraction of fauna to waste receptacles and Rubbish from Project left on site.</li> <li>Contamination of soil or groundwater.</li> </ul>	<ul style="list-style-type: none"> <li>All putrescible waste to be stored in bins that have a tightly secured lid to avoid fauna attraction and entry.</li> <li>Waste and contaminated material to be removed and disposed of offsite at a licenced facility.</li> <li>Fencing between surrounding vegetation and sumps, turkey's nests and the flare pit will be installed (e.g. well site perimeter fencing).</li> </ul>
Infrastructure	<ul style="list-style-type: none"> <li>Damage to well infrastructure.</li> <li>Damage to landowner's infrastructure.</li> </ul>	<ul style="list-style-type: none"> <li>Well site fencing and signage to be retained during well suspension to prevent third party access.</li> <li>The well site to be inspected regularly (i.e. quarterly) during well suspension using physical inspections.</li> <li>All vehicles, equipment, plant and materials to be removed from the well site during well suspension.</li> <li>Ensure any applicable landowner access agreements are in place before Project commences.</li> <li>All personnel to be instructed on landowner and stakeholder sensitivities and related responsibilities (e.g. via inductions).</li> <li>Adhere to stakeholder management plan.</li> <li>Liaise with stakeholders before, during and after Project activities.</li> </ul>
Rehabilitation	Rehabilitation not undertaken in a timely manner or rehabilitation objectives not met.	<ul style="list-style-type: none"> <li>Rehabilitation of the well site to commence as soon as practicable (assuming well is no longer required) following abandonment of well.</li> <li>Removal / dismantling of all facilities within the Project Area unless otherwise requested by the landowner.</li> <li>All areas disturbed by Project returned to pre-disturbance condition in accordance with land-owner access agreement.</li> <li>Site inspections during and post rehabilitation to monitor progress.</li> </ul>



## 6. Implementation

Strike Energy has overarching environmental responsibility and management of the Project. Strike Energy will undertake the Project with a commitment to reduce its impact on the environment. This commitment is fundamental to its Environmental Policy.

Strike Energy and its contractor will have a number of systems, practices and procedures that relate to the implementation of the EP and enables activities to be managed to ALARP. Strike Energy's implementation strategy includes:

- systems, practices and procedures for implementing this Environment Plan
- roles and responsibilities of personnel to ensure that the Environment Plan is implemented
- training and competencies required of personnel
- oil spill response plan
- monitoring, auditing and management of non-conformances
- record keeping
- reporting and notification arrangements
- review of the Environment Plan.

Relevant systems and procedures include:

- HSE Management System
- HSE Management Plan
- Contractor bridging documents
- Groundwater Monitoring Plan
- Emergency Response Plan
- Oil Spill Contingency Plan (OSCP)
- Well Integrity Management Plan
- Incident Investigation and Reporting
- Stakeholder Management Plan
- Traffic Management Plan
- Journey Management Plan
- Permit to Work Procedure.

The Contractor HSE management system framework consists of HSE policies, which are expanded into a number of specific HSE Standards. The policies, manuals and procedures within the framework are aligned to elements of these Standards. Key policies and standards relevant to environmental management include:

- Health, Safety and Environmental
- HSE Risk Management
- Quality
- Rehabilitation
- Hours of Operation
- Environment
- Waste Management
- Transport Management
- Training & Development
- Stop Work Authority
- Cultural Heritage
- Employee Competency & Training
- Legal Requirements and Documentation
- Hazard and Risk Management
- HSE Planning, Goals and Targets
- Subcontractor and Supplier Management
- Standard Operating Procedures
- Change Management
- Health and Hygiene
- Emergency Response Preparedness
- Implementing, Monitoring & Review
- Incident Reporting & Investigation
- Maintenance, Inspection & Modification
- Audit
- Managements HSE Performance Review
- Environmental Management
- Dangerous Goods Management
- Plant and Equipment
- Consultation and Communications
- Permit to Work
- Job Safety Analysis.

The implementation strategy detailed in the EP identifies the roles/responsibilities and training/competency requirements for all personnel (Strike Energy and its contractors) in relation to implementing management controls, monitoring, auditing, and reporting requirements during the Project. The EP details the types of monitoring and auditing that will be undertaken, the reporting requirements for environmental incidents and reporting on overall compliance of the Project.

## 7. Stakeholder consultation

Strike Energy maintains a stakeholder consultation program with key stakeholders in relation to its exploration activities in EP 469, including the Project Area.

The key objectives of the consultation program are to:

- identify relevant stakeholders
- initiate and maintain communication
- develop tools for ongoing communication
- provide for two-way communication on management/mitigation strategies to minimise impacts of the survey on the environment and potentially affected stakeholders
- record consultation activity, key issues and outcomes.

Strike Energy has engaged in communication and consultation with relevant stakeholders which is summarised in the EP, including:

- departments or agencies that administer the required approval(s) to implement the proposed Project
- landowners within the Project Area
- any person or organisation whose functions, interests or activities may be affected by the Project
- any other person or organisation with a potential interest in the Project.

These stakeholders have been consulted via phone, written notices and face-to-face meetings. To date, any issues that have been raised in relation to the Project through the consultation process have been able to be addressed and resolved.

The landowner affected by the Project has been consulted and a land access agreement is in place.

Stakeholders that have been consulted in relation to the Project include:

- APPEA
- Department of Biodiversity Conservation and Attractions
- Department of Water and Environment Regulation
- Department of Mines, Industry Regulation and Safety
- Shire of Irwin
- Shire of Mingenew
- Shire of Three Springs
- Mingenew Irwin Group (MIG)
- Three Springs Community Action Group
- Lock the Gate Alliance
- Interested local community members
- Landowners (direct and adjacent)
- Traditional Owner Contractor
- Yamatji Marlpa Aboriginal Corporation (YMAC)

- Lockier Bushfire Brigade
- DFES (Geraldton).

Strike Energy will continue to communicate with existing and any new identified stakeholders and consult during all phases of the Project, on a formal and informal basis, and by email, letter, face-to-face and telephone. Records of consultations activities will be presented in Strike Energy's annual environment report to DMIRS.

## **8. Limitations**

### **Scope of services**

This report (“the report”) has been prepared by Strategen-JBS&G in accordance with the scope of services set out in the contract, or as otherwise agreed, between the Client and Strategen-JBS&G. In some circumstances, a range of factors such as time, budget, access and/or site disturbance constraints may have limited the scope of services. This report is strictly limited to the matters stated in it and is not to be read as extending, by implication, to any other matter in connection with the matters addressed in it.

### **Reliance on data**

In preparing the report, Strategen-JBS&G has relied upon data and other information provided by the Client and other individuals and organisations, most of which are referred to in the report (“the data”). Except as otherwise expressly stated in the report, Strategen-JBS&G has not verified the accuracy or completeness of the data. To the extent that the statements, opinions, facts, information, conclusions and/or recommendations in the report (“conclusions”) are based in whole or part on the data, those conclusions are contingent upon the accuracy and completeness of the data. Strategen-JBS&G has also not attempted to determine whether any material matter has been omitted from the data. Strategen-JBS&G will not be liable in relation to incorrect conclusions should any data, information or condition be incorrect or have been concealed, withheld, misrepresented or otherwise not fully disclosed to Strategen-JBS&G. The making of any assumption does not imply that Strategen-JBS&G has made any enquiry to verify the correctness of that assumption.

The report is based on conditions encountered and information received at the time of preparation of this report or the time that site investigations were carried out. Strategen-JBS&G disclaims responsibility for any changes that may have occurred after this time. This report and any legal issues arising from it are governed by and construed in accordance with the law of Western Australia as at the date of this report.

### **Environmental conclusions**

Within the limitations imposed by the scope of services, the preparation of this report has been undertaken and performed in a professional manner, in accordance with generally accepted environmental consulting practices. No other warranty, whether express or implied, is made.

The advice herein relates only to this project and all results conclusions and recommendations made should be reviewed by a competent person with experience in environmental investigations, before being used for any other purpose.

Strategen-JBS&G accepts no liability for use or interpretation by any person or body other than the client who commissioned the works. This report should not be reproduced without prior approval by the client, or amended in any way without prior approval by Strategen-JBS&G, and should not be relied upon by other parties, who should make their own enquiries.



**Appendix A**  
**Chemical Disclosure**



# WEST ERREGULLA CHEMICAL

## DISCLOSURE

**WER-HSE-PKG-001**

**Document Date** 04/06/2020

**Document Revision** 2

	<b>Name</b>	<b>Title</b>	<b>Date</b>
<b>Prepared</b>	Greg Heinjus	HSE Manager	04/06/2020
<b>Reviewed</b>	Andrea Chia	Petroleum Engineer	04/06/2020
<b>Approved</b>	Greg Heinjus	HSE Manager	04/06/2020



---

## Document Control

The Chief Operating Officer is the custodian of this Plan and is responsible for ensuring the approval and management of this document including any revisions.

### Document revision and amendment

Revision	Date	Description
0	01/05/2020	First Release for 2020-21 Campaign
1	20/05/2020	. For Use at West Erregulla 3
2	04/06/2020	Amendment following additional DMIRS Feedback

## Table of Contents

### Document Control

- 1 Introduction
- 2 Fluids (Drilling Fluid, HT Logging Pill, Completion Brine)
- 3 Cementing
- Appendix A Safety Data Sheets (SDS)

## 1 INTRODUCTION

Strike West Pty Ltd (Strike Energy), Operator of Exploration Permit EP 469, intends to drill West Erregulla 3 exploration well within EP 469. The permit is located approximately 50 km southeast of Dongara and 230 km north of Perth.

This chemical disclosure should be read in conjunction with the Environment Plan.

This document addresses the chemical disclosure requirements for products, chemicals and other substances to be used “down-hole” in petroleum or geothermal related activities regulated under regulation 15(9) of the *Petroleum and Geothermal Energy Resources (Environment) Regulations 2013*. Information contained within has been prepared in line with the Chemical Disclosure Guideline (ENV-PEB-178) Version 2 published by the Department of Mines and Petroleum in August 2013.

Systems presented below are divided into two categories:

- Fluids
- Cementing

Safety Data Sheets for each product are presented in Appendix A.

---

## **2 FLUIDS (DRILLING FLUID, HT LOGGING PILL, COMPLETION BRINE)**

### System Details

Operator	STRIKE ENERGY
Project/Well	West Erregulla 3
System	Drilling Fluid, HT Logging Pill & (opt.) Completion Brine
Total Volume of System	1,900 m3

### Base Drilling Fluids (surface to well total depth)

Product Name	Purpose	Toxicity, Ecotoxicity & Biodegradability data**	% Product in system fluid	SDS Attached
Water	Base Fluid		69.8%	N
Bentonite / API Bentonite	Viscosifier	The main component/s of this product are not anticipated to cause any adverse effects to plants or animals.	1.0%	Y
Potassium Chloride	Shale swelling inhibition (smectite & illite clays)	Ictalurus punctulus 48h-LC50 = 720 mg/l; Daphnia magna: 48h-LC50 = 177 mg/l; Nitzschia linear is: 120 h-EC50 = 1337 mg/l. A chronic reproductive test with the invertebrate Daphnia magna gave a LOEC of 101 mg/l. All the studies compiled on the acute and chronic aquatic toxicity were > 100 mg/L. Thus it is concluded that KCl is not hazardous to freshwater organisms. Taking into considerations the background concentrations of KCl in seawater (380 mg/l K+ and 19,000 mg/l Cl-), it is concluded that there is no reason for further investigations of KCl on marine species. The low concern for the environment is supported by the absence of a bioaccumulation potential for the substance.	3.8%	Y
Sodium Chloride	Weighting Agent	This product is expected to be of low toxicity. Toxicity Data LC50 (Inhalation): > 42000 mg/m3/1 hour (rat) LD50 (Ingestion): 3000 mg/kg (rat) LD50 (Skin): > 10000 mg/kg (rabbit)  Ecotoxicity - LC50 (water flea) is 2122 mg/L/48 hours;, LC50 (fathead minnow) is 6.57 g/L/96 hours.	11.1%	Y

Product Name	Purpose	Toxicity, Ecotoxicity & Biodegradability data**	% Product in system fluid	SDS Attached
		Biodegradability does not pertain to inorganic substances.		
Barite / API Barite	Weighting Agent	Aquatic toxicity: LC50 (Fresh Water Trout) > 21,000 ppm/96hrs. LC50 (Salt Water Stickel Back) > 56,000 ppm/96hrs.	7.3%	Y
Stonedust /Circal 60/16	Bridging & Weighting Agent	This product is expected to be of low toxicity. LD50 (Ingestion) = 6450 mg/kg (rat).  Calcium carbonate occurs naturally in a wide variety of substances including limestone, marble and egg shells. It is not anticipated to cause adverse environmental effects.  This product does not bioaccumulate.	1.4%	Y
Omyacarb 20 / 40	Bridging & Weighting Agent	This product is expected to be of low toxicity. LD50 (Ingestion) = 6450 mg/kg (rat).  Calcium carbonate occurs naturally in a wide variety of substances including limestone, marble and egg shells. It is not anticipated to cause adverse environmental effects.  This product does not bioaccumulate.	1.7%	Y
NewPac LV / Rheopac LV / Drispac SL /	Fluid Loss	Aquatic toxicity: LC50 (Fresh Water Trout) > 21,000 ppm/96hrs. LC50 (Salt Water Stickel Back) > 56,000 ppm/96hrs.  Not expected to bioaccumulate.	0.6%	Y
NewZan D / Xanthan Gum (P) / Flowzan /	Viscosifier	This product is expected to be of low toxicity. LD50 (oral) > 1000 mg/kg (mouse) LD50 (oral) > 45,000 mg/kg (rat) LD50 (oral) > 20,000 mg/kg (dog) LD50 (intraperitoneal): > 50 mg/kg (mouse) LD50 (intravenous): 100-250 mg/kg (mouse) Not expected to bioaccumulate.	0.6%	Y
AvaPolymer 5050	Encapsulating Agent - provides	Constituent 1 – (60%) ATEmix (oral) 27,000.00 mg/kg	0.1%	Y

Product Name	Purpose	Toxicity, Ecotoxicity & Biodegradability data**	% Product in system fluid	SDS Attached
	shale inhibition	ATEmix (dermal) 2,002.00 mg/kg Constituent 2 - (40%) Oral Toxicity  (LD50) - 16000 mg/kg (guinea pig) Dermal Toxicity  (LD50) - > 2000 mg/kg (rabbit) TDLo (oral) 140 mg/kg (rat) Ecotoxicity: This product has an CEFAS OCNS Gold rating. Registration number 27397		
NewCide-50	Biocide	Constituent 1 – (20-15%) The following values are calculated based on chapter 3.1 of the GHS document ATEmix (oral) 1,908.00 mg/kg ATEmix (dermal) 5,005.00 mg/kg ATEmix (inhalation-dust/mist) 0.13 mg/l Easily biodegradable Oral LD50 - = 763 mg/kg (Rat) Dermal LD50 - > 2 g/kg (Rat)  Ecotoxicity Toxicity to micro-organisms - EC50 = 28.9 mg/L 15 min  Constituent 2 – (Remainder) Non Hazardous  Persistence and degradability - Readily biodegradable. Bioaccumulation - Not likely to bioaccumulate	0.1%	Y
Caustic Soda	pH control-prevents bacteria & corrosion.	Toxicity Data: Toxicity Data available for the ingredients:  SODIUM HYDROXIDE (1310-73-2):  LD50 (Intraperitoneal): 40 mg/kg (mouse)  LDLo (Ingestion): 1.57 mg/kg (human)	0.1%	Y

Product Name	Purpose	Toxicity, Ecotoxicity & Biodegradability data**	% Product in system fluid	SDS Attached
		<p>SILICA, AMORPHOUS (7631-86-9):</p> <p>LD50 (ingestion): 3160 mg/kg (rat)</p> <p>Biodegradation/Bioaccumulation: Biodegradability does not pertain to inorganic substances. Does not bioaccumulate.</p> <p>WATER: If released to waterways, alkaline products may change the pH of the waterway. Fish will die if the pH reaches 10-11 (goldfish 10.9, bluegill 10.5). SOIL: May leach to groundwater with toxic effects on aquatic life as above. ATMOSPHERE: Not expected to reside in the atmosphere. Drops or particles released to atmosphere should be removed by gravity and/or be rained out.</p>		
Sodium Sulphite	Oxygen Scavenger	<p>Oral Toxicity (LD50) Dermal Toxicity (LD50) Inhalation Toxicity (LC50)</p> <p>SODIUM SULPHITE 820 mg/kg (mouse)</p> <p>SODIUM SULPHATE 5989 mg/kg (mouse)</p> <p>SODIUM CARBONATE 4090 mg/kg (rat) &gt; 2000 mg/kg (rabbit) 800 mg/m<sup>3</sup>/2 hours</p> <p>SODIUM SULPHITE (7757-83-7)</p> <p>LD50 (intraperitoneal) 950 mg/kg (mouse)</p> <p>LD50 (intravenous) 175 mg/kg (mouse)</p> <p>LDLo (intravenous) 400 mg/kg (cat)</p> <p>LDLo (oral) 2825 mg/kg (rabbit)</p> <p>LDLo (subcutaneous) 600 mg/kg (rabbit)</p> <p>SODIUM SULPHATE (7757-82-6)</p> <p>LD50 (intravenous) 1220 mg/kg (rabbit)</p> <p>LDLo (intravenous) 1220 mg/kg (mouse)</p> <p>TDLo (oral) 14 g/kg (mouse - 8-12 days pregnant)</p> <p>TDLo (subcutaneous) 806 mg/kg/26 weeks intermittently (mouse)</p> <p>SODIUM CARBONATE (497-19-8)</p> <p>LD50 (intraperitoneal) 117 mg/kg (mouse)</p> <p>LD50 (subcutaneous) 2210 mg/kg (mouse)</p>	0.1%	Y



Product Name	Purpose	Toxicity, Ecotoxicity & Biodegradability data**	% Product in system fluid	SDS Attached
		Biodegradability does not pertain to inorganic substances.  OCNS category (actual or equivalent chemical) and Registration number. E-3448		
Soda Ash	pH / Hardness control	Oral Toxicity (LD50) 4090 mg/kg (rat)  Dermal Toxicity (LD50) > 2000 mg/kg (rabbit)  Inhalation Toxicity (LC50) 800 mg/m <sup>3</sup> /2 hours  LD50 (intraperitoneal) 117 mg/kg (mouse) LD50 (subcutaneous) 2210 mg/kg (mouse)  Fishes, <i>Lepomis macrochirus</i> , LC50, 96 h, 300 mg/l. Crustaceans, <i>Ceriodaphnia dubia</i> , EC50, 48 h, 200 - 227 mg/l.  Not expected to bioaccumulate.	0.1%	Y
Sodium Bicarbonate	pH Buffer, Contamination Treatment	Toxicity - LD50 (Ingestion): 3360 mg/kg (mouse), LC50 (inhalation): 4.74 mg/L (rat)  Ecotoxicity LC50 ( <i>Oncorhynchus mykiss</i> ) = 7.700 mg/l/96hrs. LC50 ( <i>Lepomis macrochirus</i> ) = 7.100 mg/l/96hrs. EC50 (Crustaceans, <i>Daphnia magna</i> ) = 4.100 mg/l/48hrs LOEC (Crustaceans, <i>Daphnia magna</i> ) = 3.100 mg/l/48hrs.  Not expected to bioaccumulate.	0.01%	Y
Citric Acid	pH Buffer	Toxicity LD50 (Ingestion): 3000 mg/kg (rat) LD50 (Intraperitoneal): 290 mg/kg (rat) LD50 (Intravenous): 42 mg/kg (mouse) LDLo (Ingestion): 7000 mg/kg (rabbit)	0.01%	Y

Product Name	Purpose	Toxicity, Ecotoxicity & Biodegradability data**	% Product in system fluid	SDS Attached
		<p>Ecotoxicity - LC50 (Leuciscus idus melanotus): 440 mg/L/48hrs., LC50 (Daphnia magna (Water flea)): 1.535 mg/L/24hrs.</p> <p>This product does not bioaccumulate</p>		
INCORR	Corrosion Inhibitor	<p>Acute Toxicity: Toxicity data available for ingredient:</p> <p>Toxicity Data TRIETHANOLAMINE (102-71-6)</p> <p>LD50 (Ingestion): 2200 mg/kg (rabbit)</p> <p>LD50 (Intraperitoneal): 1450 mg/kg (mouse)</p> <p>LD50 (Skin): &gt; 20 mL/kg (rabbit)</p> <p>TDL0 (Ingestion): 16 g/kg/64 weeks (mouse - cancer)</p> <p>Ecotoxicity</p> <p>LC50 (shrimp): &gt; 100 ppm.</p> <p>In soil and water, triethanolamine will biodegrade fairly rapidly following acclimation (half-life in the order of days to weeks). In soil, residual triethanolamine may leach to groundwater.</p> <p>Not expected to bioaccumulate.</p>	0.9	Y
FlexFirm KA	Inhibits dispersion of drilled shale cuttings	<p>Toxicological Information:</p> <p>Acute toxicity Information available for the product: No known toxicological effects from this product. Based on available data, the classification criteria are not met. Skin Irritating to the skin. Contact may result in irritation, redness, pain, rash, dermatitis and possible skin burns.</p> <p>Eye Irritating to the eyes. Contact may result in irritation, lacrimation, pain, redness, conjunctivitis and possible burns.</p> <p>Sensitization This product is not classified as causing skin or respiratory sensitisation.</p>	0.2	Y

Product Name	Purpose	Toxicity, Ecotoxicity & Biodegradability data**	% Product in system fluid	SDS Attached
		<p>Irritating to the respiratory system. Over exposure may result in irritation of the nose and throat, with coughing. High level exposure may result in breathing difficulties. STOT – single exposure</p> <p>Aspiration This product does not present an aspiration hazard. Repeated exposure to respirable silica may result in pulmonary fibrosis (silicosis). Silicosis is a fibronodular lung disease caused deposition in the lungs of fine respirable particles of crystalline silica. Principal symptoms of silicosis are coughing and breathlessness.</p> <p>STOT – repeated exposure Reproductive Insufficient data available to classify as a reproductive toxin.</p> <p>Carcinogenicity Insufficient data available to classify as a carcinogen. This product contains crystalline silica which is classified as carcinogenic to humans (IARC Group 1). However, there is sufficient information to conclude that the relative risk of lung cancer is increased in persons with silicosis. Therefore, preventing the onset of silicosis will also reduce the cancer risk.</p> <p>Mutagenicity Insufficient data available to classify as a mutagen.</p> <p>Ecotoxicity Information:  The ecotoxicity of potassium silicate has not been tested. The following data is reported for chemically similar sodium silicates on a 100% solids basis: A 96 hour median tolerance for fish (<i>Gambusia affinis</i>) of 2320 ppm; a 96 hour median tolerance of water fleas (<i>Daphnia magna</i>) of 247 ppm; a 96 hour median tolerance for snail eggs (<i>Lymnaea</i>) of 632 ppm; and a 96 hour median tolerance for Amphipoda of 160 ppm.</p> <p>12.1 Toxicity: -The high pH when undiluted or unneutralized is acutely harmful to aquatic life. The following data is reported for chemically similar Sodium Silicates on a 100% solids basis: A 96 hour median tolerance for fish (<i>Gambusia affinis</i>) of 2320 ppm; a 96 hour median tolerance for water fleas (<i>Daphnia magna</i>) of 247 ppm; a 96 hour median tolerance for snail eggs (<i>Lymnaea</i>) of 632 ppm; and a 96 hour median tolerance for Amphipoda of 160 ppm.</p> <p>12.2 Persistence and degradability</p> <p>This material is not persistent in aquatic systems.</p>		

Product Name	Purpose	Toxicity, Ecotoxicity & Biodegradability data**	% Product in system fluid	SDS Attached
		<p>12.4 Mobility in soil</p> <p>Expected to be mobile in soil. Diluted material rapidly depolymerizes to yield dissolved silica in a form that is indistinguishable from natural dissolved silica.</p> <p>12.5 Other adverse effects</p> <p>No information provided.</p> <p>12.3 Bioaccumulative potential</p> <p>Neither silica nor potassium will appreciably bio-concentrate up the food chain.</p>		
Gagetrol (HT Logging Pill)	High temperature fluid loss control agent, highly crosslinked substituted starch	<p>This product is not anticipated to cause adverse effects to animal or plant life if released to the environment in small quantities. Low toxicity - low irritant.</p> <p>Not expected to bioaccumulate.</p>	0.6%	Y
TEA (HT Logging Pill)	Polymer stabiliser which effectively reduces the degradation of polymers at high temperatures	<p>Constituent 1 – (&gt;60%) May be harmful if swallowed, in contact with skin, and/or if inhaled. LD50 (oral) = 2200 mg/kg (rabbit).</p> <p>Constituent 2 – (10-&lt;30%) LD50, Rat, 1,975.31 mg/kg Calculated. For the major component(s): LD50, Rabbit, &gt; 8,200 mg/kg Acute inhalation toxicity: LC0, Rat, male, 4 Hour, Aerosol, 3.35 mg/l, LC50, Pimephales promelas (fathead minnow), static test, 96 Hour, 1,460 mg/l, OECD Test Guideline 203 or Equivalent Acute toxicity to aquatic invertebrates: EC50, Daphnia magna (Water flea), static test, 48 Hour, 55 mg/l, OECD Test Guideline 202 or Equivalent. Acute toxicity to algae/aquatic plants: ErC50, Pseudokirchneriella subcapitata (green algae), 96 Hour, Growth rate inhibition, 2.2 mg/l,</p>	0.2%	Y

Product Name	Purpose	Toxicity, Ecotoxicity & Biodegradability data**	% Product in system fluid	SDS Attached
		<p>OECD Test Guideline 201 or Equivalent.            Toxicity to bacteria:            EC50, Respiration inhibition, 3 Hour, &gt; 1,000 mg/l, activated sludge test (OECD 209).</p> <p>Constituent 3 – (&lt;10%)            Rat; male; LD50 = 1.19 (0.79 - 1.80) ml/kg; slope = 3.84, Rat; female; LD50 = 1.07 (0.72 - 1.59) ml/kg; slope = 4.96</p> <p>Rabbit; male; LD50 = 2.46 (1.76 - 3.39) ml/kg; slope = 5.60; 24 h occluded. Rabbit; female; LD50 = 2.83 (1.61 - 4.98) ml/kg; slope = 3.89; 24 h occluded.</p>		
Defoam A (I)	Defaomer	<p>Constituent 1 – (&gt;98%)            Toxicity to fish LC50 - Oncorhynchus mykiss (rainbow trout) - 75 mg/l - 96 h.</p> <p>Constituent 2 – (Remainder)            No Hazard</p>	0.01%	Y
Defoam-AP 400	HT Defoamer	<p>Constituent 1 – (45-60%)            LD50 (ingestion) 33750 mg/kg (rat)</p> <p>Constituent 2 – (40-55%)            Toxicity to fish LC50 - Oncorhynchus mykiss (rainbow trout) - 75 mg/l - 96 h.</p>	0.01%	Y
NDFT 376 / 377	Prevent lost circulation	<p>Acute toxicity - This product is expected to be of low acute toxicity. Under normal conditions of use, adverse health effects are not anticipated.            Oral LD50 (rat) is &gt; 5000 mg/kg.            Dermal LD50 (rabbit) is &gt; 2000 mg/kg.            Inhalation Toxicity LC50 (rat) is 5800 mg/m<sup>3</sup>/2 hours.</p>	0.05%	y
Magnesium Oxide	pH Buffer	<p>This product is expected to be of low toxicity. Silica, Amorphous 3160 mg/kg (rat) Oral Toxicity (LD50)</p>	0.2%	Y

Product Name	Purpose	Toxicity, Ecotoxicity & Biodegradability data**	% Product in system fluid	SDS Attached
Dolsal / PanGel FF(HT Logging Pill)	Viscosifier	Sepiolite – (97-100%) Product does not present an acute toxicity hazard based on known or supplied information. 3 % of the mixture consists of component(s) of unknown hazards to the aquatic environment. Quartz (<1-3%) Aquatic toxicity: LC50 (Fresh Water Trout) > 21,000 ppm/96hrs. LC50 (Salt Water Stickel Back) > 56,000 ppm/96hrs.	0.05	Y
EvoTrol HT (HT Logging Pill)	Fluid Loss Control Additive	This substance is classified as not hazardous according to regulation (EC) 1272/2008 [CLP] Product does not present an acute toxicity hazard based on known or supplied information. <ul style="list-style-type: none"> <li>• No hazardous air pollutants</li> <li>• No listing on Clean Air Act</li> <li>• No components with a CERCLA RQ</li> <li>• No components with a SARA 302 RQ</li> </ul> <ul style="list-style-type: none"> <li>• Biodegradation -this product is not readily biodegradable</li> <li>• Bioaccumulation – not harmful to aquatic organisms</li> </ul>	0.02	Y
			<b>100</b>	

\* Shaded products are contingent

Product Name	Purpose	Toxicity, Ecotoxicity & Biodegradability data**	% Product in system fluid	SDS Attached
Water	Base Fluid		35.98%	N
Calcium Carbonate Various Grades - Limestone LSC / Circal 60/16 / Unical C300C, Omyacarb 40	Bridging & Weighting Agent	<p>This product is expected to be of low toxicity. LD50 (Ingestion) = 6450 mg/kg (rat).</p> <p>Calcium carbonate occurs naturally in a wide variety of substances including limestone, marble and egg shells. It is not anticipated to cause adverse environmental effects.</p> <p>This product does not bioaccumulate.</p>	3.51%	Y
NDFT 376 / 377	Prevent lost circulation	<p>Acute toxicity - This product is expected to be of low acute toxicity. Under normal conditions of use, adverse health effects are not anticipated.</p> <p>Oral LD50 (rat) is &gt; 5000 mg/kg.</p> <p>Dermal LD50 (rabbit) is &gt; 2000 mg/kg.</p> <p>Inhalation Toxicity LC50 (rat) is 5800 mg/m<sup>3</sup>/2 hours.</p>	8.76%	Y
Fracseal Fine	Prevent lost circulation	<p>Toxicity data</p> <p>Oral LD50 (rat) is &gt; 5000 mg/kg.</p> <p>Dermal LD50 (rabbit) is &gt; 2000 mg/kg.</p> <p>LC50 (rat) is 510 mg/m<sup>3</sup>/2 hours.</p> <p>This product is expected to be of low toxicity.</p>	8.76%	Y
MEG	Agent to free differentially stuck pipe	<p>Toxicity data</p> <p>LC50 (Inhalation): 10 876 mg/kg (rat)</p> <p>LD50 (Ingestion): 1650 mg/kg (cat)</p> <p>LD50 (Skin): 9530 ug/kg (rabbit)</p> <p>LDLo (Ingestion): 398 mg/kg (human)</p> <p>TCLo (Inhalation): 10,000 mg/m<sup>3</sup> (human - cough)</p> <p>TDLo (Ingestion): 5500 mg/kg (child - anaesthesia)</p> <p>Ecotoxicity LC50 (Aquatic species): &gt;100mg/L/96hrs. Non hazardous to aquatic organisms.</p>	2.73%	Y
Strata-Vanguard	Prevent lost circulation	<p>Toxicity Data available for the ingredients:</p> <p>CRISTOBALITE (14464-46-1):</p> <p>TCLo (inhalation) 16 mppcf/8hours/17.9 years (human-fibrosis)</p>	1.38%	Y

Product Name	Purpose	Toxicity, Ecotoxicity & Biodegradability data**	% Product in system fluid	SDS Attached
		<p>QUARTZ (SILICA CRYSTALLINE) (14808-60-7):            LCLo (inhalation) 300 ug/m<sup>3</sup>/10 years (human)            TCLo (inhalation) 16 000 000 particles/ft<sup>3</sup>/8 hours/17.9 years (human-fibrosis)            CELLULOSE (9004-34-6):            LC50 (inhalation) &gt; 5800 mg/m<sup>3</sup>/4 hours (rat)            LD50 (ingestion) &gt; 5000 mg/kg (rat)            LD50 (intraperitoneal) &gt; 31600 mg/kg (rat)            LD50 (skin) &gt; 2000 mg/kg (rabbit)            POLYETHYLENE (9002-88-4):            LDLo (ingestion) 3000 mg/kg (rat)            MAGNESIUM OXIDE (1309-48-4):            TCLo (inhalation) 400 mg/kg (human)</p> <p>Ecological Information</p> <p>This product is not anticipated to cause adverse effects to animal or plant life if released to the environment in small quantities.</p> <p>Not expected to bioaccumulate.</p> <p>This product has low mobility in soil.</p>		
Barite / Newbar	Weighting Agent	Aquatic toxicity: LC50 (Fresh Water Trout) > 21,000 ppm/96hrs. LC50 (Salt Water Stickel Back) > 56,000 ppm/96hrs.	14.90%	Y
Frac Attack	Prevent lost circulation	<p>Toxicity data:            CALCIUM HYDROXIDE (1305-62-0)            LD50 (ingestion) 7300 mg/kg (mouse)            CRISTOBALITE (14464-46-1)            TCLo (inhalation) 16 mppcf/8hours/17.9 years (human-fibrosis)            QUARTZ (SILICA CRYSTALLINE) (14808-60-7)            LCLo (inhalation) 300 ug/m<sup>3</sup>/10 years (human)            TCLo (inhalation) 16 000 000 particles/ft<sup>3</sup>/8 hours/17.9 years (human-fibrosis)            CELLULOSE (9004-34-6)            LC50 (inhalation) &gt; 5800 mg/m<sup>3</sup>/4 hours (rat)            LD50 (ingestion) &gt; 5000 mg/kg (rat)            LD50 (intraperitoneal) &gt; 31600 mg/kg (rat)</p>	1.3%	Y



Product Name	Purpose	Toxicity, Ecotoxicity & Biodegradability data**	% Product in system fluid	SDS Attached
		LD50 (skin) > 2000 mg/kg (rabbit) MAGNESIUM OXIDE (1309-48-4) TCLo (inhalation) 400 mg/kg (human)  Bioaccumulative potential: No information available		
Citric Acid	pH Buffer	Toxicity LD50 (Ingestion): 3000 mg/kg (rat) LD50 (Intraperitoneal): 290 mg/kg (rat) LD50 (Intravenous): 42 mg/kg (mouse) LDLo (Ingestion): 7000 mg/kg (rabbit)  Ecotoxicity - LC50 (Leuciscus idus melanotus): 440 mg/L/48hrs., LC50 (Daphnia magna (Water flea)): 1.535 mg/L/24hrs.  This product does not bioaccumulate	0.88%	Y
Potassium Chloride	Shale swelling inhibition (smectite & illite clays)	Ictalurus punctulus 48h-LC50 = 720 mg/l; Daphnia magna: 48h-LC50 = 177 mg/l; Nitzschia linear is: 120 h-EC50 = 1337 mg/l. A chronic reproductive test with the invertebrate Daphnia magna gave a LOEC of 101 mg/l. All the studies compiled on the acute and chronic aquatic toxicity were > 100 mg/L. Thus it is concluded that KCl is not hazardous to freshwater organisms. Taking into considerations the background concentrations of KCl in seawater (380 mg/l K+ and 19,000 mg/l Cl-), it is concluded that there is no reason for further investigations of KCl on marine species. The low concern for the environment is supported by the absence of a bioaccumulation potential for the substance.	4.38%	Y
AVAGLYCOL / GLYCHEM MC	An inhibitor to prevent shales containing medium to high smectite interlayered clay content dispersing into the mud	Ecotoxicity: Low toxicity to aquatic organisms. LC50 (96 h) : 1800 mg/l (SCOPHTHALMUS MAXIMUS) EC50 (48 h) : 310 mg/l (ACARTIA TONSA) EC50 (72 h) : 391 mg/l (SKELETONEMA COSTATUM) Persistence / Degradability: Biodegradation BOD5 : N.D. % ThOD  Bioaccumulative potential: log Pow : 0.436 (OECD 107); BCF : N.D. (Slightly or not bioaccumulative)	1.55%	Y

Product Name	Purpose	Toxicity, Ecotoxicity & Biodegradability data**	% Product in system fluid	SDS Attached
	system			
AVAPERM NF	Prevent swelling clays by blocking the site for water hydration.	This product is registered on Offshore Chemical Notification Scheme Gold, Gold, Gold for HQ Band 17.5", 12.25" and 8.5" respectively.	1.12%	Y
SAPP	Deflocculate or disperse bentonite muds or fluids with high levels of low gravity solids.	Toxicity data - LD50 (Ingestion): 2650 mg/kg (mouse), LD50 (Intraperitoneal): 1 g/kg (mouse), LD50 (Intravenous): 59 mg/kg (mouse), LD50 (Subcutaneous): 480 mg/kg (mouse)  Does not bioaccumulate.	0.13%	Y
Sandseal	Bridging agent & loss circulation material	This product is expected to be of low toxicity. This product is not anticipated to cause adverse effects to animal or plant life if released to the environment in small quantities. Not expected to bioaccumulate.	0.88%	Y
JK-161 LV	Encapsulating Agent - provides shale inhibition	Toxicity data (10000 ppm test concentration) (EPA-821-R-02-012) Mysidopsis bahia = 48hr LC50 = 16.2 mg/L. Menidia beryllina = 48hr LC50 = 34.2 mg/L. Scophthalmus Maximus = 96hr LC50 > 1000 mg/L. Skeletonemia costatum = 72hr EC50 = 393 mg/L [NOEC = 118 mg/L] Acartia tonsa = 48 hr EC50 = 393 mg/L [NOEC = 112 mg/L] Corophium Volutator = 10 Day LC50 = 9338 mg/Kg [NOEC = 1000 mg/Kg]	0.16%	Y
QUICKSEAL F / M / C	Lost circulation material	This product is not anticipated to cause adverse effects to animal or plant life if released to the environment in small quantities. Not expected to bioaccumulate.	0.12%	Y
Defoam-AP 400	HT Defoamer	Constituent 1 – (45-60%) LD50 (ingestion) 33750 mg/kg (rat)  Constituent 2 – (40-55%) Toxicity to fish LC50 - Oncorhynchus mykiss (rainbow trout) - 75 mg/l - 96 h.	0.01%	Y

Product Name	Purpose	Toxicity, Ecotoxicity & Biodegradability data**	% Product in system fluid	SDS Attached
Defoam A (I)	Defoamer	Constituent 1 – (>98%) Toxicity to fish LC50 - <i>Oncorhynchus mykiss</i> (rainbow trout) - 75 mg/l - 96 h.  Constituent 2 – (Remainder) No Hazard	0.01	Y
Driscal D	High temperature fluid loss control agent	LCLo (Inhalation): 300 ug/m3/10 years (human), LDLo (Intratracheal): 200 mg/kg (rat) LDLo (Intravenous): 20 mg/kg (dog), TCLo (Inhalation): 16 000 000 particles/ft3/8 hours/17.9 years (human-fibrosis)	0.28%	Y
SPA	High temperature fluid loss control agent	Toxicity (10000 ppm test concentration) (EPA-821-R-02-012) <i>Mysidopsis Bahia</i> = 48HR LC50 = 16.2 mg/L. <i>Menidia Beryllina</i> = 48hr LC50 = 34.2 mg/L. <i>Scophthalmus Maximus</i> = 96hr LC50 > 1000 mg/L. <i>Skeletonemia Costatum</i> = 72hr EC50 = 393 mg/L [NOEC = 118 mg/L] <i>Acartia Tonsa</i> = 48hr EC50 = 393 mg/L [NOEC = 112 mg/L] <i>Corophium Volutator</i> = 10 day LC50 = 9338 mg/Kg [NOEC = 1000 mg/Kg]	0.49%	Y
Avastabhole	Shale stabiliser	Constituent 1 – (<2%) Oral LD50 = 2590 mg/kg (Rat) = 5800 mg/kg (Rat) Dermal LD50 Inhalation LC50 = 2830 mg/kg (Rabbit)  Ecotoxicity: The environmental impact of this product has not been fully investigated. Free of solvents, Avastabhole is considered environmental friendly. Not Toxic. Based on available acute ecotoxicity values above 1 mg/L and chronic ecotoxicity values above 0.1 mg/L, all remaining chemicals in this group are categorised as Not Toxic. Not Bioaccumulative. Based on the available measured bioconcentration data, all chemicals in this group are categorised as Not Bioaccumulative  Constituent 2 – (Remainder) Non Hazardous	4.55%	Y
Polydrill	High temperature fluid loss control agent	Oral Toxicity - (LD50) > 5000 mg/kg (rat) Rabbit, skin irritation – Non irritating Rabbit, eye irritation – Non irritating Genotoxicity – Ames – Non mutagenic Ecotox <i>Oncorhynchus mykiss</i> (Rainbow trout) EC50 4430 mg/L	0.85%	Y

Product Name	Purpose	Toxicity, Ecotoxicity & Biodegradability data**	% Product in system fluid	SDS Attached
		Polymer is not "readily biodegradable"		
Geovis	High temperature viscosifier	Oral Toxicity - (LD50) - > 5000 mg/kg (rat)  The notified polymer is not toxic to fish (rainbow trout), aquatic invertebrates (daphnia magna) and marine invertebrates (acartia tonsa) under test conditions.  Considered readily biodegradable.	0.18%	Y
AvaGreenLube	Lubricant	LC50 (Fish) 48 h: > 10000 µg / L LC50 (Mollusc) 48 h: > 10000 µg /L LC50 (Amphibious) 48 h: > 7600 µg/L  Low potential for bio-accumulation in aquatic organisms or terrestrial even after repeated exposure	2.63%	Y
FlexFirm KA	Shale Stabiliser	Oral Toxicity (LD50) - 1600 mg/kg (rat) A 96 hour median tolerance for fish (Gambusia affinis) of 2320 ppm; a 96 hour median tolerance for water fleas (Daphnia magna) of 247 ppm; a 96 hour median tolerance for snail eggs (Lymnea) of 632 ppm; and a 96 hour median tolerance for Amphipoda of 160 ppm. Neither silica nor potassium will appreciably bio-concentrate up the food chain.	0.45%	Y
Ancor-1	Corrosion Inhibitor	Toxicity Data LD50 (Ingestion): 2200 mg/kg (rabbit) LD50 (Intraperitoneal): 1450 mg/kg (mouse) LD50 (Skin): > 20 mL/kg (rabbit) TDLo (Ingestion): 16 g/kg/64 weeks (mouse - cancer)  Ecotoxicity - LC50 (shrimp): > 100 ppm. Not expected to bioaccumulate	1.32%	Y
Calcium Chloride (94%) Powder	Weighting Agent	Based on available data, the classification criteria are not met. Toxicity Data available for the ingredients: Acute Toxicity: CALCIUM CHLORIDE ANHYDROUS (10043-52-4) LD50 (Ingestion): 1000 mg/kg (rat) LD50 (Intraperitoneal): 210 mg/kg (mouse) LD50 (Intravenous): 42 mg/kg (mouse) LD50 (Subcutaneous): 823 mg/kg (mouse) LDLo (Ingestion): 1384 mg/kg (rabbit) LDLo (Intravenous): 150 mg/kg (guinea pig)	1.12	Y

Product Name	Purpose	Toxicity, Ecotoxicity & Biodegradability data**	% Product in system fluid	SDS Attached
		<p>LDLo (Subcutaneous): 249 mg/kg (cat)            TDLo (Intravenous): 20 mg/kg/1 hour (woman)            SODIUM CHLORIDE (7647-14-5)            LC50 (Inhalation): &gt; 42000 mg/m<sup>3</sup>/1 hour (rat)            LD50 (Ingestion): 3000 mg/kg (rat)            LD50 (Intraperitoneal): 2602 mg/kg (mouse)            LD50 (Intravenous): 645 mg/kg (mouse)            LD50 (Skin): &gt; 10000 mg/kg (rabbit)            LD50 (Subcutaneous): 3000 mg/kg (mouse)            LDLo (Ingestion): 8000 mg/kg (rabbit)            LDLo (Intravenous): 300 mg/kg (guinea pig)            LDLo (Subcutaneous): 2160 mg/kg (guinea pig)            TDLo (Ingestion): 12357 mg/kg (human)</p> <p>Biodegradation/Bioaccumulation:            Biodegradability does not pertain to inorganic substances. Does not bioaccumulate.</p>		
Idcide-20	Biocide/Prevents bacterial contamination of the mud	<p>Toxicity: Toxicity data available for ingredient:            TETRAKIS(HYDROXYMETHYL)PHOSPHONIUM SULPHATE (55566-30-8)            LD50 (ingestion) 248 mg/kg (rat)            TDLo (ingestion) 650 mg/kg/13 weeks - intermittent (rat)            Ecotoxicity: 75% TETRAKIS(HYDROXYMETHYL)PHOSPHONIUM SULPHATE (55566-30-8):            LC50 (Rainbow Trout) = 119 mg/L/96 hr            LC50(Bluegill Sunfish) = 93 mg/L/ 96 hr            EC50 (Daphnia Magna) = 19 mg/L/48 hr            LC50 (Brown Shrimp) = 340 mg/L/96 hr            LC50 (Mysid Shrimp) = 9.5 mg/L/96 hr            LC50 (Sheepshead Minnow) = 94 mg/L/96 hr            LC50 (Jevenile Plaice) = 86 mg/L/96 hr            Waste Water management EC50 (Activated Sludge) = 24 mg/L/3 hr            Persistence and degradability: This product is readily biodegradable.  <a href="http://www.inchem.org/documents/ehc/ehc/ehc218.htm">http://www.inchem.org/documents/ehc/ehc/ehc218.htm</a></p>	0.13	Y

Product Name	Purpose	Toxicity, Ecotoxicity & Biodegradability data**	% Product in system fluid	SDS Attached
DSCO™ Defoam	Defoamer	Constituent 1 – (>60%) Oral Toxicity: An oral LD50 300 - 57000 mg/kg (range)  This product is not expected to bioaccumulate  Constituent 2 – (remainder) No Hazard	0.01	Y
Microflow	Stimulation Additive	Constituent 1 – (15-50%) Oral Toxicity: An oral LD50 in mice of 3600 mg/kg  Constituent 2 – (20-60%) No Hazard  This product is not expected to bioaccumulate.	0.22	Y
EvoTrol HT (HT Logging Pill)	Fluid Loss Control Additive	This substance is classified as not hazardous according to regulation (EC) 1272/2008 [CLP] Product does not present an acute toxicity hazard based on known or supplied information. <ul style="list-style-type: none"> <li>• No hazardous air pollutants</li> <li>• No listing on Clean Air Act</li> <li>• No components with a CERCLA RQ</li> <li>• No components with a SARA 302 RQ</li> </ul> <ul style="list-style-type: none"> <li>• Biodegradation -this product is not readily biodegradable</li> <li>• Bioaccumulation – not harmful to aquatic organisms</li> </ul>	0.02	Y

\* Shaded products are contingent

#### Fluid loss pills, logging pills and cased hole/completion fluids

Chemicals Name	CAS number	Mass fraction (%)
Water	7732-18-5	70.2%
Bentonite	1302-78-9	1.0%
Potassium Chloride	7447-40-7	3.8%

Chemicals Name	CAS number	Mass fraction (%)
Calcium Carbonate	471-34-1	3.0%
Sodium Chloride	7647-14-5	11.3%
Barium Sulphate	7727-43-7	6.5%
Sodium Carboxymethyl Cellulose	9004-32-4	0.5%
Xanthan Gum	11138-66-2	0.6%
Polyvinylalcohol	9002-89-5	0.1%
Quartz (Silica Crystalline)	14808-60-7	0.4%
Sodium Hydroxide	1310-73-2	0.1%
Sodium Carbonate	497-19-8	0.08%
Sodium Sulphite	7757-83-7	0.09%
Sodium Bicarbonate	7757-83-7	0.02%
Citric Acid, Anhydrous	144-55-8	0.01%
Sodium Glycolate	77-92-9	0.001%
Tetrakis (Hydroxymethyl) Phosphonium Sulphate	55566-30-8	0.01%
Carboxymethyl Starch	9057-06-1	0.65%
Triethanolamine	102-71-6	0.13%
Octan-2-ol	123-96-6	0.005%
Calcium Oxide	1305-78-8	0.002%
Magnesium Oxide	1309-48-4	0.15%
Hexahydro-1,3,5-tris(2-hydroxyethyl)-S-triazine	4719-04-4	0.01%
Cellulose / Organic Fibre	9004-32-6	0.13%
Ethanol, 2,2'-oxybis-,	68909-77-3	0.27%
Quartz	14808-60-7	0.05%
Poly (oxy-1,2-ethanediyl)	68909-09-1	0.09%
Sepiolite	638000-37-3	0.05%
Acetic Acid	64-19-7	0.09%
Potassium Silicate	1312-76-1	0.65%
Silica, Amorphous	7631-86-9	0.002%
<b>TOTAL</b>		<b>100</b>
Cellulose	9004-34-6	20.4%
Ethylene Glycol	107-21-1	8.8%
Barium Sulphate	7727-43-7	34.5%
Citric Acid	77-92-9	0.9%
Potassium Chloride	7447-40-7	6.4%
2-Propenenitrile, polymer with 1,3-butadiene Rubber	9003-18-3	3.3%

Chemicals Name	CAS number	Mass fraction (%)
Natural Rubber	6/04/9006	3.0%
Rubber - SBR elastomers (derived from recycled automotive tyres)	9003-55-8	2.8%
Polyisoprene	9003-31-0	0.6%
Diatomaceous Earth	68855-54-9	2.8%
Poly(oxy-1,2-ethanediyl), alpha-butyl-omega-hydro	9004-77-7	2.6%
Fuller's earth	8031-18-3	1.5%
Disodium Pyrophosphate	7758-16-9	0.9%
Calcium Carbonate	471-34-1	7.0%
Cristobalite	14464-46-1	0.5%
Polyethylene	9002-88-4	0.5%
Quartz (Silica Crystalline)	14808-60-7	0.8%
Calcium Oxide	1305-78-8	0.3%
Isopropyl Alcohol	67-63-0	0.1%
Hydrochloric acid	7647-01-0	0.2%
Calcium Hydroxide	1305-62-0	0.2%
Magnesium Oxide	1309-48-4	0.2%
Acrylamide, Sodium Acrylate Copolymer	25085-02-3	0.15%
Polyethylene Glycol	25322-68-3	0.01%
Octan-2-Ol	123-96-6	0.01%
Vegetable Materials	100209-45-8	0.9%
Hexanedinitrile	628-73-9	1.3%
Hydrochloric acid	7647-01-0	0.5%
Organic Fibre	9004-34-6	0.1%
Polypropylene Glycol	25322-69-4	0.01%
Driscal® D Polymer 1112534, 1016818	5165-97-9	0.3%
Acrylate - Acrylamide Copolymer	25085-02-3	0.5%
Sulphonated Organic Polymer	28210-41-5	0.8%
D-glucurono-6-deoxy-l-manno-d-glucan, Acetate, calcium magnesium potassium sodium Salt	595585-15-2	0.2%
Fatty acids, Tall-Oil	61790-12-3	0.07%
Methyl esters of fatty acids	68990-52-3	0.05%
Sweet Orange Oil	68647-72-3	0.4%
2,2,4-trimethyl-1,3-pentanediol monoisobutyrate	25265-77-4	0.3%
Poly(oxy-1,2-ethanediyl), .alpha.-octyl-.omega.-hydroxy-	27252-75-1	0.8%



Chemicals Name	CAS number	Mass fraction (%)
Water	7732-18-5	Balance (27.0 to 33%)
Isononylphenol, ethoxylate	30725-87-1	1.0%
alfa,alfa',alfa''-Trimethyl-1,3,5-triazine- 1,3,5(2H,4H,6H)- triethanol	25254-50-6	0.06%
Potassium Silicate	1312-76-1	0.3%
<b>TOTAL</b>		<b>100%</b>

\* Shaded products are contingent.

---

### **3 CEMENTING**

Cementing fluid systems are provided by both Halliburton and Schlumberger below. The Schlumberger system is a contingency.

<b>A. System Details:</b>	
Operator:	Strike Energy
Project / Well:	West Erregulla 3
System:	Casing and/or Plugs Cementing System
Total Volume of System (m <sup>3</sup> ):	530.7 m <sup>3</sup> (3338 bbls)

**B. Product List**

Trade name	Supplier	Purpose	Mass % of Total	Ecotoxicity Info	MSDS Attached
Customer Supplied Mix Water	Customer	To Mix Fluids	40.7%	No Hazard	No
Cement - Class G	Halliburton	Cement	38.2%	<p>PRODUCT CEFAS LISTED 100% PLOCOR CONSTITUENT 1 (€100%): LD50 Oral: &gt;2000 mg/kg (Rat), LD50 Dermal: &gt;2000 mg/kg, LC50 Inhalation: &gt;1.0 mg/L (4h) (Rat) After hardening with water or moisture, cement presents no ecotoxicity risks. (Source: IUCLID 2000) Static Aquatic Toxicity - Freshwater and Marine Algae: 72 hour EC50: &gt;1,000 mg/L Static Aquatic Toxicity - Freshwater and Marine Invertebrates: 48 hour LC50: &gt;1,000 mg/L Static Aquatic Toxicity - Freshwater and Marine Fish: 96 hour LC50: &gt;1,500 mg/L Partition Coefficient, n-Octanol/Water: Not Applicable for inorganics Oxygen Demand, Chemical Oxygen Demand: Not Applicable for inorganics Biodegradability, Seawater - Indigenous microbes: Not Applicable for inorganics CONSTITUENT 2 (€100%): LD50 Oral: &gt;15000 mg/kg (human) Freshwater Crustacean Toxicity 24h LL50: &gt; 10000 mg/L (Daphnia magna) [Health Canada] (similar substance); Freshwater Fish Toxicity 96h LL0: 10000 mg/L (Danio rerio) [Health Canada] (similar substance); Bioaccumulation: Substance is inorganic - bioaccumulation is not applicable. Biodegradation: Substance is inorganic - biodegradation is not applicable. Carcinogenicity: Classified as a human carcinogen (IARC Group 1)</p>	Yes
Cement - Class G + 35% SSA-1	Halliburton	Cement	14.0%	<p>CONSTITUENT 1 (€65%): LD50 Oral: &gt;2000 mg/kg (Rat), LD50 Dermal: &gt;2000 mg/kg, LC50 Inhalation: &gt;1.0 mg/L (4h) (Rat) After hardening with water or moisture, cement presents no ecotoxicity risks. (Source: IUCLID 2000) Static Aquatic Toxicity - Freshwater and Marine Algae: 72 hour EC50: &gt;1,000 mg/L Static Aquatic Toxicity - Freshwater and Marine Invertebrates: 48 hour LC50: &gt;1,000 mg/L Static Aquatic Toxicity - Freshwater and Marine Fish: 96 hour LC50: &gt;1,500 mg/L Partition Coefficient, n-Octanol/Water: Not Applicable for inorganics Oxygen Demand, Chemical Oxygen Demand: Not Applicable for inorganics Biodegradability, Seawater - Indigenous microbes: Not Applicable for inorganics CONSTITUENT 2 (€33%): LD50 Oral: &gt;15000 mg/kg (human) Freshwater Crustacean Toxicity 24h LL50: &gt; 10000 mg/L (Daphnia magna) [Health Canada] (similar substance); Freshwater Fish Toxicity 96h LL0: 10000 mg/L (Danio rerio) [Health Canada] (similar substance); Bioaccumulation: Substance is inorganic - bioaccumulation is not applicable. Biodegradation: Substance is inorganic - biodegradation is not applicable. Carcinogenicity: Classified as a human carcinogen (IARC Group 1)</p>	Yes
BENTONITE	Halliburton	Viscosifier	1.84%	<p>PRODUCT CEFAS LISTED 100% PLOCOR CONSTITUENT 1 (€ 100%): Component is naturally occurring and not intrinsically hazardous. CONSTITUENT 2 (€ 1%): Oral LD50: &gt;15000 mg/kg (Human) Freshwater Crustacean Toxicity 24h LL50: &gt; 10000 mg/L (Daphnia magna) [Health Canada] (similar substance); Freshwater Fish Toxicity 96h LL0: 10000 mg/L (Danio rerio) [Health Canada] (similar substance); Bioaccumulation: Substance is inorganic - bioaccumulation is not applicable. Biodegradation: Substance is inorganic - biodegradation is not applicable. CONSTITUENT 3 (€ 5%): Oral LD50: &gt;15000 mg/kg (Human) (Similar Substance) Freshwater Crustacean Toxicity 24h LL50: &gt; 10000 mg/L (Daphnia magna) [Health Canada] (similar substance); Freshwater Fish Toxicity 96h LL0: 10000 mg/L (Danio rerio) [Health Canada] (similar substance); Bioaccumulation: Substance is inorganic - bioaccumulation is not applicable. Biodegradation: Substance is inorganic - biodegradation is not applicable. CONSTITUENT 4 (€ 1%): Oral LD50: &gt;15000 mg/kg (Human) (Similar Substance) Freshwater Crustacean Toxicity 24h LL50: &gt; 10000 mg/L (Daphnia magna) [Health Canada] (similar substance); Freshwater Fish Toxicity 96h LL0: 10000 mg/L (Danio rerio) [Health Canada] (similar substance); Bioaccumulation: Substance is inorganic - bioaccumulation is not applicable. Biodegradation: Substance is inorganic - biodegradation is not applicable. Carcinogenicity: Classified as a human carcinogen (IARC Group 1)</p>	Yes
Barite	Halliburton	Weighting Agent	1.82%	<p>PRODUCT CEFAS LISTED 100% PLOCOR CONSTITUENT 1 (€100%): Oral LD50: &gt;2000 mg/kg (Rat), Oral LD50: &gt;3000 mg/kg (Mouse), Inhalation LC50: &gt;1.1 mg/L (Rat, Aerosol, 4h) (similar substance) Freshwater Algae Toxicity 72h EC50: &gt; 61.1 mg/L (Pseudokirchneriella subcapitata) [ECHA]; Freshwater Crustacean Toxicity 48h LC50: 14.5 mg/L (Daphnia magna) [ECHA] (similar substance); Freshwater Fish Toxicity 96h LC50: &gt; 3.5 mg/L (Danio rerio) [ECHA]; No Marine Data Marine sub-chronic Crustacean Toxicity NOEC (7d) 100 mg/L (Cancer anthony) Bioaccumulation Fish BCF: 1.2-74.4 (Lepomis macrochirus) [ECHA]; Biodegradation: Substance is inorganic - biodegradation is not applicable. CONSTITUENT 2 (€5%): LD50 Oral: &gt;15000 mg/kg (human) Freshwater Crustacean Toxicity 24h LL50: &gt; 10000 mg/L (Daphnia magna) [Health Canada] (similar substance); Freshwater Fish Toxicity 96h LL0: 10000 mg/L (Danio rerio) [Health Canada] (similar substance); Marine Water Algae Toxicity 72h EC50: 471.7 mg/L (Skeletonema costatum) Marine Water Crustacean Toxicity 48h LC50: 7713 mg/L (Acartia tonsa) Marine Water Fish Toxicity 96h LC50: &gt; 4200 mg/L (Scophthalmus maximus) [Halliburton Sponsored Study]; Bioaccumulation: Substance is inorganic - bioaccumulation is not applicable. Biodegradation: Substance is inorganic - biodegradation is not applicable. Carcinogenicity: Classified as a human carcinogen (IARC Group 1)</p>	Yes
Econolite Liquid	Halliburton	Cement Additive Stabiliser	0.639%	<p>PRODUCT CEFAS LISTED 100% PLOCOR CONSTITUENT 1 (€60%): LD50 Oral: 800 mg/kg (Rat), LD50 Oral: 770 mg/kg (Mouse), LD50 Dermal: &gt; 5000 mg/kg (Rat) (Similar substance), LC50 Inhalation: &gt;2.06 mg/L (Rat) (4h) (Similar substance) Freshwater Algae Toxicity 72h EC50: &gt; 345 mg/L (Solenastrium subspicatum) [ECHA]; Freshwater Crustacean Toxicity 48h EC50: 170 mg/L (Daphnia magna) [OECD SIDS]; Freshwater Fish Toxicity 96h LC50: 1108 mg/L (Danio rerio) [OECD SIDS]; Bioaccumulation: Substance is inorganic - bioaccumulation is not applicable. Biodegradation: Substance is inorganic - biodegradation is not applicable. CONSTITUENT 2 (€60%): Component is naturally occurring and is not intrinsically hazardous No data available to indicate product or components present at greater than 0.1% are chronic health hazards</p>	Yes
Microbond	Halliburton	Expander	0.547%	<p>CONSTITUENT 1 (€ 100%): Oral LD50: 3000 mg/kg, Inhalation LD50: &gt;3.26 mg/L (4h), Dermal LD50: &gt;2500 mg/kg (Rabbit) Freshwater Algae Toxicity 72h EC50: &gt; 100 mg/L (Selenastrium capricornutum) [OECD SIDS]; Freshwater Crustacean Toxicity 48h EC50: &gt; 100 mg/L (Daphnia magna) [OECD SIDS]; Freshwater Fish Toxicity 96h EC50: &gt; 100 mg/L (Oryzias latipes) [OECD SIDS]; Bioaccumulation: Substance is inorganic - bioaccumulation is not applicable. Biodegradation: Substance is inorganic - biodegradation is not applicable. CONSTITUENT 2 (€ 30%): Oral LD50: &gt;2000 mg/kg (Rat) (Similar Substance), Dermal LD50: &gt;2000 mg/kg (Rat) (Similar Substance), Inhalation LC50: 1.9 mg/L air (Rat) (4h) (Similar substance) Freshwater Algae Toxicity 72h EC50: 3.6 mg/L (Dismodesmus subspicatus) [ECHA]; Freshwater Crustacean Toxicity 48h EC50: 5.4 mg/L (Daphnia magna) [ECHA]; Freshwater Fish Toxicity 96h EC50: &gt; 100 mg/L (Danio rerio) [ECHA]; Bioaccumulation: Substance is inorganic - bioaccumulation is not applicable. Biodegradation: Substance is inorganic - biodegradation is not applicable. CONSTITUENT 3 (€ 10%): Oral LD50: 750 mg/kg (Rat), Dermal LD50: &gt;2500 mg/kg (Rabbit), Effect concentrations in the aquatic environment are attributable to a change in pH value. Freshwater Crustacean Toxicity 48h EC50: 49.1 mg/L (Daphnia magna) [ECHA]; Marine Water Crustacean Toxicity 96h LC50: 158 mg/L (Carcinus maenas) [ECHA]; Freshwater Fish Toxicity 96h LC50: 50.6 mg/L (Oncorhynchus mykiss) [ECHA]; Bioaccumulation: Substance is inorganic - bioaccumulation is not applicable. Biodegradation: Substance is inorganic - biodegradation is not applicable. CONSTITUENT 4 (€ 5%): LD50 Oral: 4220 mg/kg (Rat), Inhalation LD50: &gt;4.74 mg/L (4h) (Rat) Freshwater Algae Toxicity 96h EC50: 850 mg/L (Nannochloris amphibia) [US EPA ECOTOX]; Freshwater Crustacean Toxicity 48h EC50: 1020 mg/L (Ceriodaphnia dubia) [ECHA]; Freshwater Fish Toxicity 96h LC50: 7100 mg/L (Lepomis macrochirus) [ECHA]; Bioaccumulation: Substance is inorganic - bioaccumulation is not applicable. Biodegradation: Substance is inorganic - biodegradation is not applicable.</p>	Yes
SILICALITE LIQUID	Halliburton	Light weight cement additive	0.375%	<p>PRODUCT CEFAS LISTED 100% PLOCOR CONSTITUENT 1 (€60%): SiO2 is a stable substance. In the environment it occurs in different modifications and it is one of the most abundant materials on the Earth's surface. Biodegradability is not applicable for silica since it is inorganic. Additionally, bioaccumulation is not expected. Freshwater Algae Toxicity 72h EC50: 440 mg/L (Selenastrium capricornutum) [ECHA]; Freshwater Crustacean Toxicity 48h EC50: 790 mg/L (Ceriodaphnia dubia); Freshwater Fish Toxicity 96h LC50 5000 mg/L (Brachydanio rerio). Source: IUCLID 2000 CONSTITUENT 2 (€60%): No Hazard - Product is naturally occurring CONSTITUENT 3 (€1%): Freshwater Fish Toxicity 96h LC50: &gt;1000 mg/L (Brachydanio rerio) Freshwater Crustacean Toxicity 24h LC50: &gt;1000 mg/L (Daphnia magna) Marine Crustacean Toxicity 10d LC50: 50566 mg/kg (Corophium volutator)</p>	Yes
Haled-413L	Halliburton	Fluid Loss Additive	0.301%	<p>PRODUCT CEFAS LISTED CONSTITUENT 1 (€100%): Oral LD50: &gt;2000 mg/kg (Rat) Marine Water Algae Toxicity 72h EC50: 1102 mg/L (Skeletonema costatum) [OSPAR]; Marine Water Crustacean Toxicity 48h LC50: &gt; 200 mg/L (Acartia tonsa) [OSPAR]; Marine Water Fish Toxicity 96h LC50: &gt; 1000 mg/L (Scophthalmus maximus) [OSPAR]; Bioaccumulation Log Kow: &lt; 3.5 (Halliburton Funded Study); Marine Water Biodegradation 28d: 6% (Halliburton Funded Study); CONSTITUENT 2 (€100%): Product is naturally occurring and not intrinsically hazardous. No data available to indicate product or components present at greater than 0.1% are chronic health hazards</p>	Yes

Latex 3000	Halliburton	Cement Expanding Additive	0.282%	<p>PRODUCT CEFAS LISTED</p> <p>CONSTITUENT 1 (≤ 60%): Marine Fish Toxicity LC50 98h: &gt;1000 mg/L (Cyprinodon variegatus)</p> <p>CONSTITUENT 2 (≤ 60%): No Hazard</p> <p>CONSTITUENT 3 (≤ 0.1%): Freshwater Fish Toxicity 48h LC50: &gt; 1,000 mg/L (Catalyst Partners SDS);</p> <p>CONSTITUENT 4 (≤ 0.1%): Freshwater Algae Toxicity 72h EC50: 4.9 mg/L (Selenastrum capricornutum); Freshwater Crustacean Toxicity 48h EC50: 4.7 mg/L (Daphnia magna); Freshwater Fish Toxicity 96h LC50: 4.02 mg/L (Fathead minnow [Pimephales promelas]); Source: OECD SDS</p> <p>CONSTITUENT 5 (≤ 0.1%): Freshwater Crustacean Toxicity 96h EC50: 34.8 mg/L (Daphnia magna); Marine Fish Toxicity 24h LC50: 71.5 mg/L (Lagodon rhomboides); Bioaccumulation BCF: 13</p>	Yes
HR-6L	Halliburton	Cement Retarder	0.166%	<p>PRODUCT CEFAS LISTED</p> <p>100% PLONOR</p> <p>CONSTITUENT 1 (≤100%): Component is naturally occurring and not intrinsically hazardous No data available to indicate product or components present at greater than 0.1% are chronic health hazards</p> <p>CONSTITUENT 2 (≤60%): Oral LD50: &gt;5000 mg/kg (Rat) Inhalation LC50: &gt; 480 mg/m3 Freshwater Fish Toxicity LC50: &gt;1000 mg/L (Danio rerio) Marine Water Algae Toxicity 72h EC50: 301 mg/L (Skeletonema costatum) [Halliburton Funded Study]; Marine Water Crustacean Toxicity 48h LC50: 1261 mg/L (Acartia tonsa) [Halliburton Funded Study]; Bioaccumulation Log Pow: &lt; 0 (Calculated) [Halliburton Funded Study]; Biodegradation: No data - expected to be inherently biodegradable No data available to indicate product or components present at greater than 0.1% are chronic health hazards</p>	Yes
MICROBOND HT Component	Halliburton	Cement Additive	0.164%	<p>No data was available in the IUCLID for this component, as magnesium ions are a major component of all natural waters. Source: IUCLID 2000 No data available to indicate product or components present at greater than 1% are chronic health hazards</p>	Yes
CFR-8L	Halliburton	Friction Reducer	0.153%	<p>PRODUCT CEFAS LISTED</p> <p>CONSTITUENT 1 (≤60%): Oral LD50: &gt;5000 mg/kg (Rat) Marine Water Algae Toxicity 72h EC50: 7631.73 mg/L (Skeletonema costatum); Marine Water Crustacean Toxicity 48h LC50: 2200 mg/L (Acartia tonsa); Marine Water Fish Toxicity 96h LC50: 1000 mg/L (Scophthalmus maximus); Fresh Water Crustacean Toxicity 48h LC50: &gt;100 mg/L (Daphnia magna); Bioaccumulation Log Pow: &lt; 0; Inherently biodegradable: Biodegradation 28d: 38%;</p> <p>CONSTITUENT 2 (≤100%): Component is naturally occurring and not intrinsically hazardous No data available to indicate product or components present at greater than 0.1% are chronic health hazards</p>	Yes
TUNED SPACER E+	Halliburton	Mud/Cement Spacer	0.149%	<p>PRODUCT CEFAS LISTED</p> <p>100% PLONOR</p> <p>CONSTITUENT 1 (≤100%): Component is naturally occurring and not intrinsically hazardous.</p> <p>Freshwater Algae Toxicity 72h EC50: 440 mg/L (Pseudokirchneriella subcapitata) Freshwater Crustacean Toxicity 48h LC50: &gt; 100 mg/L (Daphnia magna) Freshwater Fish Toxicity 96h LC50: 1000 mg/L (Danio rerio)</p> <p>CONSTITUENT 2 (≤10%): Oral LD50: &gt;1500 mg/kg (Human) Freshwater Algae Toxicity 72h EC50: 440 mg/L (Pseudokirchneriella subcapitata) (similar substance) Freshwater Crustacean Toxicity 24h LL50: &gt; 10000 mg/L (Daphnia magna) (Health Canada) (similar substance); Freshwater Fish Toxicity 96h LL50: 10000 mg/L (Danio rerio) (Health Canada) (similar substance); Marine Water Algae Toxicity 72h EC50: 4717 mg/L (Skeletonema costatum) (similar substance); Marine Water Crustacean Toxicity 48h LC50: 7713 mg/L (Acartia tonsa) Marine Water Fish Toxicity 96h LC50: &gt; 4000 mg/L (Scophthalmus maximus) [Halliburton Sponsored Study]; Bioaccumulation/Biodegradation: Substance is inorganic - bioaccumulation/biodegradation is not applicable. Carcinogenicity: Classified as a human carcinogen (IARC Group 1)</p> <p>CONSTITUENT 3 (≤1%): Oral LD50: &gt;15000 mg/kg (Human) (Similar Substance) Freshwater Algae Toxicity 72h EC50: 440 mg/L (Pseudokirchneriella subcapitata) (similar substance) Freshwater Crustacean Toxicity 24h LL50: &gt; 10000 mg/L (Daphnia magna) (Health Canada) (similar substance); Freshwater Fish Toxicity 96h LL50: 5000 mg/L (Danio rerio) (similar substance); Bioaccumulation/Biodegradation: Substance is inorganic - bioaccumulation/biodegradation is not applicable.</p> <p>CONSTITUENT 4 (≤1%): Oral LD50: &gt;15000 mg/kg (Human) (Similar Substance) Freshwater Algae Toxicity 72h EC50: 440 mg/L (Pseudokirchneriella subcapitata) (similar substance) Freshwater Crustacean Toxicity 24h LL50: &gt; 10000 mg/L (Daphnia magna) (Health Canada) (similar substance); Freshwater Fish Toxicity 96h LL50: 5000 mg/L (Danio rerio) (similar substance); Bioaccumulation/Biodegradation: Substance is inorganic - bioaccumulation/biodegradation is not applicable.</p> <p>CONSTITUENT 5 (≤50%): Oral LD50: &gt;5000 mg/kg (Rat) Inhalation LC50: &gt; 480 mg/m3 Freshwater Algae Toxicity LC50: &gt;600 mg/L (Solenastrium subcapitata) Freshwater Crustacean Toxicity 48h EC50: &gt; 2100 mg/L (Daphnia magna); Freshwater Fish Toxicity 48h LC50: 7300 mg/L (Oncorhynchus mykiss) [US EPA ECOTOX]; Freshwater Fish Toxicity LC50: &gt;1000 mg/L (Danio rerio) Marine Water Algae Toxicity 72h EC50: 301 mg/L (Skeletonema costatum) [Halliburton Funded Study]; Marine Water Crustacean Toxicity 48h LC50: 1261 mg/L (Acartia tonsa) [Halliburton Funded Study]; Bioaccumulation Log Pow: -3.45 [EPI Suite] (similar substance); Freshwater Biodegradation 10d: 29 % [US EPA HPV Haz. Char. Doc.] (similar substance); CONSTITUENT 6 (≤10%): No Hazard</p>	Yes
HR-25L	Halliburton	Cement Retarder	0.110%	<p>PRODUCT CEFAS LISTED</p> <p>CONSTITUENT 1 (≤60%): No Hazard</p> <p>CONSTITUENT 2 (≤60%): Freshwater Algae Toxicity 72h EC50: 61.4 mg/L (Pseudokirchneriella subcapitata) [ECHA]; Freshwater Crustacean Toxicity 48h EC50: 93.3 mg/L (Daphnia magna) [ECHA]; Freshwater Fish Toxicity 96h LC50: &gt; 100 mg/L (Danio rerio) [ECHA]; Bioaccumulation Log Pow: 0.24 [Halliburton Funded Study]; Marine Water Biodegradation 28d: 85 % [ECHA];</p>	Yes
CFR-3L	Halliburton	Friction Reducer	0.107%	<p>PRODUCT CEFAS LISTED</p> <p>CONSTITUENT 1 (≤60%): Oral LD50: &gt;5000 mg/kg (Rat) Marine Water Algae Toxicity 72h EC50: &gt; 3300 mg/L (Skeletonema costatum) [Halliburton Funded Study]; Marine Water Crustacean Toxicity 48h LC50: 1667 mg/L (Acartia tonsa) [Halliburton Funded Study]; Freshwater Fish Toxicity 48h LC50: 7478 mg/L (Aphyosemon brittanni) [SKW Trophob]; Bioaccumulation Log Pow: &lt; 0 [Halliburton Funded Study]; Marine Water Biodegradation 28d: 0% [Halliburton Funded Study];</p> <p>CONSTITUENT 2 (≤60%): Component is naturally occurring and not intrinsically hazardous No data available to indicate product or components present at greater than 0.1% are chronic health hazards</p>	Yes
SCR-100	Halliburton	Cement Retarder	0.0731%	<p>PRODUCT CEFAS LISTED</p> <p>PRODUCT DATA: Oral Toxicity LD50: &gt;5000 mg/kg (Rat), Dermal LD50: &gt;2000 mg/kg (Rabbit) Freshwater Fish Toxicity 96h LC50: 4900 mg/L (Oncorhynchus mykiss) Freshwater Crustacean Toxicity 48h LC50: 2800 mg/L (Daphnia magna) Marine Water Algae Toxicity 72h EC50: &gt; 3300 mg/L (Skeletonema costatum) [Halliburton Funded Study]; Marine Water Crustacean Toxicity 48h LC50: &gt; 2000 mg/L (Acartia tonsa) [Halliburton Funded Study]; Marine Water Fish Toxicity 96h LC50: &gt; 1000 mg/L (Scophthalmus maximus) [Halliburton Funded Study]; Marine Water Biodegradation 28d: 14% [Halliburton Funded Study]; Product was tested using OECD 117 no peaks detected MW&gt;700Da. Product is not expected to be bioaccumulating No data available to indicate product or components present at greater than 0.1% are chronic health hazards</p>	Yes
Gascon 469	Halliburton	Cement Additive Stabiliser	0.0502%	<p>PRODUCT CEFAS LISTED</p> <p>100% PLONOR</p> <p>CONSTITUENT 1 &lt;=1%: Oral LD50: 500 mg/kg (Rabbit), Dermal LD50: 1350 mg/kg (Rabbit) Freshwater Crustacean Toxicity 48h EC50: 40.4 mg/L (Ceriodaphnia sp.) [ECHA]; Freshwater Fish Toxicity 96h LC50: 45.4 mg/L (Oncorhynchus mykiss) Freshwater Fish Toxicity 96h LC50: 125 mg/L (Gambusia affinis) [OECD SIDS]; Bioaccumulation: Substance is inorganic - bioaccumulation is not applicable. Biodegradation: Substance is inorganic - biodegradation is not applicable.</p> <p>CONSTITUENT 2 &lt;=60%: Oral LD50: &gt;10,000 mg/kg, Inhalation LC50: &gt;0.69 mg/L (Rat) (Rat) Freshwater Algae Toxicity 72h EC50: 440 mg/L (Selenastrum capricornutum) [IUCLID; LOLI]; Freshwater Crustacean Toxicity 48h EC50: 7600 mg/L (Ceriodaphnia dubia) [IUCLID; LOLI]; Freshwater Fish Toxicity 96h LC50: 5000 mg/L (Brachydanio rerio) [IUCLID; LOLI]; Bioaccumulation: Substance is inorganic - bioaccumulation is not applicable. Biodegradation: Substance is inorganic - biodegradation is not applicable.</p> <p>CONSTITUENT 3 &lt;= 100%: Component is naturally occurring and is not intrinsically hazardous No data available to indicate product or components present at greater than 0.1% are chronic health hazards</p>	Yes
HR-5	Halliburton	Retarder	0.0399%	<p>PRODUCT CEFAS LISTED</p> <p>100% PLONOR</p> <p>Freshwater Crustacean Toxicity 48h NOEL: 1000 mg/L (Daphnia magna) [US EPA HPV/S] (similar substance); Freshwater Fish Toxicity 48h LC50: 7300 mg/L (Oncorhynchus mykiss) [US EPA ECOTOX]; Bioaccumulation Log Pow: -3.45 [EPI Suite] (similar substance); Freshwater Biodegradation 10d: 29 % [US EPA HPV Haz. Char. Doc.] (similar substance);</p>	Yes
Halad-344	Halliburton	Fluid Loss Additive for high temperature	0.0383%	<p>PRODUCT CEFAS LISTED</p> <p>CONSTITUENT 1 &lt;=100%: Marine Water Algae Toxicity EC50: &gt;3300 mg/L (Skeletonema costatum) [HES Interat Study] Marine Water Crustacean Toxicity EC50: &gt; 2000 mg/L (Acartia tonsa) [HES study] Marine Fish Toxicity LC50: &gt;1000 mg/L (Scophthalmus maximus) [HES study] Bioaccumulation Log Pow: &lt;0 OECD 117 [HES Study] 0% (OECD 306) [HES Study]</p> <p>CONSTITUENT 2 &lt;=5%: PLONOR</p> <p>CONSTITUENT 3 &lt;= 5%: PLONOR</p> <p>CONSTITUENT 4 &lt;=5%: PLONOR</p> <p>Effect concentrations in the aquatic environment are attributable to a change in pH value. Oral LD50: 7340 mg/kg (Rat), Dermal LD50: &gt;5000 mg/kg (Rabbit) Freshwater Crustacean Toxicity 48h EC50: 49.1 mg/L (Daphnia magna) [ECHA]; Freshwater Fish Toxicity 96h LC50: 50.6 mg/L (Oncorhynchus mykiss) [ECHA]; Marine Water Crustacean Toxicity 96h LC50: 58 mg/L (Crangon septemspinosa) [ECHA]; Bioaccumulation: Substance is inorganic - bioaccumulation is not applicable. Biodegradation: Substance is inorganic - biodegradation is not applicable.</p> <p>PRODUCT DATA: Oral LD50: &gt;2000 mg/kg (similar Product) Marine Water Fish Toxicity 96h LC50: &gt; 1000 mg/L (Scophthalmus maximus) [Halliburton Funded Study]; Bioaccumulation Log Pow: &lt;0 [Halliburton Funded Study]; Marine Water Biodegradation 28d: 0% [Halliburton Funded Study];</p>	Yes

Halad-413	Halliburton	Fluid Loss Additive	0.0367%	<p>PRODUCT CEFAS LISTED</p> <p>Oral LD50: &gt;2000 mg/kg (Rat)</p> <p>Marine Water Algae Toxicity 72h EC50: 1102 mg/L (Skeletonema costatum) [OSPAR];</p> <p>Marine Water Crustacean Toxicity 48h LC50: &gt; 2000 mg/L (Acartia tonsa) [OSPAR];</p> <p>Marine Water Fish Toxicity 96h LC50: &gt; 1000 mg/L (Scophthalmus maximus) [OSPAR];</p> <p>Bioaccumulation Log Pow: &lt; 3.5 [Halliburton Funded Study];</p> <p>Marine Water Biodegradation 28d: 6% [Halliburton Funded Study];</p> <p>No data available to indicate product or components present at greater than 0.1% are chronic health hazards</p>	Yes
GasStop Additive	Halliburton	Cement Additive	0.0328%	<p>Marine Algae toxicity EC50 &gt;3300 mg/L (Skeletonema costatum [HES Internal Study])</p> <p>Marine Fish toxicity LC50: &gt;1000 mg/L (Scophthalmus maximus) [HES study]</p> <p>Marine Crustacean toxicity EC50: &gt; 2000 mg/L (Acartia tonsa) [HES study]</p> <p>Biodegradation Log Pow: &lt;0 OECD 117 [HES Study]</p> <p>Biodegradation 0% (OECD 306) [HES Study]</p>	Yes
HR-25	Halliburton	Cement Retarder	0.0308%	<p>PRODUCT CEFAS LISTED</p> <p>LD50 Oral: 2000-5000 mg/kg (Rat), LD50 Dermal: &gt;2000 mg/kg (Rat), LC50 Inhalation: No Data Available</p> <p>Freshwater Algae Toxicity 72h EC50: 51.4 mg/L (Pseudokirchneriella subcapitata) [ECHA];</p> <p>Freshwater Crustacean Toxicity 48h EC50: 83.3 mg/L (Daphnia magna) [ECHA];</p> <p>Freshwater Fish Toxicity 96h LC50: &gt; 100 mg/L (Danio rerio) [ECHA];</p> <p>Bioaccumulation Log Pow: -1;</p> <p>Marine Water Biodegradation 28d: 85% [ECHA];</p>	Yes
NF-6	Halliburton	Reduces air entrainment into cement slurry	0.0229%	<p>PRODUCT DATA</p> <p>Marine Water Algae Toxicity 72h EC50: 1100 mg/L (Skeletonema costatum) [Halliburton Funded Study];</p> <p>Marine Water Crustacean Toxicity 48h LC50: &gt; 1000 mg/L (Acartia tonsa) [Halliburton Funded Study];</p> <p>Marine Water Fish Toxicity 96h LC50: &gt; 1000 mg/L (Scophthalmus maximus) [Halliburton Funded Study];</p> <p>Marine Water Biodegradation 28d: 70% [Halliburton Funded Study];</p> <p>CONSTITUENT 1 (≤10%)</p> <p>Marine Algae Toxicity 72h EC50: 991.02 mg/L (Skeletonema costatum)</p> <p>Marine Crustacean Toxicity 48h LC50: 2500 mg/L (Acartia tonsa);</p> <p>Marine Fish Toxicity 96h LC50: &gt;3200 mg/L (Scophthalmus maximus);</p> <p>Bioaccumulation: Calculated Log Pow: 7.45</p> <p>CONSTITUENT 2 (≤5%)</p> <p>Oral LD50: &gt;15900 mg/kg (Mouse), Inhalation LC50: &gt;5 mg/L (4h) (Rat)</p> <p>Marine Algae Toxicity 72h EC50: 41 mg/L (Skeletonema costatum)</p> <p>Marine Crustacean Toxicity 48h LC50: &gt;10000 mg/L (Acartia tonsa);</p> <p>Marine Fish Toxicity 96h LC50: &gt;1800 mg/L (Scophthalmus maximus);</p> <p>Bioaccumulation: Calculated Log Pow: 4.28</p> <p>CONSTITUENT 3 (≤5%)</p> <p>Oral LD50: &gt; 5000 mg/kg (Rat), Dermal LD50: &gt;5000 mg/kg (Guinea Pig)</p> <p>Marine Algae Toxicity 72h EC50: 6488.87 mg/L (Skeletonema costatum)</p> <p>Marine Crustacean Toxicity 48h LC50: 5085.71 mg/L (Acartia tonsa);</p> <p>Marine Fish Toxicity 96h LC50: &gt;5600 mg/L (Scophthalmus maximus);</p> <p>Bioaccumulation: Calculated Log Pow: 22.69 (MW&gt;700)</p> <p>CONSTITUENT 4 (≤10%)</p> <p>No Hazard Product is naturally occurring</p> <p>CONSTITUENT 5 (≤100%)</p> <p>Oral LD50: 90 mg/kg (Mouse) (Similar Substance)</p> <p>Marine Algae Toxicity 72h EC50: &gt;3200 mg/L (Skeletonema costatum)</p> <p>Marine Crustacean Toxicity 48h LC50: &gt;10000 mg/L (Acartia tonsa);</p> <p>Marine Fish Toxicity 96h LC50: &gt;5600 mg/L (Scophthalmus maximus);</p> <p>Bioaccumulation: Calculated Log Pow: 7.09</p> <p>No data available to indicate product or components present at greater than 0.1% are chronic health hazards</p>	Yes
SA-541	Halliburton	Suspension Agent	0.0186%	<p>CONSTITUENT 1 (≤1%)</p> <p>Algae Toxicity EC50 (72h) No effects at saturation (Scenedesmus subspicatus)</p> <p>Toxicity to Fish LC50 (96h) No effects at saturation (Bosmina longirostris)</p> <p>Toxicity to Invertebrates EC50 (24h) No effects at saturation (Daphnia magna)</p> <p>CONSTITUENT 2 (≤100%)</p> <p>Toxicity to Invertebrates EC50 (24h) No effects at saturation (Daphnia magna)</p> <p>Component is an inert, man-made substance and not intrinsically hazardous.</p> <p>CONSTITUENT 3 (≤1%)</p> <p>Effect concentrations in the aquatic environment are attributable to a change in pH value</p> <p>Freshwater Acute Crustacean Toxicity 48h EC50: 40.4 mg/L (Ceriodaphnia sp.) [ECHA];</p> <p>Freshwater Acute Fish Toxicity 96h LC50: 125 mg/L (Gambusia affinis) [OECD SIDS];</p> <p>Toxicity to Fish LC50(48h) 189 mg/L (Leuciscus riss melanotus), LC50(48h) 189 mg/L (Leuciscus melanotus)</p> <p>LC50(24h) 145 mg/L (Poecilia reticulata) LC50(96h) 125 mg/L (Gambusia affinis) LOEL(150 d) = 25 mg/L (Lebistes reticulatus)</p> <p>Toxicity to Invertebrates EC50 (48h) 40.4 mg/L (Ceriodaphnia sp.)</p> <p>Bioaccumulation: Substance is inorganic - bioaccumulation is not applicable.</p> <p>Biodegradation: Substance is inorganic - biodegradation is not applicable.</p> <p>CONSTITUENT 4 (≤2%)</p>	Yes
CFR-3	Halliburton	Friction Reducer	0.0177%	<p>Marine Water Algae Toxicity 72h EC50: &gt; 3300 mg/L (Skeletonema costatum) [Halliburton Funded Study];</p> <p>Marine Water Crustacean Toxicity 48h LC50: 1687 mg/L (Acartia tonsa) [Halliburton Funded Study];</p> <p>Marine Water Fish Toxicity 96h LC50: 7478 mg/L (Aphyoseion bivittatum) [SKW Trostberg];</p> <p>Bioaccumulation Log Pow: &lt; 0 [Halliburton Funded Study];</p> <p>Marine Water Biodegradation 28d: 0% [Halliburton Funded Study];</p>	Yes
SA-1015	Halliburton	Suspension Agent	0.00438%	<p>PRODUCT DATA</p> <p>Freshwater Algae Toxicity 72h EC50: &gt;100 mg/L (Scenedesmus subspicatus);</p> <p>Freshwater Crustacean Toxicity 48h EC50: &gt;100 mg/L (Daphnia magna);</p> <p>Freshwater Fish Toxicity 96h LC50: &gt;100 mg/L (Oncorhynchus mykiss);</p> <p>Marine Water Algae Toxicity 72h EC50: &gt; 5600 mg/L (Skeletonema costatum);</p> <p>Marine Water Crustacean Toxicity 48h LC50: 234.22 mg/L (Acartia tonsa);</p> <p>Marine Water Fish Toxicity 96h LC50: &gt; 234.22 mg/L (Cyprinodon variegatus);</p> <p>Readily biodegradable (95% at 28 days);</p> <p>Bioaccumulation Log Pow: 0</p>	Yes
D-AIR 3000L	Halliburton	Defoamer	0.00210%	<p>CONSTITUENT 1 (≤100%):</p> <p>LD50 Oral: &gt;5000 mg/kg (Rat) (Similar Substance), LD50 Dermal: &gt;2000 mg/kg (Rat) (Similar Substance), LC 50 Inhalation &gt;2.1 mg/L (Rat)</p> <p>Freshwater Algae Toxicity 96h EC50: 22 mg/L (Pseudokirchneriella subcapitata)</p> <p>Freshwater Fish Toxicity Data 96h LC50: &gt;1000 mg/L (Salmo gairdneri)</p> <p>Freshwater Crustacean Toxicity 48h EC50: 480 mg/L (Daphnia magna)</p> <p>Readily Biodegradable (77-81% @28d)</p> <p>Bioaccumulation: Log Pow &gt;7</p> <p>CONSTITUENT 2 (≤69%):</p> <p>LD50 Oral: &gt;2000 mg/kg (Rat), LD50 Dermal: &gt;8000 mg/kg (Rat), LC50 Inhalation: &gt;0.17 mg/L (4h)</p> <p>Marine Water Algae Toxicity 72h EC50: 426 mg/L (Skeletonema costatum) [OSPAR];</p> <p>Marine Water Crustacean Toxicity 48h EC50: 433.2 mg/L (Acartia tonsa) [OSPAR];</p> <p>Marine Water Fish Toxicity 96h LC50: &gt; 1000 mg/L (Scophthalmus maximus) [Halliburton Funded Study];</p> <p>Bioaccumulation Log Pow: 5.06 [Halliburton Funded Study];</p> <p>CONSTITUENT 3 (≤1%):</p> <p>Component is a synthetic surface modified Amorphous Silica (CAS #: 7631-86-9); Fish and Invertebrate toxicity testing with Amorphous Silica have shown low hazard for this component.</p> <p>Source: OECD SIDS</p> <p>No data available to indicate product or components present at greater than 1% are chronic health hazards</p>	Yes
Calcium Chloride Powder	Halliburton	Excellerator	0.00181%	<p>PRODUCT CEFAS LISTED</p> <p>100% PLONOR</p> <p>CONSTITUENT 1 &lt;=100%:</p> <p>Oral LD50: 2240 mg/kg (Rat), Dermal LD50: 5000 mg/kg (Rabbit)</p> <p>Freshwater Algae Toxicity 72h EC50: 2900 mg/L (Pseudokirchneriella subcapitata) [ECHA];</p> <p>Freshwater Crustacean Toxicity 48h LC50: 2400 mg/L (Daphnia magna) [ECHA];</p> <p>Freshwater Fish Toxicity 96h LC50: 4630 mg/L (Pimephales promelas) [ECHA];</p> <p>Bioaccumulation: Substance is inorganic - bioaccumulation is not applicable.</p> <p>Biodegradation: Substance is inorganic - biodegradation is not applicable.</p> <p>CONSTITUENT 2 &lt;=5%:</p> <p>Oral LD50: 3000 mg/kg (Rat), Dermal LD50: &gt;10000 mg/kg (Rabbit), Inhalation LC50: 42 mg/L (Rat) 1h</p> <p>Freshwater Algae Toxicity 96h EC50: 2430 mg/L (Nannocylindrium) [US EPA ECOTOX];</p> <p>Freshwater Crustacean Toxicity 48h EC50: 402.6 mg/L (Daphnia magna) [US EPA ECOTOX];</p> <p>Freshwater Fish Toxicity 96h LC50: 9675 mg/L (Lepomis macrochirus) [IUCLED];</p> <p>Bioaccumulation: Substance is inorganic - bioaccumulation is not applicable.</p>	Yes
<b>Total Fluid</b>			<b>100.0%</b>		

**C. Chemical List**

Chemical Name	CAS Number	Mass %
Portland cement	65997-15-1	45.4%
Customer Supplied Mix Water	Not Applicable	40.7%
Crystalline silica, quartz	14808-60-7	7.0%
Bentonite	1302-78-9	1.80%
Barium Sulfate	7727-43-7	1.73%
Water in Products	7732-18-5	1.20%
Calcium sulphate - Gypsum	10101-41-4	0.391%
Sodium silicate	1344-09-8	0.256%
Silica, amorphous - fumed	7631-86-9	0.245%
Functionalized Styrene Butadiene Latex	403824-26-0	0.169%
Magnesium oxide	1309-48-4	0.164%
Sodium Lignosulfonate	8061-51-6	0.149%
Humic acids, sodium salts, polymers with N,N-dimethyl-2-propanamide, sodium 2-methyl-2-[(1-oxo-2-propen-1-yl)amino]-1-propanesulfonate (1:1) and 2-propenenitrile, sodium bisulfite-	473268-27-8	0.127%
Calcium aluminate	12042-68-1	0.0952%
Sulfurous acid, monosodium salt, polymer with formaldehyde and acetone	40104-76-5	0.0821%
Tartaric acid	87-69-4	0.0746%
Acrylic acid polymer with sodium AMPS, sodium salt	37350-42-8	0.0730%
N,N-dimethylacrylamide copolymer with calcium AMPS	103115-52-2	0.0654%
Calcium hydroxide	1305-62-0	0.0586%
Sulfonated organic polymer	528203-62-3	0.0536%
Rape Oil	8002-13-9	0.0202%
Crystalline silica, cristobalite	14464-46-1	0.0199%
Crystalline silica, tridymite	15468-32-3	0.0199%
Hydroxypropyl guar	39421-75-5	0.0191%
Welan gum	72121-88-1	0.00744%
Sodium bicarbonate	144-55-8	0.00657%
Dilutan Gum	125005-87-0	0.00438%
Luclifins	8002-43-5	0.00191%
Sodium sulfate	7757-82-6	0.00191%
Calcium Chloride, dihydrate	10035-04-8	0.00172%
Alkenes, C15-C18	93762-80-2	0.00126%
Monopropylene glycol monooleate	1330-80-9	0.00115%
Sodium hydroxide	1310-73-2	0.000699%
Polypropylene glycol	25322-69-4	0.000630%
4-Vinylcyclohexene	100-40-3	0.000282%
Butadiene	106-99-0	0.000282%
Styrene	100-42-5	0.000282%
Aluminum stearate	637-12-7	0.000229%
Sorbitan, monopalmitate	26286-57-9	0.000229%
Silica, amorphous precipitated	67762-90-7	0.000210%
Synthetic Crystalline-Free Silica Gel (Flow Agent)	112926-00-8	0.000186%
Sodium Chloride	7647-14-5	0.0000903%
2-Bromo-2-(bromomethyl)pentanedinitrile	35891-65-7	0.0000731%
FD&C Blue 1	3844-45-9	0.0000731%
<b>Total</b>		<b>~100%</b>

## CHEMICAL DISCLOSURE REPORTING

### A. SYSTEM DETAILS:

<b>OPERATOR:</b>	Strike Energy
<b>PROJECT/WELL</b>	West Erregulla 3
<b>SYSTEM</b>	Casing and/or Plugs Cementing System
<b>TOTAL VOLUME OF SYSTEM</b>	CEMENT Blend: 129,234 Gallon

### B. PRODUCT LIST

Fluid Name & Volume	Additive	Additive Description	Supplier	Concentration (%)	Concentration /mGal	Toxicity and Ecotoxicity Info	SDS
Cement Blend: 129,234 gal	B038	Extender	Schlumberger	0.05502%	6.1 Gal/mGal	<p>Acute Toxicity: Non-crystalline silica: LD50 Oral: = 7900 mg/kg, LD50 Dermal: &gt;2 g/kg, LC50 Inhalation: &gt;2.2 mg/L (1h) Ethylene glycol: LD50 Oral: 7712 mg/kg, LD50 Dermal: &gt;3500 mg/kg, LC50 inhalation: &gt;2.5 mg/L (6h)</p> <p>Chronic Toxicity: No known sensitizing, carcinogenic, reproductive, or mutagenic effects. Product is not a known or suspected reproductive hazard. Not known to cause birth defects or have a deleterious effect on a fetus.</p> <p>Ecotoxicity: Non-crystallin silica: Toxicity to Fish: LC50: = 5000 mg/L (96 h), Toxicity to Algae: = 440 mg/L (72h), Toxicity to invertebrates: = 7600 mg/L (48h) Ethylene glycol: Toxicity to Fish: 16000-60000 mg/L (96h), Toxicity to Algae: = 6500-13000 mg/L (96h), Toxicity to Invertebrates: EC50= 46300 mg/L (48 h)</p> <p>Biodegradation/Bioaccumulation: Ethylene glycol" readily biodegradable</p>	Yes
	B421	Cement	Schlumberger	21.32210%	2,352.6 lb/m Gal	<p>Acute Toxicity: Crystalline Silica LD50 Oral (Rat): = 500 mg/kg. Chronic toxicity: Product contains no components known or mutagens, Product may cause allergic skin reaction,. Crystalline silica dust is listed by IARC as Group 1 carcinogen. Product does not contain any known or suspected reproductive or developmental hazards.</p> <p>Ecotoxicity: Product is not considered toxic to fish, algae, or invertebrates.</p> <p>Biodegradation/Bioaccumulation: Not applicable- Inorganic chemical.</p>	Yes
	D020	Extender	Schlumberger	0.13826%	15.3 lb/m Gal	<p>Acute Toxicity: Crystalline Silica LD50 Oral (Rat): = 500 mg/kg. Chronic toxicity: Product contains no components known to be sensitizing or mutagens. Crystalline silica dust is listed by IARC as Group 1 carcinogen. Product does not contain any known or suspected reproductive or developmental hazards.</p> <p>Ecotoxicity: Toxicity to Fish: LC50(Danio Rerio): = 10000 mg/L (96 h) Toxicity to Algae: EC50: &gt;1000 mg/L (120 h) Toxicity to Invertebrates: EC50 (Daphnia magna) &gt;10000 mg/L (48 h)</p>	Yes

Fluid Name & Volume	Additive	Additive Description	Supplier	Concentration (%)	Concentration /mGal	Toxicity and Ecotoxicity Info	SDS
						Biodegradation/Bioaccumulation: Not applicable- Inorganic chemical.	
	D047	AntiFoam Agent	Schlumberger	0.00157%	0.2 Gal/ mGal	Acute Toxicity: None. Chronic toxicity: Product contains no components known to be sensitizing, mutagens, or carcinogens. Product does not contain any known or suspected reproductive or developmental hazards. Ecotoxicity: The product component(s) are not classified as environmentally hazardous. Product not considered toxic to algae, fish, or invertebrates. Readily biodegradable, bioaccumulation is unlikely.	Yes
	D075	Extender	Schlumberger	0.00251%	0.3 Gal/ mGal	Acute Toxicity: None. Chronic toxicity: Product contains no components known to be sensitizing, mutagens, or carcinogens. Product does not contain any known or suspected reproductive or developmental hazards. Ecotoxicity: The product component(s) are not classified as environmentally hazardous. Product not considered toxic to algae, fish, or invertebrates. Contains no substance considered to be bioaccumulating or toxic	Yes
	D080	Dispersant	Schlumberger	0.01931%	2.1 Gal/ mGal	Acute Toxicity: None. Chronic toxicity: Product contains no components known to be sensitizing, mutagens, or carcinogens. Product does not contain any known or suspected reproductive or developmental hazards. Ecotoxicity: Toxic to aquatic life with long lasting effects. Sodium polynaphthalene sulfonate: EC50 (48 hours) 1.8 mg/l Product is not considered toxic to fish or invertebrates. Product is not biodegradable. Bioaccumulation is unlikely.	Yes
	D081	Retarder	Schlumberger	0.01195%	1.3 Gal/ mGal	Acute Toxicity: None. Chronic toxicity: Product contains no components known to be sensitizing, mutagens, or carcinogens. Product does not contain any known or suspected reproductive or developmental hazards Ecotoxicity: The product component(s) are not classified as environmentally hazardous. Product not considered toxic to algae, fish, or invertebrates. Does not bioaccumulate	Yes
	D110	Retarder	Schlumberger	0.00524%	0.6 Gal/ mGal	Acute Toxicity: None. Chronic toxicity: Product contains no components known to be sensitizing, mutagens, or carcinogens. Product does not contain any known or suspected reproductive or developmental hazards. Ecotoxicity: The product component(s) are not classified as environmentally hazardous. Product not considered toxic to algae, fish, or invertebrates. Product is biodegradable, does not bioaccumulate.	Yes



Fluid Name & Volume	Additive	Additive Description	Supplier	Concentration (%)	Concentration /mGal	Toxicity and Ecotoxicity Info	SDS
	D161	Retarder	Schlumberger	0.01071%	1.2 Gal/mGal	<p>Acute Toxicity: Sodium Pentaborate Ld50 Dermal: &gt;2 g/kg LC50 Inhalation: &gt; 2.03 mg/L</p> <p>Chronic Toxicity: No known sensitizing, carcinogenic, reproductive, or mutagenic effects. Product is or contains a chemical which is a known or suspected reproductive hazard. Not known to cause birth defects or have a deleterious effect on a fetus.</p> <p>Ecotoxicity: Sodium Pentaborate: Toxicity to Fish: LC50= 600 mg/L (96 h) Toxicity to Invertebrates: EC50= 86 mg/L (48 h)</p> <p>Biodegradation/Bioaccumulation: The organic portion of this material is not biodegradable. Contains no substance considered to be bioaccumulating or toxic.</p>	Yes
	D175A	Antifoam Agent	Schlumberger	0.00346%	0.4 Gal/mGal	<p>Acute Toxicity: None. Chronic toxicity: Product contains no components known to be sensitizing, mutagens, or carcinogens. Product does not contain any known or suspected reproductive or developmental hazards. Ecotoxicity: The product component(s) are not classified as environmentally hazardous. Product not considered toxic to algae, fish, or invertebrates. Contains no substance considered to be bioaccumulating or toxic.</p>	Yes
	D182	Spacer	Schlumberger	0.00715%	0.8 lb/m Gal	<p>Acute Toxicity: None. Chronic toxicity: Product contains no components known to be sensitizing, mutagens, or carcinogens. Product does not contain any known or suspected reproductive or developmental hazards. Ecotoxicity: The product component(s) are not classified as environmentally hazardous. Product not considered toxic to algae, fish, or invertebrates. Bioaccumulation is unlikely.</p>	Yes
	D255	Mid-Range FLAC D255	Schlumberger	0.07853%	8.7 lb/m Gal	<p>Acute Toxicity: 2-methylpropan-2-ol LD50 Oral (Rat): &gt; 2200 mg/kg Ld50 Dermal (Rabbit): &gt;2 g/kg LC50 Inhalation (Rat): &gt; 10000 ppm, (4h)</p> <p>Chronic Toxicity: No known sensitizing, carcinogenic, reproductive, or mutagenic effects. Product does not contain any known or suspected reproductive or developmental hazards</p> <p>Ecotoxicity: 2-methylpropan-2-ol Toxicity to Fish: LC50(Pimpehales promelas): = 6130-6700 mg/L (96 h) Toxicity to Algae: EC50 (Desmodesmus subspicatus): &gt;1000 mg/L (120 h) Toxicity to Invertebrates: EC50 (Daphnia magna) = 4607-6577 mg/L (48 h)</p> <p>Biodegradation/Bioaccumulation: Not readily biodegradeable. Does not bioaccumulate</p>	Yes
	D901	Cement	Schlumberger	21.20268%	2,339.4 lb/m Gal	<p>Acute Toxicity: None. Chronic toxicity: Product contains no components known to be mutagens, or carcinogens. Can be come skin sensitizing if stored improperly. Product does not contain any known or suspected reproductive or developmental hazards Ecotoxicity: The product component(s) are not classified as environmentally hazardous. Product not considered toxic to algae, fish, or invertebrates. Biodegradation/Bioaccumulation: Not applicable, inorganic chemical</p>	Yes

Fluid Name & Volume	Additive	Additive Description	Supplier	Concentration (%)	Concentration /mGal	Toxicity and Ecotoxicity Info	SDS
	D956	Cement	Schlumberger	25.57879%	2,822.3 lb/m Gal	<p>Acute Toxicity: Crystalline Silica LD50 Oral (Rat): = 500 mg/kg. Chronic toxicity: Product contains no components known or mutagens, Product may cause allergic skin reaction. Crystalline silica dust is listed by IARC as Group 1 carcinogen. Product does not contain any known or suspected reproductive hazards.</p> <p>Ecotoxicity: Product is not considered toxic to fish, algae, or invertebrates.</p> <p>Biodegradation/Bioaccumulation: Not applicable- Inorganic chemical.</p>	Yes
	Water	To mix fluids	Customer supplied water	31.56%	3,640 lb/m Gal	No hazard	No
Total				100.00%			

### C. CHEMICAL LIST

CAS Number	Chemical Name	Mass Fraction
65997-15-1	Portland cement	~ 46 %
7732-18-5	Water (Including Mix Water Supplied by Client)*	~ 31 %
65996-69-2	Blast furnace slag	~ 14 %
14808-60-7	Quartz, Crystalline silica	~ 7 %
7778-18-9	Sulfuric acid, calcium salt	~ 1 %
8061-51-6	Sodium lignosulfonate	< 1 %
7631-86-9	Silicon Dioxide	< 1 %
1302-78-9	Bentonite	< 1 %
99716-31-1	2-Propenoic acid, ammonium salt, polymer with 2- methyl-2-[(1-oxo-2-propeny)amino]-1-propanesulfonic acid moniammonium salt and 2-propenamide	< 0.1 %
9008-63-3	Sodium polynaphthalene sulfonate	< 0.1 %
8061-52-7	Calcium lignosulfonate	< 0.1 %
25322-69-4	Polypropylene glycol	< 0.1 %
107-21-1	Ethylene Glycol	< 0.1 %
17140-60-2	Calcium glucoheptonate	< 0.01 %
63148-62-9	Dimethyl siloxanes and silicones	< 0.01 %
1344-09-8	Silicic acid, sodium salt	< 0.01 %
12007-92-0	Sodium pentaborate	< 0.01 %
40104-76-5	Sulfurous acid, monosodium salt, polymer	< 0.01 %
75-65-0	2-methylpropan-2-ol	< 0.01 %
7757-82-6	Sodium sulfate	< 0.01 %
72121-88-1	Polysaccharide biopolymer	< 0.01 %
1338-41-6	Sorbitan stearate	< 0.01 %
7647-14-5	Sodium chloride (impurity)	< 0.01 %
7651-99-2	Pentasodium EDTMP	< 0.01 %
9004-99-3	Polyoxyethylene (40) stearic acid (monoester)	< 0.001 %
10043-52-4	Calcium chloride	< 0.001 %
4080-31-3	3,5,7-Triaza-1-azoniatricyclodecane-1-(3-chloro-2-propenyl)-, chloride	< 0.0001 %
66204-44-2	3,3'-methylenebis[5-methyloxazolidine]	< 0.0001 %
144-55-8	Sodium hydrogen carbonate	< 0.0001 %
110-44-1	Sorbic acid	< 0.0001 %
13598-36-2	Phosphonic acid (impurity)	< 0.0001 %
7664-38-2	Phosphoric acid (impurity)	< 0.0001 %
100-97-0	Hexamethylenetetramine	< 0.0001 %
75-09-2	Methylene Chloride	< 0.00001 %
542-75-6	1,3-Dichloropropene	< 0.00001 %
<b>Total</b>		<b>100 %</b>

\* Mix water is supplied by the client. Schlumberger has performed no analysis of the water and cannot provide a breakdown of components that may have been added to the water by third-parties.

\* The evaluation of attached document is performed based on the composition of the identified products to the extent that such compositional information was known to GRC - Chemicals as of the date of the document was produced. Any new updates will not be reflected in this document.

---

## **APPENDIX A SAFETY DATA SHEETS (SDS)**

---

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

---

### 1.1 Product identifier

**Product name** ANCOR 1  
**Synonym(s)** CORROSION INHIBITOR

### 1.2 Uses and uses advised against

**Use(s)** BRINE • CORROSION INHIBITOR • DRILLING FLUID ADDITIVE • OIL AND GAS INDUSTRY

### 1.3 Details of the supplier of the product

**Supplier name** NEWPARK DRILLING FLUIDS (AUSTRALIA) LTD  
**Address** 11 Alacrity Place, Henderson, WA, 6166, AUSTRALIA  
**Telephone** +61 8 9410 8200  
**Fax** +61 8 9410 8299  
**Website** [www.newpark.com](http://www.newpark.com)

### 1.4 Emergency telephone number(s)

**Emergency** 1800 127 406 (Australia); +64 3 3530199 (International)

---

## 2. HAZARDS IDENTIFICATION

---

### 2.1 Classification of the substance or mixture

CLASSIFIED AS HAZARDOUS ACCORDING TO AUSTRALIAN WHS REGULATIONS

**GHS classification(s)** Serious Eye Damage / Eye Irritation: Category 2A

### 2.2 Label elements

**Signal word** WARNING

**Pictogram(s)**



### Hazard statement(s)

H319 Causes serious eye irritation.

### Prevention statement(s)

P264 Wash thoroughly after handling.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.

### Response statement(s)

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P337 + P313 If eye irritation persists: Get medical advice/attention.

### Storage statement(s)

None allocated.

### Disposal statement(s)

None allocated.

### 2.3 Other hazards

No information provided.

---

### 3. COMPOSITION/ INFORMATION ON INGREDIENTS

---

#### 3.1 Substances / Mixtures

Ingredient	CAS Number	EC Number	Content
TRIETHANOLAMINE	102-71-6	203-049-8	68 to 72%
NON HAZARDOUS INGREDIENTS	Not Available	Not Available	28 to 32%

---

### 4. FIRST AID MEASURES

---

#### 4.1 Description of first aid measures

<b>Eye</b>	If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.
<b>Inhalation</b>	If inhaled, remove from contaminated area. To protect rescuer, use a Type A (Organic vapour) respirator or an Air-line respirator (in poorly ventilated areas). Apply artificial respiration if not breathing.
<b>Skin</b>	If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.
<b>Ingestion</b>	For advice, contact a Poison Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting.
<b>First aid facilities</b>	Eye wash facilities and safety shower should be available.

#### 4.2 Most important symptoms and effects, both acute and delayed

Over exposure may result in irritation to the eyes, nose and respiratory system. May cause allergic contact dermatitis.

#### 4.3 Immediate medical attention and special treatment needed

Treat symptomatically.

---

### 5. FIRE FIGHTING MEASURES

---

#### 5.1 Extinguishing media

Dry agent, carbon dioxide, foam or water fog. Prevent contamination of drains and waterways.

#### 5.2 Special hazards arising from the substance or mixture

Combustible. May evolve toxic gases (carbon/ nitrogen oxides, amines, ammonia, hydrocarbons) when heated to decomposition.

#### 5.3 Advice for firefighters

Evacuate area and contact emergency services. Toxic gases may be evolved in a fire situation. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

#### 5.4 Hazchem code

None allocated.

---

### 6. ACCIDENTAL RELEASE MEASURES

---

#### 6.1 Personal precautions, protective equipment and emergency procedures

Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. Clear area of all unprotected personnel. Ventilate area where possible. Contact emergency services where appropriate.

#### 6.2 Environmental precautions

Prevent product from entering drains and waterways.

#### 6.3 Methods of cleaning up

Contain spillage, then cover / absorb spill with non-combustible absorbent material (vermiculite, sand, or similar), collect and place in suitable containers for disposal.

#### 6.4 Reference to other sections

See Sections 8 and 13 for exposure controls and disposal.

---

### 7. HANDLING AND STORAGE

---

**7.1 Precautions for safe handling**

Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

**7.2 Conditions for safe storage, including any incompatibilities**

Store in a cool, dry, well ventilated area, removed from incompatible substances, heat or ignition sources and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use. Check regularly for leaks or spills. Store as a Class C1 Combustible Liquid (AS1940).

**7.3 Specific end use(s)**

No information provided.

---

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

---

**8.1 Control parameters**

**Exposure standards**

Ingredient	Reference	TWA		STEL	
		ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>
Triethanolamine	SWA (AUS)	--	5	--	--

**Biological limits**

No biological limit values have been entered for this product.

**8.2 Exposure controls**

**Engineering controls** Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical extraction ventilation is recommended. Maintain vapour levels below the recommended exposure standard.

**PPE**

- Eye / Face** Wear splash-proof goggles.
- Hands** Wear PVC or rubber gloves.
- Body** Wear coveralls.
- Respiratory** Where an inhalation risk exists, wear a Type A (Organic vapour) respirator. If spraying, wear a Type A-Class P1 (Organic gases/vapours and Particulate) respirator.




---

**9. PHYSICAL AND CHEMICAL PROPERTIES**

---

**9.1 Information on basic physical and chemical properties**

<b>Appearance</b>	COLOURLESS LIQUID
<b>Odour</b>	SLIGHT ODOUR
<b>Flammability</b>	CLASS C1 COMBUSTIBLE
<b>Flash point</b>	> 100°C
<b>Boiling point</b>	NOT AVAILABLE
<b>Melting point</b>	NOT AVAILABLE
<b>Evaporation rate</b>	NOT AVAILABLE
<b>pH</b>	NOT AVAILABLE
<b>Vapour density</b>	NOT AVAILABLE
<b>Specific gravity</b>	1.1
<b>Solubility (water)</b>	SOLUBLE
<b>Vapour pressure</b>	NOT AVAILABLE
<b>Upper explosion limit</b>	NOT AVAILABLE
<b>Lower explosion limit</b>	NOT AVAILABLE
<b>Partition coefficient</b>	NOT AVAILABLE
<b>Autoignition temperature</b>	NOT AVAILABLE
<b>Decomposition temperature</b>	NOT AVAILABLE
<b>Viscosity</b>	NOT AVAILABLE

**9.1 Information on basic physical and chemical properties**

<b>Explosive properties</b>	NOT AVAILABLE
<b>Oxidising properties</b>	NOT AVAILABLE
<b>Odour threshold</b>	NOT AVAILABLE

**9.2 Other information**

<b>% Volatiles</b>	NOT AVAILABLE
--------------------	---------------

---

**10. STABILITY AND REACTIVITY**

---

**10.1 Reactivity**

Carefully review all information provided in sections 10.2 to 10.6.

**10.2 Chemical stability**

Stable under recommended conditions of storage.

**10.3 Possibility of hazardous reactions**

Hazardous polymerization is not expected to occur.

**10.4 Conditions to avoid**

Avoid heat, sparks, open flames and other ignition sources.

**10.5 Incompatible materials**

Incompatible with oxidising agents (e.g. hypochlorites), acids (e.g. nitric acid), nitrites, heat and ignition sources.

**10.6 Hazardous decomposition products**

May evolve toxic gases (carbon/ nitrogen oxides, amines, ammonia, hydrocarbons) when heated to decomposition.

---

**11. TOXICOLOGICAL INFORMATION**

---

**11.1 Information on toxicological effects**

<b>Acute toxicity</b>	May be harmful if swallowed, in contact with skin, and/or if inhaled. Toxicity Data available for the ingredient: TRIETHANOLAMINE (102-71-6): LD50 (Ingestion): 2200 mg/kg (rabbit) LD50 (Intraperitoneal): 1450 mg/kg (mouse) LD50 (Skin): > 20 mL/kg (rabbit) TDLo (Ingestion): 16 g/kg/64 weeks (mouse - cancer)
<b>Skin</b>	Contact may result in mild irritation, redness, pain and rash.
<b>Eye</b>	Contact may result in irritation, lacrimation, pain and redness. May result in burns with prolonged contact.
<b>Sensitization</b>	Triethanolamine has been reported to cause allergic contact dermatitis. It is not known to cause respiratory sensitisation.
<b>Mutagenicity</b>	Insufficient data available to classify as a mutagen.
<b>Carcinogenicity</b>	Triethanolamine is not classifiable as to its carcinogenicity to humans (IARC Group 3).
<b>Reproductive</b>	Insufficient data available to classify as a reproductive toxin.
<b>STOT – single exposure</b>	Over exposure may result in irritation of the nose and throat, with coughing. High level exposure may result in breathing difficulties.
<b>STOT – repeated exposure</b>	Not classified as causing organ effects from repeated exposure.
<b>Aspiration</b>	This product is not expected to present an aspiration hazard.

---

**12. ECOLOGICAL INFORMATION**

---

**12.1 Toxicity**

LC50 (shrimp): > 100 ppm.

**12.2 Persistence and degradability**

In soil and water, triethanolamine will biodegrade fairly rapidly following acclimation (half-life in the order of days to weeks).

**12.3 Bioaccumulative potential**

Not expected to bioaccumulate.



**12.4 Mobility in soil**

In soil, residual triethanolamine may leach to groundwater.

**12.5 Other adverse effects**

No information provided.

**13. DISPOSAL CONSIDERATIONS**

**13.1 Waste treatment methods**

**Waste disposal** Reduce with sodium thiosulphate/ bisulphite (not strong reducing agent), acidify with 3M sulphuric acid. Scoop into a container of water and neutralise with soda ash. Absorb with sand or similar and dispose of to an approved landfill site. Contact the manufacturer/supplier for additional information (if required).

**Legislation** Dispose of in accordance with relevant local legislation.

**14. TRANSPORT INFORMATION**

**NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA**

	LAND TRANSPORT (ADG)	SEA TRANSPORT (IMDG / IMO)	AIR TRANSPORT (IATA / ICAO)
<b>14.1 UN Number</b>	None Allocated	None Allocated	None Allocated
<b>14.2 Proper Shipping Name</b>	None Allocated	None Allocated	None Allocated
<b>14.3 Transport hazard class</b>	None Allocated	None Allocated	None Allocated
<b>14.4 Packing Group</b>	None Allocated	None Allocated	None Allocated

**14.5 Environmental hazards** No information provided

**14.6 Special precautions for user**

**Hazchem code** None Allocated

**15. REGULATORY INFORMATION**

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**Poison schedule** Classified as a Schedule 5 (S5) Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**Classifications** Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

The classifications and phrases listed below are based on the Approved Criteria for Classifying Hazardous Substances [NOHSC: 1008(2004)].

**Hazard codes** Xi Irritant

**Risk phrases** R36 Irritating to eyes.

**Safety phrases** S36 Wear suitable protective clothing.

**Inventory listing(s)** **AUSTRALIA: AICS (Australian Inventory of Chemical Substances)**  
All components are listed on AICS, or are exempt.

**16. OTHER INFORMATION**

**Additional information** RESPIRATORS: In general the use of respirators should be limited and engineering controls employed to avoid exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.

**PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:**

The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

**HEALTH EFFECTS FROM EXPOSURE:**

It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a ChemAlert report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

**Abbreviations**

ACGIH	American Conference of Governmental Industrial Hygienists
CAS #	Chemical Abstract Service number - used to uniquely identify chemical compounds
CNS	Central Nervous System
EC No.	EC No - European Community Number
EMS	Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods)
GHS	Globally Harmonized System
GTEPG	Group Text Emergency Procedure Guide
IARC	International Agency for Research on Cancer
LC50	Lethal Concentration, 50% / Median Lethal Concentration
LD50	Lethal Dose, 50% / Median Lethal Dose
mg/m <sup>3</sup>	Milligrams per Cubic Metre
OEL	Occupational Exposure Limit
pH	relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
ppm	Parts Per Million
STEL	Short-Term Exposure Limit
STOT-RE	Specific target organ toxicity (repeated exposure)
STOT-SE	Specific target organ toxicity (single exposure)
SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons
SWA	Safe Work Australia
TLV	Threshold Limit Value
TWA	Time Weighted Average

**Report status**

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

**Prepared by**

Risk Management Technologies  
5 Ventnor Ave, West Perth  
Western Australia 6005  
Phone: +61 8 9322 1711  
Fax: +61 8 9322 1794  
Email: info@rmt.com.au  
Web: www.rmt.com.au.


**[ End of SDS ]**


## SAFETY DATA SHEET


EC 1272/2008 Regulation

### AVACID 50

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY		
<b>1.1. Substance Identification</b>		
Product Name:	<b>AVACID 50</b>	
<b>1.2. Substance Use</b>		
Application:	Biocide	
<b>1.3. Company Identification</b>		
Name:	Newpark Drilling Fluids S.p.A.	
Address:	Via Salaria 1313/C	
City/Country:	00138 ROMA (Italia)	
Phone numbers:	+39 06 885611386 / +39 06 885611324 / +39 06 8856111	
Fax:	+39 06 8889363	
<b>1.4. Emergency Phone Numbers</b>		
	+39 06 885611386	+39 06 885611324
		+39 06 8856111
<b>1.5. Responsible Person E-Mail Address</b>		
e-mail:	<a href="mailto:laboratorio.roma@newpark.com">laboratorio.roma@newpark.com</a>	

2. HAZARDS IDENTIFICATION		
<b>2.1. Substance/Mixture Classification</b>		
<i>Indication of hazards specific for human health and environment:</i>		
<b>THE SUBSTANCE/MIXTURE IS CLASSIFIED AS DANGEROUS IN ACCORDANCE TO FOLLOWING REGULATIONS.</b>		
<i>Classification according to EC Regulation n. 1272/2008 - (CLP)</i>		
	<b>GHS07</b>	<b>Oral Acute Tox. 4</b> H302: Harmful if swallowed  <b>Skin Irr. 2</b> H315: Causes skin irritation  <b>Skin Sens. 1</b> H317: May cause an allergic skin reaction  <b>Eye Irr. 2</b> H319: Causes serious eye irritation  <b>Inhal Acute Tox. 4</b> H332: Harmful if inhaled

2.2. Label Elements	
<b>Label according to EC Regulation n. 1272/2008 (CLP)</b>	
Hazards Identification:	 <b>GHS07</b>
	<b>Oral Acute Tox. 4</b> H302: Harmful if swallowed
	<b>Skin Irr. 2</b> H315: Causes skin irritation
	<b>Skin Sens. 1</b> H317: May cause an allergic skin reaction
	<b>Eye Irr. 2</b> H319: Causes serious eye irritation
	<b>Inhal Acute Tox. 4</b> H332: Harmful if inhaled
Precautionary Statements:	P280: Wear protective gloves/protective clothing/eye protection/face protection P305+P351+P338: In case of contact with eyes: rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing
Disposal:	P501: Dispose of contents/container as hazardous substance/mixture
<b>2.3. Other Hazards</b>	
---	

3. COMPOSITION / INFORMATION ON INGREDIENTS						
<b>3.1. Chemical Properties of Substance or Mixture</b>						
Composition:	Mixture					
Contains:	As per following table					
Molecular Formula :	---					
ID Number:	---					
EC Number:	---					
CAS Number:	---					
REACH Number:	---					
<b>3.2. Information on ingredients</b>						
Name	CAS No.	EC No.	Quantity	Classification	Symbols	Hazard Statements
alfa,alfa',alfa''-Trimethyl-1,3,5-triazine-1,3,5(2H,4H,6H)-triethanol	25254-50-6	246-764-0	50-60%	Inhal Acute Tox. 4	 <b>GHS07</b>	H332
				Oral Acute Tox. 4		H302
				Eye Irr. 2		H319
				Skin Irr. 2		H315
				Skin Sens. 1		H317

4. FIRST AID MEASURES	
<b>4.1. Description of First Aid Measures</b>	
General information:	In case of diseases, get medical attention. Show to the doctor this Material Safety Data Sheet
After inhalation:	If breathing is irregular or stopped, administer artificial respiration. In case of inhalation, consult a doctor immediately and show him packing or label
After skin contact:	Take off immediately all contaminated clothing. Areas of the body that have - or are only even suspected of having - come into contact with the product must be rinsed immediately with plenty of water and possibly with soap. Wash thoroughly the body
After eye contact:	After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately. Protect un-injured eye
After swallowing:	Seek immediately medical advice
Other information:	- - -
<b>4.2. Main symptoms and effects, both acute and delayed</b>	
Symptoms:	N.a.
<b>4.3. Indication of any immediate medical attention and special treatment needed</b>	
Medical surveillance:	Medical surveillance during job not required. In case of disease or accident, consult immediately a doctor and show him this MSDS
Special intervention means:	- - -

5. FIREFIGHTING MEASURES	
<b>5.1. Extinguishing media</b>	
Precautions in case of fire:	In case of fire respect following instructions:
Suitable extinguishing media:	Water, dry powder, foam, carbon dioxide (CO <sub>2</sub> )
Unsuitable extinguishing media:	None in particular
Hazards arising from combustion:	N.a.
Special firefighting equipment:	Wear the breathing apparatus if necessary

6. ACCIDENTAL RELEASE MEASURES	
<b>6.1. Personal Precautions</b>	
Protective equipment:	Wear personal protective equipment. Provide adequate ventilation. Wear adequate breathing apparatus
Emergency procedures:	Keep away unprotected people. Provide and ensure adequate ventilation
<b>6.2. Environmental Precautions</b>	
Containment media:	Use absorbent media, organic, sand
Containment methods:	Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains. After collection, wash the area with water
Additional information:	Retain contaminated washing water and dispose it as per regulations

7. HANDLING AND STORAGE	
<b>7.1. Precautions for Handling</b>	
Precautions for handling:	Do not eat and drink while working. Avoid contact with skin and eyes, inhalation of vapours. Use localized ventilation system
<b>7.2. Precautions for Storage</b>	
Storage conditions:	Store in cool and well ventilated places, away from heat sources, sparks and other ignition sources
Storage area specifications:	Well ventilated areas
Containers specifications:	Use containers/drums in iron or PVC
Incompatibility:	Acids
<b>7.3. Particular Uses:</b>	
Particular uses:	N.a.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION		
<b>8.1. Exposure Limits</b>		
<b>Mixture</b>		
TLV <sub>Ceiling</sub> :	---	
TLV <sub>TWA</sub> :	---	
TLV <sub>STEL</sub> :	---	
Biological limit:	---	
<b>8.2. Professional Exposure Controls</b>		
Plant protections:	General ventilation is required	
Collective protections:	Provide adequate ventilation	
Individual protections:	Respiratory:	Adequate protective respiratory equipment
	Eyes:	Safety glasses
	Hand:	Total protection gloves – PVC, neoprene or rubber
	Body:	Protective coveralls
<b>8.3. Environmental Exposure Controls</b>		
Exposure Scenarios:	N.a.	

9. PHYSICAL AND CHEMICAL PROPERTIES	
<b>9.1. General Information</b>	
Form:	Clear liquid from colorless to light yellow
Appearance:	Liquid
Color:	From colorless to light yellow
Odor:	Amino
Olfactory threshold:	N.a.
<b>9.2. Information about Health, Safety and Environment</b>	
pH (10 g/l) at 20°C:	10-11
Melting point:	N.a.
Boiling temperature:	> 100°C
Flash point:	N.a.
Flammability (solid, gas):	> 100°C
Auto ignition temperature:	N.a.
Decomposition temperature:	N.a.
Danger of explosion:	N.a.
Upper flammability limit:	N.a.
Lower flammability limit:	N.a.
Vapour pressure:	N.a.
Density at 20°C:	N.a.
Apparent density (20°C):	Not applicable
Relative density:	From 1,09 to 1,11 gr/cm <sup>3</sup>
Vapour density:	N.a.
Evaporation rate:	N.a.
Solubility in water (20°C):	Soluble
Distribution coefficient (n-Octanol):	N.a.
Viscosity:	N.a.
<b>9.3. Other information</b>	
Other information:	N.a.

10. STABILITY AND REACTIVITY	
<b>10.1. Reactivity</b>	
Conditions to be avoided :	Stable in normal condition
<b>10.2. Chemical Stability</b>	
Incompatible materials:	Acids
Possibility of dangerous reactions:	React with acids
<b>10.3. Hazardous Decomposition Products</b>	
Other information:	Stable in normal condition

11. TOXICOLOGICAL INFORMATION	
<b>11.1. Acute Toxicity</b>	
<b>Substance Toxicity</b>	<i>alfa,alfa',alfa''-Trimethyl-1,3,5-triazine-1,3,5(2H,4H,6H)-triethanol</i> CAS No. 25254-50-6
Acute oral toxicity:	LD50 (Rat): 803 – 1151 mg/kg
Acute inhalation toxicity:	LC50 (Rat) 4h: 2 mg/l
Acute dermal toxicity:	LD50 (Rat): > 2000 mg/kg
<b>11.2. Corrosivity</b>	
Skin:	N.a.
Eyes:	N.a.
<b>11.3. Primary Irritability</b>	
Skin:	N.a.
Eyes:	N.a.
<b>11.4. Harmfulness</b>	
Ingestion:	N.a.
Inhalation:	N.a.
<b>11.5. Sensitization</b>	
Skin:	N.a.
Eyes:	N.a.

12. ECOLOGICAL INFORMATION	
<b>12.1. Toxicity</b>	
<b>Substance</b>	<i>alfa,alfa',alfa''-Trimethyl-1,3,5-triazine-1,3,5(2H,4H,6H)-triethanol</i> CAS No. 25254-50-6
Toxicity in the water:	LC50 (Fish) 96 h: > 100 mg/l EC50 (Dafnia) 48 hours: 29 mg/l
Toxicity in air:	N.a.
Toxicity in soil:	N.a.
<b>12.2. Persistence and Degradability</b>	
Other information:	Easily biodegradable
<b>12.3. Bioaccumulative Potential</b>	
Other information:	N.a.
<b>12.4. Mobility in Soil</b>	
Other information:	N.a.
<b>12.5. Results of PBT e vPvB assessment</b>	
PBT:	N.a.
vPvB:	N.a.
<b>12.6. Other Adverse Effects</b>	
Other information:	N.a.



13. DISPOSAL CONSIDERATIONS	
<b>13.1. Waste Treatment Methods</b>	
Advices:	Recover if possible. Dangerous product: dispose according to regulations
Waste code:	N.a.
<b>13.2. Packaging Disposal Methods</b>	
Advices:	Contaminated packaging must be classified as hazardous waste. Recovery if possible. Hazardous waste: dispose according to regulations
Other recommendations:	N.a.

14. TRANSPORT INFORMATION	
<b>14.1. Land/Rail Transport (ADR/RID)</b>	
UN Number:	No dangerous goods under transport regulations
UN shipping norms:	N.a.
Hazard class:	N.a.
Packaging group:	N.a.
Dangers for the environment:	N.a.
<b>14.2. Maritime Transport (IMDG)</b>	
IMDG Class:	No dangerous goods under transport regulations
Maritime pollutant:	N.a.
<b>14.3. Air Transport (ICAO-TI and IATA-DGR)</b>	
ICAO Class:	No dangerous goods under transport regulations
IATA Class:	N.a.
<b>14.4. Transport in Bulk</b>	
Annex II of MARPOL73/78:	No dangerous goods under transport regulations
IBC Code:	N.a.

15. REGULATORY INFORMATION	
<b>15.1. Health, Safety and Environment Regulations/Legislation Specific for the Substance or Mixture</b>	
D.Lgs. 3/2/1997 n. 52 (Classification, packaging and labeling of hazardous substances)	
D.Lgs. 14/3/2003 n. 65 (Classification, packaging and labeling of hazardous mixtures)	
D.Lgs. 2/2/2002 n. 25 (Risks due to chemical agents during the work)	
D.M. Lavoro 26/02/2004 (Professional exposure limits)	
D.M. 03/04/2007 (Implementation of the Directive n. 2006/8/CE)	
CE Regulation n. 1907/2006 (REACH)	
CE Regulation n.1272/2008 (CLP)	
CE Regulation n.790/2009 (adaptation to technical and scientific progress of CLP Regulation)	
CE Regulation n° 453/2010 (Modification of REACH Regulation)	
Directive 1999/45/CE (DSP)	
Directive 67/548/CEE (DPP)	

16. OTHER INFORMATION
<b>16.1. Main Bibliographic Sources</b>
ECCIN - Environmental Chemicals Data and Information Network - Joint Research Centre, Commission of the European Communities
SAX's DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS - Eight Edition – Van Nostrand Reinold
Istituto Superiore di Sanità - Inventario Nazionale Sostanze Chimiche
ACGIH - Threshold Limit Values - 2009 edition
<b>16.2. Declarations</b>
<p>This sheet completes the technical bulletin without to substitute it. The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication.</p> <p>The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.</p> <p>This material safety datasheet only contains information relating to health and safety. The product has to be used in applications consistent with Newpark Drilling Fluids S.p.A. technology. Individuals handling this product should be informed of the safety precautions and should have access to this information.</p> <p>This safety data sheet has been completely updated in compliance to Regulation 453/2010/EU.</p> <p>This MSDS cancels and replaces any preceding release.</p>
<b>16.3. Abbreviations and Acronyms:</b>
<p><b>ADR:</b> Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)</p> <p><b>RID:</b> Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)</p> <p><b>GHS:</b> Globally Harmonized System of Classification and Labelling of Chemicals</p> <p><b>EINECS:</b> European Inventory of Existing Commercial Chemical Substances</p> <p><b>CAS:</b> Chemical Abstracts Service (division of the American Chemical Society)</p> <p><b>ACGIH:</b> American Conference of Industrial Hygienists</p> <p><b>EC50:</b> median effective concentration</p> <p><b>LC50:</b> median lethal concentration</p> <p><b>LD50:</b> median lethal dose</p> <p><b>NOEC:</b> no observable effect concentration</p> <p><b>PNEC:</b> predicted no-effect concentration</p> <p><b>PBT:</b> persistent, bioaccumulative, toxic chemicals</p> <p><b>vPvB:</b> very persistent, very bioaccumulative chemicals</p> <p><b>TLV-TWA:</b> Threshold limit value – Time weighted average; professional exposure limit average on 8 hours</p> <p><b>TLV-STEL:</b> Threshold limit value – Short Term exposure limit ; professional exposure limit at short term</p> <p><b>TLV-C :</b> Threshold limit value – Ceiling</p>
<b>16.4. Other Information</b>
<b>Full text of Hazard statements used in the previous sections</b>
H302: Harmful if swallowed H315: Causes skin irritation H317: May cause an allergic skin reaction H319: Causes serious eye irritation H332: Harmful if inhaled
<b>Full text of Precautionary statements used in the previous sections</b>
P280: Wear protective gloves/protective clothing/eye protection/face protection P305+P351+P338: In case of contact with eyes: rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. continue rinsing P501: Dispose of contents/container as hazardous substance/mixture

**SAFETY DATA SHEET**  
 EC 1272/2008 Regulation  
**AVAGREEN LUBE**

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY		
<b>1.1. Substance Identification</b>		
Product Name:	<b>AVAGREEN LUBE</b>	
<b>1.2. Substance Use</b>		
Application:	Ecological lubricant for drilling fluids	
<b>1.3. Company Identification</b>		
Name:	Newpark Drilling Fluids S.p.A.	
Address:	Via Salaria 1313/C	
City/Country:	00138 ROMA (Italy)	
Phone numbers:	+39 06 885611386 / +39 06 885611324 / +39 06 8856111	
Fax:	+39 06 8889363	
<b>1.4. Emergency Phone Numbers</b>		
	+39 06 885611386	+39 06 885611324
		+39 06 8856111
<b>1.5. Responsible Person E-Mail Address</b>		
e-mail:	<a href="mailto:laboratorio.roma@newpark.com">laboratorio.roma@newpark.com</a>	

2. HAZARDS IDENTIFICATION		
<b>2.1. Substance/Mixture Classification</b>		
<i>Indication of hazards specific for human health and environment:</i>		
<b>THE SUBSTANCE/MIXTURE IS NOT CLASSIFIED AS DANGEROUS IN ACCORDANCE TO FOLLOWING REGULATIONS</b>		
<b>Classification according to EC Regulation n. 1272/2008 - (CLP)</b>		
---	---	NOT CLASSIFIED AS DANGEROUS IN ACCORDANCE TO FOLLOWING REGULATIONS
<b>2.2. Label Elements</b>		
<b>Label according to EC Regulation n. 1272/2008 (CLP)</b>		
Hazards Identification:	---	NOT CLASSIFIED AS DANGEROUS IN ACCORDANCE TO FOLLOWING REGULATIONS
Precautionary Statements:		
Disposal		
<b>2.3. Other Hazards</b>		
---		

3. COMPOSITION / INFORMATION ON INGREDIENTS						
<b>3.1. Chemical Properties of Substance or Mixture</b>						
Composition:	Substance					
Contains:	As per following table					
Molecular Formula:	---					
EC Number:	---					
CAS Number:	---					
UN Number:	---					
REACH Number:	---					
<b>3.2. Information on ingredients</b>						
Name	CAS No.	EC No.	Quantity	Classification	Symbols	Hazard Statements
Methyl esters of fatty acids	68990-52-3	273-606-8	100%	---	---	---

4. FIRST AID MEASURES	
<b>4.1. Description of First Aid Measures</b>	
General information:	In case of diseases, get medical attention. Show to the doctor this Material Safety Data Sheet
After inhalation:	At room temperature or normal handling the risk of inhalation of vapors is negligible
After skin contact:	Take off contaminated clothing and shoes. Wash thoroughly with plenty of water; use, if available, mild soap. Seek immediate medical attention if irritation, swelling or redness develops and persists
After eye contact:	It may cause irritation. Immediately remove any contact lenses. Immediately flush eyes with running water for at least 15-20 minutes while holding eyelids open. If irritation, blurred vision or swelling persist, consult a medical specialist
After swallowing:	In case of disease contact a physician
Other information:	N.a.
<b>4.2. Main symptoms and effects, both acute and delayed</b>	
Symptoms:	N.a.
<b>4.3. Indication of any immediate medical attention and special treatment needed</b>	
Medical surveillance:	Medical surveillance during job not required. In case of disease or accident, consult immediately a doctor and show him this MSDS
Special intervention means:	N.a.

5. FIREFIGHTING MEASURES	
<b>5.1. Extinguishing Media</b>	
Precautions in case of fire:	In case of fire respect following instructions:
Suitable extinguishing media:	In case of fire use: foam, dry chemical, carbon dioxide
Unsuitable extinguishing media:	Avoid the use of water jets on the burning product; could cause splattering and spread the fire. Simultaneous use of foam and water on the same surface as water destroys the foam. Use water spray to cool fire exposed surfaces and to protect personnel in fire fighting
Hazards arising from combustion:	In case of incomplete combustion can form smoke and carbon monoxide. Acrolein thermal decomposition
Special firefighting equipment:	In case of fire wear a full face positive pressure self-contained breathing apparatus and protective suit
Others:	N.a.

6. ACCIDENTAL RELEASE MEASURES	
<b>6.1. Personal Precautions</b>	
Protective equipment:	Wear personal protective equipment (PPE)
Emergency procedures:	Remove personnel not involved from the spill. Warn emergency crews. Avoid skin contact and contact with eyes by wearing appropriate personal protective equipment. Respiratory protection: respiratory protection will be necessary only in special cases, such as: oil mist
<b>6.2. Environmental Precautions</b>	
Containment media:	Confine the spill immediately with floating barriers
Containment methods:	<u>Small spills:</u> can be dried with paper towels. The normal antistatic working clothes are usually adequate. <u>For large spills:</u> Recover by skimming or pumping using explosion-proof equipment, or contain spilled liquid with sand, or other non-combustible absorbent such as sand, earth, vermiculite, diatomaceous earth and place into containers. In the case in which the situation cannot be completely assessed, or if there is a risk of oxygen deficiency, use only SCBA
Additional information:	N.a.

7. HANDLING AND STORAGE	
<b>7.1. Precautions for Handling</b>	
Handling precautions:	Wear proper personal protective equipment. Avoid contact with eyes, skin and clothes. Avoid breathing vapor or mist. Do not swallow. Wash hands after handling. If handling at elevated temperatures or with high speed mechanical equipment, vapors or mists can form and require a well ventilated workplace. Keep the product in cool, well ventilated area away from heat sources and exposure direct sunlight. Electrical equipment and fittings must comply with local regulations regarding fire prevention materials of this type
<b>7.2. Precautions for Storage</b>	
Storage conditions:	MATERIALS AND COVERINGS SUITABLE: Carbon steel, stainless steel, Teflon. The compatibility with plastic materials may vary; It is advisable to check before use
Storage area specifications:	TEMPERATURE loading / unloading: environment STORAGE TEMPERATURE: Store in closed containers at temperatures between 10°C and 40°C
Containers specifications:	EMPTY CONTAINER WARNING: Do not pressurize, cut etc. or expose container to heat, flame or sparks; containers may explode causing injury or death. Not groped to clean since residue is difficult to remove. Empty drums should be drained, capped and sent to reconditioning according to current regulations
Incompatibility:	N.a.
<b>7.3. Particular Uses:</b>	
Particular uses:	N.a.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION		
<b>8.1. Exposure Limits</b>		
TLV <sub>Ceiling</sub> :	---	
TLV <sub>TWA</sub> :	---	
TLV <sub>STEL</sub> :	---	
Biological limit:	---	
<b>8.2. Professional Exposure Controls</b>		
Plant protections:	General ventilation recommended	
Collective protections:	Provide adequate ventilation	
Individual protections:	Respiratory:	When concentrations in air may exceed the exposure limit, and where engineering, work procedures and other means to limit exposure are not adequate, they are necessary means of respiratory protection: masks against vapor and dust/mist
	Eyes:	Where only incidental contact is likely, wear safety glasses with side shields
	Hand:	In cases of prolonged contact, use gloves resistant to oils and solvents. No protection is ordinarily required under normal conditions of use
	Body:	Protective standard clothing
<b>8.3. Environmental Exposure Controls</b>		
Exposure Scenarios:	N.a.	

9. PHYSICAL AND CHEMICAL PROPERTIES	
<b>9.1. General Information</b>	
Form:	Liquid
Appearance:	Liquid
Color:	Yellow
Odor:	Sweet vegetables
Olfactory threshold:	N.a.
<b>9.2. Information about Health, Safety and Environment</b>	
pH:	Not applicable
Melting point:	N.a.
Pour point:	ASTM D 97 : < - 13°C
Boiling temperature:	> 300°C
Flash point:	180°C
Flammability (solid, gas):	N.a.
Auto ignition temperature:	260°C
Decomposition temperature:	N.a.
Danger of explosion:	N.a.
Upper flammability limit:	N.a.
Lower flammability limit:	N.a.
Vapor pressure:	< 0.01 Pa a 20°C
Density at 20°C:	0.91 – 0.92
Apparent density (20°C):	N.a.
Relative density:	N.a.
Vapor density:	N.a.
Evaporation rate:	N.a.
Solubility in water (20°C):	< 1%
Distribution coefficient (n-Octanol):	20 - 25 (approx)
Viscosity:	30 (approx)
<b>9.3. Other information</b>	
Other information:	N.a.

10. STABILITY AND REACTIVITY	
<b>10.1. Reactivity</b>	
Stability:	Keep away from heat sources, open flames, direct sunlight and other sources of ignition
<b>10.2. Chemical Stability</b>	
Incompatible materials:	Avoid contact with acids and bases and strong oxidizing agents. This may result in the evolution of harmful and flammable gases or vapors
Possibility of dangerous reactions:	Hazardous polymerization will not occur
<b>10.3. Hazardous Decomposition Products</b>	
Other information:	Under normal conditions of storage and use, you should not generate dangerous decomposition products. The high temperature, above 150°C, may result in the development of acrolein

11. TOXICOLOGICAL INFORMATION	
<b>11.1. Acute Toxicity</b>	
<b>Substance Toxicity</b>	
Oral toxicity:	N.a.
Inhalation toxicity:	N.a.
Dermal toxicity:	N.a.
<b>11.2. Corrosively</b>	
Skin:	N.a.
Eyes:	N.a.
<b>11.3. Primary Irritability</b>	
Skin:	After long-term exposure can be a risk of irritation
Eyes:	It is possible an irritation of the mucous membranes
<b>11.4. Harmfulness</b>	
Ingestion:	Rinse your mouth and drink plenty of water. Seek medical advice immediately
Inhalation:	No data available
<b>11.5. Sensitization</b>	
Skin:	Not skin sensitizer. Were not observed skin allergies
Eyes:	N.a.

12. ECOLOGICAL INFORMATION	
<b>12.1. Toxicity</b>	
Toxicity in the water:	LC50 (Fish) 48 h: > 10000 µg / L LC50 (Mollusc) 48 h: > 10000 µg /L LC50 (Amphibious) 48 h: > 7600 µg/L
Toxicity in the air:	N.a.
Toxicity in the soil:	N.a.
<b>12.2. Persistence and Degradability</b>	
Other information:	70% 28 days (method OECD 301 B)
<b>12.3. Bio cumulative Potential</b>	
Other information:	Low potential for bio-accumulation in aquatic organisms or terrestrial even after repeated exposure
<b>12.4. Mobility in Soil</b>	
Other information:	It is not volatile and are not expected to persist in the environment
<b>12.5. Results of PBT e vPvB Assessment</b>	
PBT:	This product is not, or does not contain a substance classified as PBT or vPvB
vPvB:	This product is not, or does not contain a substance classified as PBT or vPvB
<b>12.6. Other Adverse Effects</b>	
Other information:	Spills can cause the formation of film on water surfaces causing physical damage to organisms, limiting the exchange of oxygen



13. DISPOSAL CONSIDERATIONS	
<b>13.1. Product Disposal Methods</b>	
Advices	Dispose of in accordance with local and national regulations
Waste code:	N.a.
<b>13.2. Methods of Disposal of packaging</b>	
Advices:	Dispose of in accordance with local and national regulations
Other information:	N.a.

14. TRANSPORT INFORMATION	
<b>14.1. Land/Rail Transport (ADR/RID)</b>	
UN Number:	No dangerous good under transport regulations
UN shipping norms:	N.a.
Hazard class:	N.a.
Packaging group:	N.a.
Dangers for the environment:	N.a.
<b>14.2. Maritime Transport (IMDG)</b>	
IMDG Class:	No dangerous good under transport regulations
Marine pollutant:	N.a.
<b>14.3. Air Transport (ICAO-TI and IATA-DGR)</b>	
ICAO Class:	No dangerous good under transport regulations
IATA Class:	N.a.
<b>14.4. Bulk Transport</b>	
Annex II of MARPOL73/78:	No dangerous good under transport regulations
IBC Code:	N.a.

15. REGULATORY INFORMATION	
<b>15.1. Health, Safety and Environment Regulations/Legislation Specific for the Substance or Mixture</b>	
D.Lgs. 3/2/1997 n. 52 (Classification, packaging and labeling of hazardous substances)	
D.Lgs. 14/3/2003 n. 65 (Classification, packaging and labeling of hazardous mixtures)	
D.Lgs. 2/2/2002 n. 25 (Risks due to chemical agents during the work)	
D.M. Lavoro 26/02/2004 (Professional exposure limits)	
D.M. 03/04/2007 (Implementation of the Directive n. 2006/8/CE)	
CE Regulation n. 1907/2006 (REACH)	
CE Regulation n.1272/2008 (CLP)	
CE Regulation n.790/2009 (Adequacy to technical progress to CLP Regulation)	
CE Regulation n. 453/2010 (Modification of REACH Regulation)	
CE Regulation n.790/2009 (adaptation to technical and scientific progress of CLP Regulation)	
CE Regulation n° 453/2010 (Modification of REACH Regulation)	

**16. OTHER INFORMATION****16.1. Main Bibliographic Sources**

ECDIN - Environmental Chemicals Data and Information Network - Joint Research Centre, Commission of the European Communities

SAX's DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS - Eight Edition – Van Nostrand Reinold

Istituto Superiore di Sanità - Inventario Nazionale Sostanze Chimiche

ACGIH - Threshold Limit Values - 2009 edition

**16.2. Declarations**

This sheet completes the technical bulletin without to substitute it. The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication.

The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

This material safety datasheet only contains information relating to health and safety. The product has to be used in applications consistent with Newpark Drilling Fluids S.p.A. technology. Individuals handling this product should be informed of the safety precautions and should have access to this information.

This safety data sheet has been completely updated in compliance to Regulation 453/2010/EU.

This MSDS cancels and replaces any preceding release.

**16.3. Abbreviations and Acronyms:**

**ADR:** Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

**RID:** Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

**GHS:** Globally Harmonized System of Classification and Labeling of Chemicals

**EINECS:** European Inventory of Existing Commercial Chemical Substances

**CAS:** Chemical Abstracts Service (division of the American Chemical Society)

**ACGIH:** American Conference of Industrial Hygienists

**EC50:** median effective concentration

**LC50:** median lethal concentration

**LD50:** median lethal dose

**NOEC:** no observable effect concentration

**PNEC:** predicted no-effect concentration

**PBT:** persistent, bio accumulative, toxic chemicals

**vPvB:** very persistent, very bio accumulative chemicals

**TLV-TWA:** Threshold limit value – Time weighted average; professional exposure limit average on 8 hours

**TLV-STEL:** Threshold limit value – Short Term exposure limit ; professional exposure limit at short term

**TLV-C :** Threshold limit value – Ceiling

---

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

---

### 1.1 Product identifier

**Product name** AVAPERM NF  
**Synonym(s)** F003132 - SDS CODE

### 1.2 Uses and uses advised against

**Use(s)** INHIBITOR IN DRILLING FLUIDS

### 1.3 Details of the supplier of the safety data sheet

**Supplier name** NEWPARK DRILLING FLUIDS (AUSTRALIA) LTD  
**Address** 11 Alacrity Place, Henderson, WA, 6166, AUSTRALIA  
**Telephone** +61 8 9410 8200  
**Fax** +61 8 9410 8299  
**Website** [www.newpark.com](http://www.newpark.com)

### 1.4 Emergency telephone number(s)

**Emergency** 1800 127 406 (Australia); +64 3 3530199 (International)

---

## 2. HAZARDS IDENTIFICATION

---

### 2.1 Classification of the substance or mixture

CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

**GHS classification** Acute Toxicity: Oral: Category 4  
Acute Toxicity: Skin: Category 4  
Skin Corrosion/Irritation: Category 2  
Serious Eye Damage / Eye Irritation: Category 2A  
Specific Target Organ Systemic Toxicity (Single Exposure): Category 3

### 2.2 Label elements

**Signal word** WARNING

**Pictograms**



### Hazard statement(s)

H302 Harmful if swallowed.  
H312 Harmful in contact with skin.  
H315 Causes skin irritation.  
H319 Causes serious eye irritation.  
H335 May cause respiratory irritation.

### Prevention statement(s)

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.  
P264 Wash thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P271 Use only outdoors or in a well-ventilated area.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.

**PRODUCT NAME AVAPERM NF****Response statement(s)**

P301 + P312 IF SWALLOWED: Call a POISON CENTRE or doctor/physician if you feel unwell.  
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.  
P304 + P340 IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P321 Specific treatment is advised - see first aid instructions.  
P330 Rinse mouth.  
P332 + P337 + P313 If skin or eye irritation occurs: Get medical advice/ attention.  
P362 Take off contaminated clothing and wash before re-use.

**Storage statement(s)**

P403 + P233 Store in a well-ventilated place. Keep container tightly closed (applies if the substance is volatile so as to generate a hazardous atmosphere).  
P405 Store locked up.

**Disposal statement(s)**

P501 Dispose of contents/container in accordance with relevant regulations.

**2.3 Other hazards**

No information provided.

---

**3. COMPOSITION/ INFORMATION ON INGREDIENTS**

---

**3.1 Substances / Mixtures**

Ingredient	Identification	Classification	Content
HYDROGENATED HEXANEDINITRILE CHLORIDE	Not Available		35 to 70%
WATER	CAS: 7732-18-5 EC: 231-791-2		30 to 65%

**Ingredient Notes**

This product is mixture of 30-50% Hexanedinitrile, 5-20% Hydrochloric acid (as pH corrector) and water. Hydrochloric acid is used to neutralise hexanedinitrile to become the salt with slightly alkali (pH 9-11).

---

**4. FIRST AID MEASURES**

---

**4.1 Description of first aid measures**

**Eye** If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.

**Inhalation** If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.

**Skin** If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.

**Ingestion** For advice, contact a Poison Information Centre on 13 11 26 (Australia Wide) or a doctor (at once).

**First aid facilities** Eye wash facilities and safety shower are recommended.

**4.2 Most important symptoms and effects, both acute and delayed**

See Section 11 for more detailed information on health effects and symptoms.

**4.3 Immediate medical attention and special treatment needed**

Treat symptomatically.

---

**5. FIRE FIGHTING MEASURES**

---

**5.1 Extinguishing media**

Use an extinguishing agent suitable for the surrounding fire.

**5.2 Special hazards arising from the substance or mixture**

Non flammable. May evolve toxic gases (carbon/ nitrogen oxides, hydrocarbons) when heated to decomposition.

### **5.3 Advice for firefighters**

Evacuate area and contact emergency services. Toxic gases may be evolved in a fire situation. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

### **5.4 Hazchem code**

None allocated.

---

## **6. ACCIDENTAL RELEASE MEASURES**

---

### **6.1 Personal precautions, protective equipment and emergency procedures**

Wear Personal Protective Equipment (PPE) as detailed in Section 8 of this SDS. Clear area of all unprotected personnel. Ventilate area where possible. Contact emergency services where appropriate.

### **6.2 Environmental precautions**

Prevent product from entering drains and waterways.

### **6.3 Methods of cleaning up**

Contain spillage, then cover/absorb spill with non-combustible absorbent material (vermiculite, sand, or similar), collect and place in suitable containers for disposal.

### **6.4 Reference to other sections**

See Sections 8 and 13 for exposure controls and disposal.

---

## **7. HANDLING AND STORAGE**

---

### **7.1 Precautions for safe handling**

Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

### **7.2 Conditions for safe storage, including any incompatibilities**

Store in a cool, dry, well ventilated area, removed from incompatible substances, heat or ignition sources and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use. Check regularly for leaks or spills.

### **7.3 Specific end use(s)**

No information provided.

---

## **8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

---

### **8.1 Control parameters**

#### **Exposure standards**

No exposure standards have been entered for this product.

#### **Biological limits**

No biological limit values have been entered for this product.

### **8.2 Exposure controls**

**Engineering controls** Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical extraction ventilation is recommended. Maintain vapour levels below the recommended exposure standard.

#### **PPE**

<b>Eye / Face</b>	Wear splash-proof goggles.
<b>Hands</b>	Wear PVC or rubber gloves.
<b>Body</b>	When using large quantities or where heavy contamination is likely, wear coveralls.
<b>Respiratory</b>	Where an inhalation risk exists, wear a Type A (Organic vapour) respirator.



---

## 9. PHYSICAL AND CHEMICAL PROPERTIES

---

### 9.1 Information on basic physical and chemical properties

Appearance	LIQUID
Odour	PUNGENT ODOUR
Flammability	NON FLAMMABLE
Flash point	NOT RELEVANT
Boiling point	100°C (Approximately)
Melting point	NOT AVAILABLE
Evaporation rate	NOT AVAILABLE
pH	9 to 10
Vapour density	NOT AVAILABLE
Specific gravity	1.00 to 1.10
Solubility (water)	SOLUBLE
Vapour pressure	NOT AVAILABLE
Upper explosion limit	NOT RELEVANT
Lower explosion limit	NOT RELEVANT
Partition coefficient	NOT AVAILABLE
Autoignition temperature	NOT AVAILABLE
Decomposition temperature	NOT AVAILABLE
Viscosity	NOT AVAILABLE
Explosive properties	NOT AVAILABLE
Oxidising properties	NOT AVAILABLE
Odour threshold	NOT AVAILABLE

### 9.2 Other information

% Volatiles	NOT AVAILABLE
-------------	---------------

---

## 10. STABILITY AND REACTIVITY

---

### 10.1 Reactivity

Carefully review all information provided in sections 10.2 to 10.6.

### 10.2 Chemical stability

Stable under recommended conditions of storage.

### 10.3 Possibility of hazardous reactions

Hazardous polymerization is not expected to occur.

### 10.4 Conditions to avoid

Avoid heat, sparks, open flames and other ignition sources.

### 10.5 Incompatible materials

Incompatible with oxidising agents (eg. hypochlorites), acids (eg. nitric acid), nitrites, heat and ignition sources. Incompatible with Isocyanates, aldehydes, ketones, anhydrides, phenols, nitrates, halogenated compounds.

### 10.6 Hazardous decomposition products

May evolve toxic gases (carbon/ nitrogen oxides, hydrocarbons) when heated to decomposition.

---

## 11. TOXICOLOGICAL INFORMATION

---

### 11.1 Information on toxicological effects

<b>Health hazard summary</b>	Harmful - irritant. This product has the potential to cause adverse health effects with over exposure. Use safe work practices to avoid eye or skin contact and inhalation. Over exposure may result in irritation to the eyes, skin and respiratory system.
<b>Eye</b>	Irritant. Contact may result in irritation, lacrimation, pain and redness.
<b>Inhalation</b>	Irritant. Over exposure to vapours may result in respiratory irritation, nausea, dizziness and headache. High level exposure may result in drowsiness and breathing difficulties.
<b>Skin</b>	Irritant. Contact may result in drying and defatting of the skin, rash and dermatitis.
<b>Ingestion</b>	Harmful. Ingestion may result in gastrointestinal irritation, nausea, vomiting, abdominal pain, diarrhoea, headache, dizziness and drowsiness with large quantities.
<b>Toxicity data</b>	No LD50 data available for this product.

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

This product is registered on Offshore Chemical Notification Scheme Gold, Gold, Gold for HQ Band 17.5", 12.25" and 8.5" respectively.

### 12.2 Persistence and degradability

No information provided.

### 12.3 Bioaccumulative potential

No information provided.

### 12.4 Mobility in soil

No information provided.

### 12.5 Other adverse effects

No information provided.

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

**Waste disposal** For small amounts, absorb with sand, vermiculite or similar and dispose of to an approved landfill site. For larger amounts, contact the manufacturer for additional information. Prevent contamination of drains or waterways as aquatic life may be threatened and environmental damage may result.

**Legislation** Dispose of in accordance with relevant local legislation.

## 14. TRANSPORT INFORMATION

NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA

	LAND TRANSPORT (ADG)	SEA TRANSPORT (IMDG / IMO)	AIR TRANSPORT (IATA / ICAO)
<b>14.1 UN number</b>	None Allocated	None Allocated	None Allocated
<b>14.2 UN proper shipping name</b>	None Allocated	None Allocated	None Allocated
<b>14.3 Transport hazard classes</b>			
<b>DG class</b>	None Allocated	None Allocated	None Allocated
<b>Subsidiary risk(s)</b>	None Allocated	None Allocated	None Allocated
<b>14.4 Packing group</b>	None Allocated	None Allocated	None Allocated
<b>14.5 Environmental hazards</b>	None Allocated		
<b>14.6 Special precautions for user</b>			
<b>Hazchem code</b>	None Allocated		

## 15. REGULATORY INFORMATION

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

**Poison schedule** A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**Classifications**

Xi	Irritant
Xn	Harmful

**Risk phrases**

R21/22	Harmful in contact with skin and if swallowed.
R36/37/38	Irritating to eyes, respiratory system and skin.

**Safety phrases**

S1/2	Keep locked up and out of reach of children.
S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice
S45	In case of accident or if you feel unwell seek medical advice immediately (show the label where possible).

**Inventory listing(s)**     **AUSTRALIA: AICS (Australian Inventory of Chemical Substances)**  
All components are listed on AICS, or are exempt.  
**EUROPE:EINECS (European Inventory of Existing Chemical Substances)**  
All components are listed on EINECS, or are exempt.

---

## 16. OTHER INFORMATION

---

### Additional information

The manufacturer indicates the product is mixture of 30-50% Hexanedinitrile, 5-20% Hydrochloric acid (as pH corrector) and water. Hydrochloric acid is used to neutralise hexanedinitrile to become the salt with slightly alkali (pH 9-11).

**AMINE: CAUTION THIS PRODUCT CONTAINS AN AMINE. DO NOT ADD NITRITES or other NITROSATING AGENTS** to this product due to the potential for NITROSAMINE formation. Nitrosamines are potent carcinogens and some have been shown to cause severe acute (heart, brain, blood, liver - kidney) damage as well as chronic effects (reproductive effects, liver - lung and kidney tumours).

**RESPIRATORS:** In general the use of respirators should be limited and engineering controls employed to avoid exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.

**EXPOSURE STANDARDS - TIME WEIGHTED AVERAGE (TWA) or WES (WORKPLACE EXPOSURE STANDARD) (NZ):** Exposure standards are established on the premise of an 8 hour work period of normal intensity, under normal climatic conditions and where a 16 hour break between shifts exists to enable the body to eliminate absorbed contaminants. In the following circumstances, exposure standards must be reduced: strenuous work conditions; hot, humid climates; high altitude conditions; extended shifts (which increase the exposure period and shorten the period of recuperation).

### PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:

The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

### HEALTH EFFECTS FROM EXPOSURE:

It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a ChemAlert report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.



**PRODUCT NAME AVAPERM NF****Abbreviations**

ACGIH	American Conference of Governmental Industrial Hygienists
CAS #	Chemical Abstract Service number - used to uniquely identify chemical compounds
CNS	Central Nervous System
EC No.	EC No - European Community Number
GHS	Globally Harmonized System
IARC	International Agency for Research on Cancer
LC50	Lethal Concentration, 50% / Median Lethal Concentration
LD50	Lethal Dose, 50% / Median Lethal Dose
mg/m <sup>3</sup>	Milligrams per Cubic Metre
OEL	Occupational Exposure Limit
PEL	Permissible Exposure Limit
pH	relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
ppm	Parts Per Million
REACH	Regulation on Registration, Evaluation, Authorisation and Restriction of Chemicals
STEL	Short-Term Exposure Limit
STOT-RE	Specific target organ toxicity (repeated exposure)
STOT-SE	Specific target organ toxicity (single exposure)
SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons
SWA	Safe Work Australia
TLV	Threshold Limit Value
TWA	Time Weighted Average

**Revision history**

Revision	Description
1.0	Initial SDS Creation

**Report status**

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

**Prepared by**

Risk Management Technologies  
5 Ventnor Ave, West Perth  
Western Australia 6005  
Phone: +61 8 9322 1711  
Fax: +61 8 9322 1794  
Email: info@rmt.com.au  
Web: www.rmt.com.au.

**Revision: 1**  
**SDS date: 08 April 2014**

**[ End of SDS ]**

Issue Date 12-Apr-2017

Revision Date 02-Aug-2017

Version 1  
EN

### Section 1: IDENTIFICATION: PRODUCT IDENTIFIER AND CHEMICAL IDENTITY

#### Product identifier

Product Name AVAPOLYMER 5050

Product Code NDF00252

#### Other means of identification

Pure substance/mixture Mixture

#### Recommended use of the chemical and restrictions on use

Recommended Use shale stabilizer

Uses advised against No information available

#### Details of manufacturer or importer

##### Supplier

Newpark Drilling Fluids (Australia) LTD  
11 Alacrity Place  
Henderson, WA, 6166  
Australia

#### For further information, please contact

Contact Point Telephone: +61 8 9410 8200  
Fax: +61 8 9410 8299  
Website: www.newpark.com

#### Emergency telephone number

Emergency telephone number 1800 127 406 (Australia); +64 4 917 9888 (International)

### Section 2: HAZARD(S) IDENTIFICATION

#### GHS - Classification

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

#### Label elements

##### **Hazard statements**

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

#### Other hazards

May be harmful in contact with skin

**General Hazards**

No information available

**Section 3: COMPOSITION AND INFORMATION ON INGREDIENTS, IN ACCORDANCE WITH SCHEDULE 8****Substance**

Not applicable

**Mixture****Additional information**

The product contains no substances which at their given concentration, are considered to be hazardous to health

**Section 4: FIRST AID MEASURES****Description of first aid measures**

<b>Emergency telephone number</b>	Poisons Information Center, Australia: 13 11 26 Poisons Information Center, New Zealand: 0800 764 766
<b>Inhalation</b>	Remove to fresh air.
<b>Eye contact</b>	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
<b>Skin contact</b>	Wash skin with soap and water.
<b>Ingestion</b>	Clean mouth with water and drink afterwards plenty of water.

**Most important symptoms and effects, both acute and delayed**

**Symptoms** No information available.

**Indication of any immediate medical attention and special treatment needed**

**Note to physicians** Treat symptomatically.

**Section 5: FIREFIGHTING MEASURES****Suitable Extinguishing Media****Suitable extinguishing media**

Water spray (fog). Carbon dioxide (CO<sub>2</sub>).

**Unsuitable extinguishing media** No information available.

**Specific hazards arising from the chemical**

Thermal decomposition can lead to release of irritating and toxic gases and vapors. Do not allow run-off from fire-fighting to enter drains or water courses.

**Hazardous combustion products** Carbon oxides.

**Special protective actions for fire-fighters**

**Special protective equipment for fire-fighters** Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

Hazchem code Not Listed.

## Section 6: ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

**Personal precautions** Ensure adequate ventilation.

**For emergency responders** Use personal protection recommended in Section 8.

### Environmental precautions

**Environmental precautions** See Section 12 for additional Ecological Information. Do not flush into surface water or sanitary sewer system. Prevent product from entering drains.

### Methods and material for containment and cleaning up

**Methods for containment** Prevent further leakage or spillage if safe to do so.

**Methods for cleaning up** Pick up and transfer to properly labeled containers.

### Precautions to prevent secondary hazards

**Prevention of secondary hazards** Clean contaminated objects and areas thoroughly observing environmental regulations.

## Section 7: HANDLING AND STORAGE, INCLUDING HOW THE CHEMICAL MAY BE SAFELY USED

### Precautions for safe handling

**Advice on safe handling** Handle in accordance with good industrial hygiene and safety practice. Avoid generation of dust. Wash thoroughly after handling. Wash contaminated clothing before reuse.

**General hygiene considerations** Do not eat, drink or smoke when using this product. Wash hands before breaks and after work.

### Conditions for safe storage, including any incompatibilities

**Storage Conditions** Keep containers tightly closed in a dry, cool and well-ventilated place.

**Incompatible materials** None known

## Section 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

### Control parameters

**Exposure Limits** This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

**Biological occupational exposure limits** Not applicable

### Appropriate engineering controls

**Engineering controls** Showers  
Eyewash stations  
Ventilation systems.

### Individual protection measures, such as personal protective equipment

<b>Eye/face protection</b>	Tight sealing safety goggles.
<b>Skin and body protection</b>	Wear suitable protective clothing.
<b>Respiratory protection</b>	In case of inadequate ventilation wear respiratory protection.
<b>Environmental exposure controls</b>	Do not allow into any sewer, on the ground or into any body of water.

## Section 9: PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<b>Physical state</b>	Solid	<b>Odor</b>	Slight.
<b>Appearance</b>	powder	<b>Odor threshold</b>	No information available
<b>Color</b>	No information available		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
<b>pH</b>	8.0 - 11.0	20 g/L solution
<b>Melting point / freezing point</b>		No data available
<b>Boiling point / boiling range</b>		No data available
<b>Flash point</b>		Not applicable
<b>Evaporation rate</b>		No data available
<b>Flammability (solid, gas)</b>		No data available
<b>Flammability Limit in Air</b>		No data available
<b>Upper flammability limit:</b>		No data available
<b>Lower flammability limit:</b>		No data available
<b>Vapor pressure</b>		No data available
<b>Vapor density</b>		No data available
<b>Relative density</b>		No data available
<b>Water solubility</b>	Soluble in water	
<b>Solubility(ies)</b>		No information available
<b>Partition coefficient</b>		No information available
<b>Autoignition temperature</b>		No data available
<b>Decomposition temperature</b>		No data available
<b>Kinematic viscosity</b>		Not applicable
<b>Dynamic viscosity</b>		Not applicable

### Other Information

<b>Softening point</b>	No information available
<b>Molecular weight</b>	No information available
<b>VOC Content (%)</b>	No information available
<b>Density</b>	No information available
<b>Bulk density</b>	No information available
<b>Particle Size</b>	No information available
<b>Particle Size Distribution</b>	No information available

## Section 10: STABILITY AND REACTIVITY

### Reactivity

<b>Reactivity</b>	Stable.
-------------------	---------

### Chemical stability

<b>Stability</b>	Stable under normal conditions.
------------------	---------------------------------

### Explosion data

<b>Sensitivity to Mechanical Impact</b>	None.
<b>Sensitivity to Static Discharge</b>	None.

**Possibility of Hazardous Reactions**

**Possibility of hazardous reactions** None under normal processing.

**Conditions to avoid**

**Conditions to avoid** None known based on information supplied.

**Incompatible materials**

**Incompatible materials** None known.

**Hazardous Decomposition Products**

**Hazardous Decomposition Products** None known based on information supplied.

**Section 11: TOXICOLOGICAL INFORMATION****Acute toxicity****Information on likely routes of exposure****Product Information**

<b>Inhalation</b>	Specific test data for the substance or mixture is not available.
<b>Eye contact</b>	Specific test data for the substance or mixture is not available.
<b>Skin contact</b>	Specific test data for the substance or mixture is not available.
<b>Ingestion</b>	Specific test data for the substance or mixture is not available
<b>Symptoms</b>	No information available.

**Numerical measures of toxicity - Product Information**

The following values are calculated based on chapter 3.1 of the GHS document

<b>ATEmix (oral)</b>	27,000.00 mg/kg
<b>ATEmix (dermal)</b>	2,002.00 mg/kg

**Unknown acute toxicity** 100 % of the mixture consists of ingredient(s) of unknown toxicity  
 40 % of the mixture consists of ingredient(s) of unknown acute oral toxicity  
 40 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity  
 100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)  
 100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)  
 100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

See section 16 for terms and abbreviations

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

<b>Skin corrosion/irritation</b>	No information available.
<b>Serious eye damage/eye irritation</b>	No information available.
<b>Respiratory or skin sensitization</b>	No information available.
<b>Germ cell mutagenicity</b>	No information available.
<b>Carcinogenicity</b>	No information available.

---

Reproductive toxicity	No information available.
STOT - single exposure	No information available.
STOT - repeated exposure	No information available.
Aspiration hazard	No information available.

## Section 12: ECOLOGICAL INFORMATION

### Ecotoxicity

Ecotoxicity	The environmental impact of this product has not been fully investigated.
Unknown aquatic toxicity	100 % of the mixture consists of component(s) of unknown hazards to the aquatic environment.

### Persistence and degradability

Persistence and degradability	No information available.
-------------------------------	---------------------------

### Bioaccumulative potential

Bioaccumulation	No information available.
-----------------	---------------------------

### Mobility

Mobility in soil	No information available.
Mobility	No information available.

### Other adverse effects

Other adverse effects	No information available.
-----------------------	---------------------------

## Section 13: DISPOSAL CONSIDERATIONS

### Waste treatment methods

Waste from residues/unused products	Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.
Contaminated packaging	Do not reuse empty containers.

## Section 14: TRANSPORT INFORMATION

ADG Not regulated

IATA Not regulated

IMDG Not regulated

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code  
No information available

## Section 15: REGULATORY INFORMATION

### Regulatory information

#### National regulations

##### Australia

See section 8 for national exposure control parameters

#### **Standard for Uniform Scheduling of Medicines and Poisons (SUSMP)**

No poisons schedule number allocated

#### International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECL	Complies
PICCS	Complies
AICS	Complies
NZIoC	Complies

#### **Legend:**

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

**ENCS** - Japan Existing and New Chemical Substances

**IECSC** - China Inventory of Existing Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

**AICS** - Australian Inventory of Chemical Substances

**NZIoC** - New Zealand Inventory of Chemicals

#### International Regulations

**Ozone-depleting substances (ODS)** Not applicable

**Persistent Organic Pollutants** Not applicable

**Export Notification requirements** Not applicable

## Section 16: ANY OTHER RELEVANT INFORMATION

**Issue Date** 12-Apr-2017

**Revision Date** 02-Aug-2017

#### **Revision Note**

No information available.

#### Key or legend to abbreviations and acronyms used in the safety data sheet

##### **Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation
C	Carcinogen		



**Disclaimer**

This document is provided as an information resource relating exclusively to the product or material described herein. The information contained herein may not be applicable to other products/ materials or processes and may not be valid when this product/material is used in combination with any other product/material or process. The information provided in this document is compiled by Newpark Drilling Fluids LLC or its representatives from various sources including manufacturers, suppliers and other third-party sources, and is based on the information available as of the indicated date of preparation. As the conditions under which this product could be used will vary and may not be within the control of Newpark Drilling Fluids LLC there is no guarantee that the precautions outlined above will be sufficient for all individuals or situations. The buyer assumes all responsibility for using and handling the product in accordance with federal, state, provincial, or local regulations. For the product/ material described in this document, **NO WARRANTY IS MADE, EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE.**

**End of Safety Data Sheet**



# SAFETY DATA SHEET

## AVASTABHOLE

Issue Date No data available

Revision Date 22-Mar-2019

Version 1.1  
EN

### Section 1: IDENTIFICATION: PRODUCT IDENTIFIER AND CHEMICAL IDENTITY

1

#### Product identifier

Product Name AVASTABHOLE

Product Code NDF00495

#### Other means of identification

#### Recommended use of the chemical and restrictions on use

Recommended Use shale stabilizer

Uses advised against No information available

#### Details of manufacturer or importer

##### Supplier

Newpark Drilling Fluids (Australia) LTD  
11 Alacrity Place  
Henderson, WA, 6166  
Australia

#### For further information, please contact

Contact Point Telephone: +61 8 9410 8200  
Fax: +61 8 9410 8299  
Website: www.newpark.com

#### Emergency telephone number

Emergency telephone number +(61)-290372994 (Australia); +(64)-98010034 (New Zealand)

### Section 2: HAZARD(S) IDENTIFICATION

#### GHS - Classification

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

#### Label elements

#### Hazard statements

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)

#### Other hazards

#### General Hazards

No information available

### Section 3: COMPOSITION AND INFORMATION ON INGREDIENTS, IN ACCORDANCE WITH SCHEDULE 8

#### Substance

Chemical name	CAS No.	Weight-%
isononylphenol ethoxylate	37205-87-1	2
Non-hazardous ingredients	Proprietary	

### Section 4: FIRST AID MEASURES

#### Description of first aid measures

<b>Emergency telephone number</b>	Poisons Information Center, Australia: 13 11 26 Poisons Information Center, New Zealand: 0800 764 766
<b>Inhalation</b>	Remove to fresh air.
<b>Eye contact</b>	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
<b>Skin contact</b>	Wash skin with soap and water.
<b>Ingestion</b>	Clean mouth with water and drink afterwards plenty of water.

#### Most important symptoms and effects, both acute and delayed

**Symptoms** No information available.

#### Indication of any immediate medical attention and special treatment needed

**Note to physicians** Treat symptomatically.

### Section 5: FIREFIGHTING MEASURES

#### Suitable Extinguishing Media

**Suitable extinguishing media** Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable extinguishing media** No information available.

#### Specific hazards arising from the chemical

Thermal decomposition can lead to release of irritating and toxic gases and vapors. Do not allow run-off from fire-fighting to enter drains or water courses.

#### Special protective actions for fire-fighters

**Special protective equipment for fire-fighters** Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

**Hazchem code** Not Listed.

### Section 6: ACCIDENTAL RELEASE MEASURES

#### Personal precautions, protective equipment and emergency procedures

<b>Personal precautions</b>	Ensure adequate ventilation.
<b>For emergency responders</b>	Use personal protection recommended in Section 8.
<b><u>Environmental precautions</u></b>	
<b>Environmental precautions</b>	See Section 12 for additional Ecological Information. Do not flush into surface water or sanitary sewer system. Prevent product from entering drains.
<b><u>Methods and material for containment and cleaning up</u></b>	
<b>Methods for containment</b>	Prevent further leakage or spillage if safe to do so.
<b>Methods for cleaning up</b>	Pick up and transfer to properly labeled containers.
<b><u>Precautions to prevent secondary hazards</u></b>	
<b>Prevention of secondary hazards</b>	Clean contaminated objects and areas thoroughly observing environmental regulations.

## **Section 7: HANDLING AND STORAGE, INCLUDING HOW THE CHEMICAL MAY BE SAFELY USED**

### **Precautions for safe handling**

<b>Advice on safe handling</b>	Handle in accordance with good industrial hygiene and safety practice. Wash thoroughly after handling. Wash contaminated clothing before reuse.
<b>General hygiene considerations</b>	Do not eat, drink or smoke when using this product. Wash hands before breaks and after work.

### **Conditions for safe storage, including any incompatibilities**

<b>Storage Conditions</b>	Keep containers tightly closed in a dry, cool and well-ventilated place.
---------------------------	--

## **Section 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION**

### **Control parameters**

<b>Exposure Limits</b>	This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.
------------------------	---

<b>Biological occupational exposure limits</b>	Not applicable
--	----------------

### **Appropriate engineering controls**

<b>Engineering controls</b>	Showers Eyewash stations Ventilation systems.
-----------------------------	---

### **Individual protection measures, such as personal protective equipment**

<b>Eye/face protection</b>	Tight sealing safety goggles.
<b>Skin and body protection</b>	Wear suitable protective clothing.
<b>Respiratory protection</b>	In case of inadequate ventilation wear respiratory protection.
<b>Environmental exposure controls</b>	Do not allow into any sewer, on the ground or into any body of water.

## Section 9: PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

Physical state	Liquid	Odor	Mild.
Appearance	liquid	Odor threshold	No information available
Color	No information available		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	8	
Melting point / freezing point	0 °C	
Boiling point / boiling range	100 °C	
Flash point		No information available
Evaporation rate		No information available
Flammability (solid, gas)		No information available
Flammability Limit in Air		No information available
Upper flammability limit:		No data available
Lower flammability limit:		No data available
Vapor pressure	2.3	
Vapor density		No data available
Relative density	1.01	
Water solubility		No information available
Solubility(ies)		No information available
Partition coefficient		No information available
Autoignition temperature		No information available
Decomposition temperature		No information available
Kinematic viscosity		
Dynamic viscosity	30 mPa s	

### Other Information

Softening point	No information available
Molecular weight	No information available
VOC Content (%)	No information available
Liquid Density	No information available
Bulk density	No information available
Particle Size	No information available
Particle Size Distribution	No information available

## Section 10: STABILITY AND REACTIVITY

### Reactivity

Reactivity No information available.

### Chemical stability

Stability Stable under normal conditions.

### Explosion data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

### Possibility of Hazardous Reactions

Possibility of hazardous reactions None under normal processing.

### Conditions to avoid

Conditions to avoid None known based on information supplied.

**Incompatible materials**

**Incompatible materials** None known based on information supplied.

**Hazardous Decomposition Products**

**Hazardous Decomposition Products** None known based on information supplied.

**Section 11: TOXICOLOGICAL INFORMATION****Acute toxicity****Information on likely routes of exposure****Product Information**

**Inhalation** Specific test data for the substance or mixture is not available.

**Eye contact** Specific test data for the substance or mixture is not available.

**Skin contact** Specific test data for the substance or mixture is not available.

**Ingestion** Specific test data for the substance or mixture is not available

**Symptoms** No information available.

**Numerical measures of toxicity - Product Information**

**Unknown acute toxicity** 100 % of the mixture consists of ingredient(s) of unknown toxicity  
 100 % of the mixture consists of ingredient(s) of unknown acute oral toxicity  
 100 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity  
 100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)  
 100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)  
 100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
isononylphenol ethoxylate	= 2590 mg/kg ( Rat ) = 5800 mg/kg ( Rat )	= 2830 mg/kg ( Rabbit )	-

See section 16 for terms and abbreviations

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Skin corrosion/irritation** No information available.

**Serious eye damage/eye irritation** No information available.

**Respiratory or skin sensitization** No information available.

**Germ cell mutagenicity** No information available.

**Carcinogenicity** No information available.

**Reproductive toxicity** No information available.

**STOT - single exposure** No information available.

**STOT - repeated exposure** No information available.

**Aspiration hazard** No information available.

## Section 12: ECOLOGICAL INFORMATION

### Ecotoxicity

**Ecotoxicity** The environmental impact of this product has not been fully investigated.

**Unknown aquatic toxicity** 100 % of the mixture consists of component(s) of unknown hazards to the aquatic environment.

### Persistence and degradability

**Persistence and degradability** No information available.

### Bioaccumulative potential

**Bioaccumulation** No information available.

### Mobility

**Mobility in soil** No information available.

**Mobility** No information available.

### Other adverse effects

**Other adverse effects** No information available.

Chemical name	EU - Endocrine Disruptors Candidate List	EU - Endocrine Disruptors - Evaluated Substances	Endocrine disrupting potential
isononylphenol ethoxylate	Group III Chemical	-	-

## Section 13: DISPOSAL CONSIDERATIONS

### Waste treatment methods

**Waste from residues/unused products** Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging** Do not reuse empty containers.

## Section 14: TRANSPORT INFORMATION

**ADG** Not regulated

**IATA** Not regulated

**IMDG** Not regulated

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**  
No information available

## Section 15: REGULATORY INFORMATION

**Regulatory information****National regulations****Australia**

See section 8 for national exposure control parameters

**Standard for Uniform Scheduling of Medicines and Poisons (SUSMP)**

No poisons schedule number allocated

**International Inventories**

<b>TSCA</b>	Complies
<b>DSL/NDSL</b>	Complies
<b>EINECS/ELINCS</b>	Does not comply
<b>ENCS</b>	Does not comply
<b>IECSC</b>	Complies
<b>KECL</b>	Complies
<b>PICCS</b>	Complies
<b>AICS</b>	Complies
<b>NZIoC</b>	Complies

**Legend:**

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

**ENCS** - Japan Existing and New Chemical Substances

**IECSC** - China Inventory of Existing Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

**AICS** - Australian Inventory of Chemical Substances

**NZIoC** - New Zealand Inventory of Chemicals

**International Regulations**

**Ozone-depleting substances (ODS)** Not applicable

**Persistent Organic Pollutants** Not applicable

**Export Notification requirements** Not applicable

**Section 16: ANY OTHER RELEVANT INFORMATION**

**Revision Date** 22-Mar-2019

**Revision Note**

No information available.

**Key or legend to abbreviations and acronyms used in the safety data sheet****Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation
C	Carcinogen		

**Disclaimer**

This document is provided as an information resource relating exclusively to the product or material described herein. The information contained herein may not be applicable to other products/ materials or processes and may not be valid when this product/material is used in combination with any other product/material or process. The information provided in this document is compiled by Newpark Drilling Fluids LLC or its representatives from various sources including manufacturers, suppliers and other third-party sources, and is based on the information available as of the indicated date



of preparation. As the conditions under which this product could be used will vary and may not be within the control of Newpark Drilling Fluids LLC there is no guarantee that the precautions outlined above will be sufficient for all individuals or situations. The buyer assumes all responsibility for using and handling the product in accordance with federal, state, provincial, or local regulations. For the product/ material described in this document, **NO WARRANTY IS MADE, EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE.**

**End of Safety Data Sheet**

---

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

---

### 1.1 Product identifier

**Product name** BARITE POWDER  
**Synonym(s)** BARITE (API 13A SECTION 7) • NEWBAR • RHEOBAR

### 1.2 Uses and uses advised against

**Use(s)** DRILLING FLUID ADDITIVE • WEIGHTING AGENT

### 1.3 Details of the supplier of the product

**Supplier name** NEWPARK DRILLING FLUIDS (AUSTRALIA) LTD  
**Address** 11 Alacrity Place, Henderson, WA, 6166, AUSTRALIA  
**Telephone** +61 8 9410 8200  
**Fax** +61 8 9410 8299  
**Website** [www.newpark.com](http://www.newpark.com)

### 1.4 Emergency telephone number(s)

**Emergency** 1800 127 406 (Australia); +64 3 3530199 (International)

---

## 2. HAZARDS IDENTIFICATION

---

### 2.1 Classification of the substance or mixture

CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

**GHS classification(s)** Specific Target Organ Systemic Toxicity (Repeated Exposure): Category 2

### 2.2 Label elements

**Signal word** WARNING

**Pictogram(s)**



### Hazard statement(s)

H373 May cause damage to organs through prolonged or repeated exposure.

### Prevention statement(s)

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

### Response statement(s)

P314 Get medical advice/attention if you feel unwell.

### Storage statement(s)

None allocated.

### Disposal statement(s)

P501 Dispose of contents/container in accordance with relevant regulations.

### 2.3 Other hazards

No information provided.

---

### 3. COMPOSITION/ INFORMATION ON INGREDIENTS

---

#### 3.1 Substances / Mixtures

Ingredient	CAS Number	EC Number	Content
QUARTZ (CRYSTALLINE SILICA)	14808-60-7	238-878-4	<3%
BARIUM SULPHATE	7727-43-7	231-784-4	>89%

---

### 4. FIRST AID MEASURES

---

#### 4.1 Description of first aid measures

<b>Eye</b>	If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.
<b>Inhalation</b>	If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.
<b>Skin</b>	If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.
<b>Ingestion</b>	For advice, contact a Poison Information Centre on 13 11 26 (Australia Wide) or a doctor (at once).
<b>First aid facilities</b>	Eye wash facilities should be available.

#### 4.2 Most important symptoms and effects, both acute and delayed

Chronic exposure to crystalline silica may result in lung fibrosis (silicosis). Principal symptoms of silicosis are coughing and breathlessness. Crystalline silica is classified as carcinogenic to humans (IARC Group 1).

#### 4.3 Immediate medical attention and special treatment needed

Treat symptomatically.

---

### 5. FIRE FIGHTING MEASURES

---

#### 5.1 Extinguishing media

Use an extinguishing agent suitable for the surrounding fire.

#### 5.2 Special hazards arising from the substance or mixture

Non flammable. May evolve toxic gases (sulphur oxides) when heated to decomposition.

#### 5.3 Advice for firefighters

Evacuate area and contact emergency services. Toxic gases may be evolved in a fire situation. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

#### 5.4 Hazchem code

None allocated.

---

### 6. ACCIDENTAL RELEASE MEASURES

---

#### 6.1 Personal precautions, protective equipment and emergency procedures

Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS.

#### 6.2 Environmental precautions

Prevent product from entering drains and waterways.

#### 6.3 Methods of cleaning up

Contain spillage, then cover / absorb spill with non-combustible absorbent material (vermiculite, sand, or similar), collect and place in suitable containers for disposal.

#### 6.4 Reference to other sections

See Sections 8 and 13 for exposure controls and disposal.

## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

### 7.2 Conditions for safe storage, including any incompatibilities

Store in a cool, dry, well ventilated area, removed from foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use.

### 7.3 Specific end use(s)

No information provided.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters

#### Exposure standards

Ingredient	Reference	TWA		STEL	
		ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>
Barium sulphate	SWA (AUS)	--	10	--	--
Quartz (respirable dust)	SWA (AUS)	--	0.1	--	--

**Biological limits** No Biological Limit Value allocated.

### 8.2 Exposure controls

**Engineering controls** Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical extraction ventilation is recommended.

#### PPE

- Eye / Face** Wear dust-proof goggles.
- Hands** Wear PVC or rubber gloves.
- Body** When using large quantities or where heavy contamination is likely, wear coveralls.
- Respiratory** Where an inhalation risk exists, wear a Class P1 (Particulate) respirator.



## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

<b>Appearance</b>	OFF-WHITE POWDER
<b>Odour</b>	ODOURLESS
<b>Flammability</b>	NON FLAMMABLE
<b>Flash point</b>	NOT RELEVANT
<b>Boiling point</b>	NOT RELEVANT
<b>Melting point</b>	> 1300°C
<b>Evaporation rate</b>	NOT RELEVANT
<b>pH</b>	8.2 (20% Slurry)
<b>Vapour density</b>	NOT RELEVANT
<b>Specific gravity</b>	4.20
<b>Solubility (water)</b>	INSOLUBLE
<b>Vapour pressure</b>	NOT RELEVANT
<b>Upper explosion limit</b>	NOT RELEVANT
<b>Lower explosion limit</b>	NOT RELEVANT
<b>Partition coefficient</b>	NOT RELEVANT
<b>Autoignition temperature</b>	NOT RELEVANT
<b>Decomposition temperature</b>	NOT RELEVANT
<b>Viscosity</b>	NOT RELEVANT

**PRODUCT NAME    BARITE POWDER**

**9.1 Information on basic physical and chemical properties**

<b>Explosive properties</b>	NOT EXPLOSIVE
<b>Oxidising properties</b>	NON OXIDISING
<b>Odour threshold</b>	NOT RELEVANT

**9.2 Other information**

<b>Bulk density</b>	~1.5 kg/L
---------------------	-----------

---

**10. STABILITY AND REACTIVITY**

---

**10.1 Reactivity**

Carefully review all information provided in sections 10.2 to 10.6.

**10.2 Chemical stability**

Stable under recommended conditions of storage.

**10.3 Possibility of hazardous reactions**

Polymerization is not expected to occur.

**10.4 Conditions to avoid**

Avoid heat, sparks, open flames and other ignition sources.

**10.5 Incompatible materials**

Incompatible with oxidising agents (e.g. hypochlorites).

**10.6 Hazardous decomposition products**

May evolve toxic gases (sulphur oxides) when heated to decomposition.

---

**11. TOXICOLOGICAL INFORMATION**

---

**11.1 Information on toxicological effects**

<b>Acute toxicity</b>	No known toxicity data is available for this product. Based on available data, the classification criteria are not met.
<b>Skin</b>	Not classified as a skin irritant. Contact may result in mild irritation and dermatitis.
<b>Eye</b>	Not classified as an eye irritant. Contact may cause discomfort, lacrimation and redness.
<b>Sensitization</b>	The available data is not considered sufficient for classification as a skin or respiratory sensitiser.
<b>Mutagenicity</b>	Insufficient data available to classify as a mutagen.
<b>Carcinogenicity</b>	This product contains crystalline silica which is classified as carcinogenic to humans (IARC Group 1). However there is sufficient information to conclude that the relative risk of lung cancer is increased in persons with silicosis. Therefore preventing the onset of silicosis will also reduce the cancer risk.
<b>Reproductive</b>	Insufficient data available to classify as a reproductive toxin.
<b>STOT – single exposure</b>	Not classified as causing organ effects from single exposure.
<b>STOT – repeated exposure</b>	Repeated exposure to respirable silica may result in pulmonary fibrosis (silicosis). Silicosis is a fibronodular lung disease caused deposition in the lungs of fine respirable particles of crystalline silica. Principal symptoms of silicosis are coughing and breathlessness.
<b>Aspiration</b>	This product is not expected to present an aspiration hazard.

---

**12. ECOLOGICAL INFORMATION**

---

**12.1 Toxicity**

Fish toxicity: LC50 (Rainbow trout) = 7500 ppm/96 hour.

**12.2 Persistence and degradability**

No information provided.

**12.3 Bioaccumulative potential**

No information provided.

**12.4 Mobility in soil**

No information provided.

**12.5 Other adverse effects**

This product is not anticipated to cause adverse effects to animal or plant life if released to the environment in small quantities.

**13. DISPOSAL CONSIDERATIONS**

**13.1 Waste treatment methods**

**Waste disposal** Dispose of to an approved landfill or waste processing site. Contact the manufacturer/supplier for additional information (if required).

**Legislation** Dispose of in accordance with relevant local legislation.

**14. TRANSPORT INFORMATION**

**NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA**

	<b>LAND TRANSPORT (ADG)</b>	<b>SEA TRANSPORT (IMDG / IMO)</b>	<b>AIR TRANSPORT (IATA / ICAO)</b>
<b>14.1 UN Number</b>	None Allocated	None Allocated	None Allocated
<b>14.2 Proper Shipping Name</b>	None Allocated	None Allocated	None Allocated
<b>14.3 Transport hazard class</b>	None Allocated	None Allocated	None Allocated
<b>14.4 Packing Group</b>	None Allocated	None Allocated	None Allocated

**14.5 Environmental hazards** No information provided

**14.6 Special precautions for user**

**Hazchem code** None Allocated

**15. REGULATORY INFORMATION**

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**Poison schedule** A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**Classifications** Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.  
The classifications and phrases listed below are based on the Approved Criteria for Classifying Hazardous Substances [NOHSC: 1008(2004)].

**Hazard codes** Xn Harmful

**Risk phrases** R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.

**Safety phrases** S22 Do not breathe dust.  
S45 In case of accident or if you feel unwell seek medical advice immediately (show the label where possible).

**Inventory listing(s)** **AUSTRALIA: AICS (Australian Inventory of Chemical Substances)**  
All components are listed on AICS, or are exempt.

**16. OTHER INFORMATION**

**Additional information** RESPIRATORS: In general the use of respirators should be limited and engineering controls employed to avoid exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.

**PRODUCT NAME BARITE POWDER****PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:**

The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

**HEALTH EFFECTS FROM EXPOSURE:**

It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a ChemAlert report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

**Abbreviations**

ACGIH	American Conference of Governmental Industrial Hygienists
CAS #	Chemical Abstract Service number - used to uniquely identify chemical compounds
CNS	Central Nervous System
EC No.	EC No - European Community Number
GHS	Globally Harmonized System
IARC	International Agency for Research on Cancer
LC50	Lethal Concentration, 50% / Median Lethal Concentration
LD50	Lethal Dose, 50% / Median Lethal Dose
mg/m <sup>3</sup>	Milligrams per Cubic Metre
OEL	Occupational Exposure Limit
pH	relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
ppm	Parts Per Million
STEL	Short-Term Exposure Limit
STOT-RE	Specific target organ toxicity (repeated exposure)
STOT-SE	Specific target organ toxicity (single exposure)
SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons
SWA	Safe Work Australia
TLV	Threshold Limit Value
TWA	Time Weighted Average

**Revision history**

Revision	Description
2.2	Included bulk density.
2.1	Amended Product Name and Synonyms.
2.0	Converted to GHS.
1.1	Standard SDS Review
1.0	Initial SDS creation

**Report status**

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

**Prepared by**

Risk Management Technologies  
5 Ventnor Ave, West Perth  
Western Australia 6005  
Phone: +61 8 9322 1711  
Fax: +61 8 9322 1794  
Email: info@rmt.com.au  
Web: www.rmt.com.au.

PRODUCT NAME **BARITE POWDER**

Revision: 2.2

SDS date: 29 January 2015

**[ End of SDS ]**



## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

---

### 1.1 Product identifier

**Product name** BENTONITE POWDER / RHEOBEN  
**Synonym(s)** BENTONITE (API 13A SECTION 9) • NEWGEL • RHEOBEN • MAXIGEL

### 1.2 Uses and uses advised against

**Use(s)** DRILLING FLUID

### 1.3 Details of the supplier of the product

**Supplier name** NEWPARK DRILLING FLUIDS (AUSTRALIA) LTD  
**Address** 11 Alacrity Place, Henderson, WA, 6166, AUSTRALIA  
**Telephone** +618 9410 8200  
**Fax** +618 9410 8299  
**Website** [www.newpark.com](http://www.newpark.com)

### 1.4 Emergency telephone number(s)

**Emergency** 1800 127 406 (Australia); +64 3 3530199 (International)

---

## 2. HAZARDS IDENTIFICATION

---

### 2.1 Classification of the substance or mixture

CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

**GHS classification(s)** Specific Target Organ Systemic Toxicity (Repeated Exposure): Category 2

### 2.2 Label elements

**Signal word** WARNING

**Pictogram(s)**



**Hazard statement(s)**

H373 May cause damage to organs through prolonged or repeated exposure.

**Prevention statement(s)**

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

**Response statement(s)**

P314 Get medical advice/attention if you feel unwell.

**Storage statement(s)**

None allocated.

**Disposal statement(s)**

P501 Dispose of contents/container in accordance with relevant regulations.

### 2.3 Other hazards

No information provided.

---

### 3. COMPOSITION/ INFORMATION ON INGREDIENTS

---

#### 3.1 Substances / Mixtures

Ingredient	CAS Number	EC Number	Content
QUARTZ (CRYSTALLINE SILICA)	14808-60-7	238-878-4	2 to 10%
BENTONITE	1302-78-9	215-108-5	90 to 98%
SODA ASH	-	-	2 to 4%

---

### 4. FIRST AID MEASURES

---

#### 4.1 Description of first aid measures

<b>Eye</b>	If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.
<b>Inhalation</b>	If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.
<b>Skin</b>	If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water.
<b>Ingestion</b>	For advice, contact a Poison Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). Due to product form and application, ingestion is considered unlikely.
<b>First aid facilities</b>	Eye wash facilities and safety shower should be available.

#### 4.2 Most important symptoms and effects, both acute and delayed

Chronic exposure to crystalline silica may result in lung fibrosis (silicosis). Principal symptoms of silicosis are coughing and breathlessness. Crystalline silica is classified as carcinogenic to humans (IARC Group 1).

#### 4.3 Immediate medical attention and special treatment needed

Treat symptomatically.

---

### 5. FIRE FIGHTING MEASURES

---

#### 5.1 Extinguishing media

Use an extinguishing agent suitable for the surrounding fire.

#### 5.2 Special hazards arising from the substance or mixture

Non flammable. May evolve toxic gases if strongly heated.

#### 5.3 Advice for firefighters

Treat as per requirements for surrounding fires. Evacuate area and contact emergency services. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

#### 5.4 Hazchem code

None allocated.

---

### 6. ACCIDENTAL RELEASE MEASURES

---

#### 6.1 Personal precautions, protective equipment and emergency procedures

Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS.

#### 6.2 Environmental precautions

Prevent product from entering drains and waterways.

#### 6.3 Methods of cleaning up

Moisten with water to prevent a dust hazard and place in sealable containers for disposal.

#### 6.4 Reference to other sections

See Sections 8 and 13 for exposure controls and disposal.

---

### 7. HANDLING AND STORAGE

---

## PRODUCT NAME BENTONITE POWDER / RHEOBEN

### 7.1 Precautions for safe handling

Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

### 7.2 Conditions for safe storage, including any incompatibilities

Store in a cool, dry, well ventilated area, removed from incompatible substances and foodstuffs. Ensure packaging are adequately labelled, protected from physical damage and sealed when not in use. Check regularly for leaks or spills.

### 7.3 Specific end use(s)

No information provided.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters

#### Exposure standards

Ingredient	Reference	TWA		STEL	
		ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>
Quartz (respirable dust)	SWA (AUS)	--	0.1	--	--

**Biological limits** No Biological Limit Value allocated.

### 8.2 Exposure controls

**Engineering controls** Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical extraction ventilation is recommended.

#### PPE

- Eye / Face** Wear dust-proof goggles.  
**Hands** Wear PVC or rubber gloves.  
**Body** When using large quantities or where heavy contamination is likely, wear coveralls.  
**Respiratory** Wear a Class P1 (Particulate) respirator.



## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

Appearance	BROWN POWDER
Odour	SLIGHT ODOUR
Flammability	NON FLAMMABLE
Flash point	NOT RELEVANT
Boiling point	NOT RELEVANT
Melting point	1100°C to 1200°C (Fusion Point)
Evaporation rate	NOT RELEVANT
pH	NOT RELEVANT
Vapour density	NOT RELEVANT
Specific gravity	2.7
Solubility (water)	INSOLUBLE
Vapour pressure	NOT RELEVANT
Upper explosion limit	NOT RELEVANT
Lower explosion limit	NOT RELEVANT
Partition coefficient	NOT RELEVANT
Autoignition temperature	NOT RELEVANT
Decomposition temperature	NOT RELEVANT
Viscosity	NOT RELEVANT
Explosive properties	NOT EXPLOSIVE
Oxidising properties	NON OXIDISING
Odour threshold	NOT RELEVANT

**9.2 Other information**

**Bulk density** ~ 0.9 kg/L

---

**10. STABILITY AND REACTIVITY**

---

**10.1 Reactivity**

Carefully review all information provided in sections 10.2 to 10.6.

**10.2 Chemical stability**

Stable under recommended conditions of storage.

**10.3 Possibility of hazardous reactions**

Polymerization is not expected to occur.

**10.4 Conditions to avoid**

Avoid heat, sparks, open flames and other ignition sources.

**10.5 Incompatible materials**

Incompatible with acids (e.g. nitric acid) and alkalis (e.g. sodium hydroxide).

**10.6 Hazardous decomposition products**

May evolve toxic gases if heated to decomposition.

---

**11. TOXICOLOGICAL INFORMATION**

---

**11.1 Information on toxicological effects**

<b>Acute toxicity</b>	No known toxicity data is available for this product. Based on available data, the classification criteria are not met.
<b>Skin</b>	Not classified as a skin irritant. Contact may result in mild irritation and dermatitis.
<b>Eye</b>	Not classified as an eye irritant. Contact may cause discomfort, lacrimation and redness.
<b>Sensitization</b>	The available data is not considered sufficient for classification as a skin or respiratory sensitiser.
<b>Mutagenicity</b>	Insufficient data available to classify as a mutagen.
<b>Carcinogenicity</b>	This product contains crystalline silica which is classified as carcinogenic to humans (IARC Group 1). However there is sufficient information to conclude that the relative risk of lung cancer is increased in persons with silicosis. Therefore preventing the onset of silicosis will also reduce the cancer risk.
<b>Reproductive</b>	Insufficient data available to classify as a reproductive toxin.
<b>STOT – single exposure</b>	Not classified as causing organ effects from single exposure.
<b>STOT – repeated exposure</b>	Repeated exposure to respirable silica may result in pulmonary fibrosis (silicosis). Silicosis is a fibronodular lung disease caused deposition in the lungs of fine respirable particles of crystalline silica. Principal symptoms of silicosis are coughing and breathlessness.
<b>Aspiration</b>	This product is not expected to present an aspiration hazard.

---

**12. ECOLOGICAL INFORMATION**

---

**12.1 Toxicity**

No information provided.

**12.2 Persistence and degradability**

No information provided.

**12.3 Bioaccumulative potential**

No information provided.

**12.4 Mobility in soil**

No information provided.

**12.5 Other adverse effects**

The main component/s of this product are not anticipated to cause any adverse effects to plants or animals.

### 13. DISPOSAL CONSIDERATIONS

#### 13.1 Waste treatment methods

**Waste disposal** Reuse where possible. No special precautions are normally required when handling this product.  
**Legislation** Dispose of in accordance with relevant local legislation.

### 14. TRANSPORT INFORMATION

#### NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA

	LAND TRANSPORT (ADG)	SEA TRANSPORT (IMDG / IMO)	AIR TRANSPORT (IATA / ICAO)
14.1 UN Number	None Allocated	None Allocated	None Allocated
14.2 Proper Shipping Name	None Allocated	None Allocated	None Allocated
14.3 Transport hazard class	None Allocated	None Allocated	None Allocated
14.4 Packing Group	None Allocated	None Allocated	None Allocated

**14.5 Environmental hazards** No information provided

#### 14.6 Special precautions for user

**Hazchem code** None Allocated

### 15. REGULATORY INFORMATION

#### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

**Poison schedule** A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**Classifications** Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

The classifications and phrases listed below are based on the Approved Criteria for Classifying Hazardous Substances [NOHSC: 1008(2004)].

**Hazard codes** Xn Harmful

**Risk phrases** R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.

**Safety phrases** S22 Do not breathe dust.

**Inventory listing(s)** AUSTRALIA: AICS (Australian Inventory of Chemical Substances)  
 All components are listed on AICS, or are exempt.

### 16. OTHER INFORMATION

**Additional information** RESPIRATORS: In general the use of respirators should be limited and engineering controls employed to avoid exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.

EXPOSURE STANDARDS - TIME WEIGHTED AVERAGES: Exposure standards are established on the premise of an 8 hour work period of normal intensity, under normal climatic conditions and where a 16 hour break between shifts exists to enable the body to eliminate absorbed contaminants. In the following circumstances, exposure standards must be reduced: Strenuous work conditions; hot, humid climates; high altitude conditions; extended shifts (which increase the exposure period and shorten the period of recuperation).

**PRODUCT NAME BENTONITE POWDER / RHEOBEN****PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:**

The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

**HEALTH EFFECTS FROM EXPOSURE:**

It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a ChemAlert report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

**Abbreviations**

ACGIH	American Conference of Governmental Industrial Hygienists
CAS #	Chemical Abstract Service number - used to uniquely identify chemical compounds
CNS	Central Nervous System
EC No.	EC No - European Community Number
GHS	Globally Harmonized System
IARC	International Agency for Research on Cancer
LC50	Lethal Concentration, 50% / Median Lethal Concentration
LD50	Lethal Dose, 50% / Median Lethal Dose
mg/m <sup>3</sup>	Milligrams per Cubic Metre
OEL	Occupational Exposure Limit
pH	relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
ppm	Parts Per Million
STEL	Short-Term Exposure Limit
STOT-RE	Specific target organ toxicity (repeated exposure)
STOT-SE	Specific target organ toxicity (single exposure)
SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons
SWA	Safe Work Australia
TLV	Threshold Limit Value
TWA	Time Weighted Average

**Revision history**

Revision	Description
2.1	Included bulk density.
2.0	Converted to GHS.
1.1	Standard SDS Review
1.0	Initial SDS creation

**Report status**

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

**Prepared by**

Risk Management Technologies  
5 Ventnor Ave, West Perth  
Western Australia 6005  
Phone: +61 8 9322 1711  
Fax: +61 8 9322 1794  
Email: info@rmt.com.au  
Web: www.rmt.com.au.

**Revision:** 2.1  
**SDS date:** 29 January 2015

**[ End of SDS ]**

---

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

---

### 1.1 Product identifier

**Product name**            **CALCIUM CARBONATE**  
**Synonym(s)**            ABGRIT • CIRCAL • LIMESTONE • MARBLE • OMYACAL • OMYACARB • RHEOCARB • STONEDUST

### 1.2 Uses and uses advised against

**Use(s)**                    DRILLING FLUID ADDITIVE • WEIGHTING AGENT

### 1.3 Details of the supplier of the product

**Supplier name**        **NEWPARK DRILLING FLUIDS (AUSTRALIA) LTD**  
**Address**             11 Alacrity Place, Henderson, WA, 6166, AUSTRALIA  
**Telephone**         +61 8 9410 8200  
**Fax**                  +61 8 9410 8299  
**Website**            [www.newpark.com](http://www.newpark.com)

### 1.4 Emergency telephone number(s)

**Emergency**            1800 127 406 (Australia); +64 3 3530199 (International)

---

## 2. HAZARDS IDENTIFICATION

---

### 2.1 Classification of the substance or mixture

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

### 2.2 Label elements

No signal word, pictograms, hazard or precautionary statements have been allocated.

### 2.3 Other hazards

No information provided.

---

## 3. COMPOSITION/ INFORMATION ON INGREDIENTS

---

### 3.1 Substances / Mixtures

Ingredient	CAS Number	EC Number	Content
QUARTZ (CRYSTALLINE SILICA)	14808-60-7	238-878-4	<1%
CALCIUM CARBONATE	471-34-1	207-439-9	>96%

---

## 4. FIRST AID MEASURES

---

### 4.1 Description of first aid measures

**Eye**                    If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.

**Inhalation**         If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.

**Skin**                  If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water.

**Ingestion**           For advice, contact a Poison Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting.

**First aid facilities**   No information provided.

**PRODUCT NAME    CALCIUM CARBONATE**

**4.2 Most important symptoms and effects, both acute and delayed**

See Section 11 for more detailed information on health effects and symptoms.

**4.3 Immediate medical attention and special treatment needed**

Treat symptomatically.

---

**5. FIRE FIGHTING MEASURES**

---

**5.1 Extinguishing media**

Use an extinguishing agent suitable for the surrounding fire.

**5.2 Special hazards arising from the substance or mixture**

Non flammable. May evolve toxic gases if strongly heated.

**5.3 Advice for firefighters**

No fire or explosion hazard exists.

**5.4 Hazchem code**

None allocated.

---

**6. ACCIDENTAL RELEASE MEASURES**

---

**6.1 Personal precautions, protective equipment and emergency procedures**

Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS.

**6.2 Environmental precautions**

Prevent product from entering drains and waterways.

**6.3 Methods of cleaning up**

If spilt, collect and reuse where possible. Contain spillage, then collect and place in suitable containers for disposal. Avoid generating dust.

**6.4 Reference to other sections**

See Sections 8 and 13 for exposure controls and disposal.

---

**7. HANDLING AND STORAGE**

---

**7.1 Precautions for safe handling**

Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

**7.2 Conditions for safe storage, including any incompatibilities**

Store in a cool, dry, well ventilated area, removed from incompatible substances and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use.

**7.3 Specific end use(s)**

No information provided.

---

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

---

**8.1 Control parameters**

**Exposure standards**

Ingredient	Reference	TWA		STEL	
		ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>
Calcium carbonate (Limestone, Marble, Whiting)	SWA (AUS)	--	10	--	--
Quartz (respirable dust)	SWA (AUS)	--	0.1	--	--

**Biological limits**            No Biological Limit Value allocated.



**PRODUCT NAME    CALCIUM CARBONATE**

**8.2 Exposure controls**

**Engineering controls**    Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical extraction ventilation is recommended. Maintain dust levels below the recommended exposure standard.

**PPE**

- Eye / Face**            Wear dust-proof goggles.
- Hands**                When using large quantities or where heavy contamination is likely, wear PVC or rubber gloves.
- Body**                 When using large quantities or where heavy contamination is likely, wear coveralls.
- Respiratory**        Where an inhalation risk exists, wear a Class P1 (Particulate) respirator.



---

**9. PHYSICAL AND CHEMICAL PROPERTIES**

---

**9.1 Information on basic physical and chemical properties**

<b>Appearance</b>	OFF-WHITE POWDER
<b>Odour</b>	ODOURLESS
<b>Flammability</b>	NON FLAMMABLE
<b>Flash point</b>	NOT RELEVANT
<b>Boiling point</b>	840°C (Decomposes)
<b>Melting point</b>	825°C
<b>Evaporation rate</b>	NOT AVAILABLE
<b>pH</b>	9
<b>Vapour density</b>	NOT AVAILABLE
<b>Specific gravity</b>	2.7
<b>Solubility (water)</b>	INSOLUBLE
<b>Vapour pressure</b>	NOT AVAILABLE
<b>Upper explosion limit</b>	NOT RELEVANT
<b>Lower explosion limit</b>	NOT RELEVANT
<b>Partition coefficient</b>	NOT AVAILABLE
<b>Autoignition temperature</b>	NOT AVAILABLE
<b>Decomposition temperature</b>	NOT AVAILABLE
<b>Viscosity</b>	NOT AVAILABLE
<b>Explosive properties</b>	NOT AVAILABLE
<b>Oxidising properties</b>	NOT AVAILABLE
<b>Odour threshold</b>	NOT AVAILABLE

**9.2 Other information**

<b>% Volatiles</b>	NOT AVAILABLE
--------------------	---------------

---

**10. STABILITY AND REACTIVITY**

---

**10.1 Reactivity**

Carefully review all information provided in sections 10.2 to 10.6.

**10.2 Chemical stability**

Stable under recommended conditions of storage.

**10.3 Possibility of hazardous reactions**

Polymerization will not occur.

**10.4 Conditions to avoid**

Avoid heat, sparks, open flames and other ignition sources.

**10.5 Incompatible materials**

Incompatible with acids (e.g. nitric acid), fluorine, aluminium (hot) and ammonium salts. Incompatible with oxidising agents (e.g. hypochlorites).

**10.6 Hazardous decomposition products**

May evolve toxic gases if heated to decomposition.

---

**11. TOXICOLOGICAL INFORMATION**

---

**11.1 Information on toxicological effects**

<b>Acute toxicity</b>	This product is expected to be of low toxicity. Based on available data, the classification criteria are not met. LD50 (Ingestion) = 6450 mg/kg (rat).
<b>Skin</b>	Not classified as a skin irritant. Contact may result in mild irritation, redness and rash.
<b>Eye</b>	Not classified as an eye irritant. Contact may cause discomfort, lacrimation and redness.
<b>Sensitization</b>	This product is not known to be a skin or respiratory sensitiser.
<b>Mutagenicity</b>	Insufficient data available to classify as a mutagen.
<b>Carcinogenicity</b>	Insufficient data available to classify as a carcinogen.
<b>Reproductive</b>	Insufficient data available to classify as a reproductive toxin.
<b>STOT – single exposure</b>	Not classified as causing organ effects from single exposure.
<b>STOT – repeated exposure</b>	Not classified as causing organ effects from repeated exposure. Chronic exposure to respirable silica may result in pulmonary fibrosis (silicosis). However, given the low levels present, over exposure is not anticipated.
<b>Aspiration</b>	This product does not present an aspiration hazard.

---

**12. ECOLOGICAL INFORMATION**

---

**12.1 Toxicity**

Calcium carbonate occurs naturally in a wide variety of substances including limestone, marble and egg shells. It is not anticipated to cause adverse environmental effects.

**12.2 Persistence and degradability**

Dissolved calcium carbonate dissociates into calcium and carbonate ions. Calcium ions will be assimilated by living organisms in the water and the carbonate will become part of the carbon cycle.

**12.3 Bioaccumulative potential**

This product does not bioaccumulate.

**12.4 Mobility in soil**

Due to its limited solubility, calcium carbonate precipitates and deposits on the sediment.

**12.5 Other adverse effects**

Avoid contamination of waterways.

---

**13. DISPOSAL CONSIDERATIONS**

---

**13.1 Waste treatment methods**

<b>Waste disposal</b>	Ensure product is covered with moist soil to prevent dust generation and dispose of to approved Council landfill. Contact the manufacturer/supplier for additional information (if required).
<b>Legislation</b>	Dispose of in accordance with relevant local legislation.

---

**14. TRANSPORT INFORMATION**

---

**NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA**

**PRODUCT NAME    CALCIUM CARBONATE**

	<b>LAND TRANSPORT (ADG)</b>	<b>SEA TRANSPORT (IMDG / IMO)</b>	<b>AIR TRANSPORT (IATA / ICAO)</b>
<b>14.1 UN Number</b>	None Allocated	None Allocated	None Allocated
<b>14.2 Proper Shipping Name</b>	None Allocated	None Allocated	None Allocated
<b>14.3 Transport hazard class</b>	None Allocated	None Allocated	None Allocated
<b>14.4 Packing Group</b>	None Allocated	None Allocated	None Allocated

**14.5 Environmental hazards**    No information provided

**14.6 Special precautions for user**

**Hazchem code**                    None Allocated

---

## 15. REGULATORY INFORMATION

---

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**Poison schedule**                A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**Classifications**                Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

The classifications and phrases listed below are based on the Approved Criteria for Classifying Hazardous Substances [NOHSC: 1008(2004)].

**Hazard codes**                    None allocated.

**Risk phrases**                    None allocated.

**Safety phrases**                  None allocated.

**Inventory listing(s)**            **AUSTRALIA: AICS (Australian Inventory of Chemical Substances)**  
All components are listed on AICS, or are exempt.

---

## 16. OTHER INFORMATION

---

**Additional information**            **RESPIRATORS:** In general the use of respirators should be limited and engineering controls employed to avoid exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.

**EXPOSURE CONTROL:** If utilised in a closed system the potential for over exposure is reduced. If not used in a closed system, local exhaust ventilation is recommended to control exposure. Provide eye wash and safety shower in close proximity to points of potential exposure. Where the potential for an inhalation risk exists, an approved respirator may be required. Do not eat, store, consume food, tobacco or drink in areas where product is used.

**PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:**  
The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

**HEALTH EFFECTS FROM EXPOSURE:**  
It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a ChemAlert report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

**PRODUCT NAME    CALCIUM CARBONATE****Abbreviations**

ACGIH	American Conference of Governmental Industrial Hygienists
CAS #	Chemical Abstract Service number - used to uniquely identify chemical compounds
CNS	Central Nervous System
EC No.	EC No - European Community Number
GHS	Globally Harmonized System
IARC	International Agency for Research on Cancer
LC50	Lethal Concentration, 50% / Median Lethal Concentration
LD50	Lethal Dose, 50% / Median Lethal Dose
mg/m <sup>3</sup>	Milligrams per Cubic Metre
OEL	Occupational Exposure Limit
pH	relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
ppm	Parts Per Million
STEL	Short-Term Exposure Limit
STOT-RE	Specific target organ toxicity (repeated exposure)
STOT-SE	Specific target organ toxicity (single exposure)
SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons
SWA	Safe Work Australia
TLV	Threshold Limit Value
TWA	Time Weighted Average

**Revision history**

Revision	Description
2.2	Standard SDS Review Standard SDS Review
2.1	Standard SDS Review.
2.0	Converted to GHS.
1.0	Initial SDS creation

**Report status**

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

**Prepared by**

Risk Management Technologies  
5 Ventnor Ave, West Perth  
Western Australia 6005  
Phone: +61 8 9322 1711  
Fax: +61 8 9322 1794  
Email: info@rmt.com.au  
Web: www.rmt.com.au.

**Revision:** 2.2  
**SDS date:** 07 January 2015

**[ End of SDS ]**

---

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

---

### 1.1 Product identifier

**Product name**            **CALCIUM CHLORIDE POWDER 94-97%**  
**Synonym(s)**             **CALCIUM CHLORIDE ANHYDRATE**

### 1.2 Uses and uses advised against

**Use(s)**                    **CONCRETE CONDITIONER • DESICCANT • DUST CONTROL AGENT • FOOD ADDITIVE • INDUSTRIAL APPLICATIONS**

### 1.3 Details of the supplier of the product

**Supplier name**       **NEWPARK DRILLING FLUIDS (AUSTRALIA) LTD**  
**Address**             **11 Alacrity Place, Henderson, WA, 6166, AUSTRALIA**  
**Telephone**         **+61 8 9410 8200**  
**Fax**                 **+61 8 9410 8299**  
**Website**            **[www.newpark.com](http://www.newpark.com)**

### 1.4 Emergency telephone number(s)

**Emergency**            **1800 127 406 (Australia); +64 3 3530199 (International)**

---

## 2. HAZARDS IDENTIFICATION

---

### 2.1 Classification of the substance or mixture

CLASSIFIED AS HAZARDOUS ACCORDING TO AUSTRALIAN WHS REGULATIONS

**GHS classification(s)**   **Serious Eye Damage / Eye Irritation: Category 2A**

### 2.2 Label elements

**Signal word**            **WARNING**

**Pictogram(s)**



**Hazard statement(s)**

H319                    Causes serious eye irritation.

**Prevention statement(s)**

P264                    Wash thoroughly after handling.  
P280                    Wear protective gloves/protective clothing/eye protection/face protection.

**Response statement(s)**

P305 + P351 + P338   **IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.**  
P337 + P313            **If eye irritation persists: Get medical advice/attention.**

**Storage statement(s)**

None allocated.

**Disposal statement(s)**

None allocated.

**2.3 Other hazards**

No information provided.

---

**3. COMPOSITION/ INFORMATION ON INGREDIENTS**

---

**3.1 Substances / Mixtures**

Ingredient	CAS Number	EC Number	Content
CALCIUM CHLORIDE ANHYDROUS	10043-52-4	233-140-8	94 to 97%
SODIUM CHLORIDE	7647-14-5	231-598-3	1 to 5%
WATER	7732-18-5	231-791-2	1%

---

**4. FIRST AID MEASURES**

---

**4.1 Description of first aid measures**

- Eye** If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.
- Inhalation** If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.
- Skin** If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.
- Ingestion** For advice, contact a Poison Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting.
- First aid facilities** Eye wash facilities and safety shower should be available.

**4.2 Most important symptoms and effects, both acute and delayed**

Irritating to the eyes and skin.

**4.3 Immediate medical attention and special treatment needed**

Treat symptomatically.

---

**5. FIRE FIGHTING MEASURES**

---

**5.1 Extinguishing media**

Use an extinguishing agent suitable for the surrounding fire.

**5.2 Special hazards arising from the substance or mixture**

Non flammable. May evolve toxic gases (chlorides) when heated to decomposition.

**5.3 Advice for firefighters**

Treat as per requirements for surrounding fires. Evacuate area and contact emergency services. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

**5.4 Hazchem code**

None allocated.

---

**6. ACCIDENTAL RELEASE MEASURES**

---

**6.1 Personal precautions, protective equipment and emergency procedures**

Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. Clear area of all unprotected personnel. Contact emergency services where appropriate.

**6.2 Environmental precautions**

Prevent product from entering drains and waterways.

**6.3 Methods of cleaning up**

Contain spillage, then collect and place in suitable containers for reuse or disposal. Avoid generating dust.

**6.4 Reference to other sections**

See Sections 8 and 13 for exposure controls and disposal.

## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

### 7.2 Conditions for safe storage, including any incompatibilities

Store in a cool, dry, well ventilated area, removed from incompatible substances, heat or ignition sources and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use.

### 7.3 Specific end use(s)

No information provided.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters

#### Exposure standards

No exposure standards have been entered for this product.

**Biological limits** No Biological Limit Value allocated.

### 8.2 Exposure controls

**Engineering controls** Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical extraction ventilation is recommended. Maintain dust levels below the recommended exposure standard.

#### PPE

<b>Eye / Face</b>	Wear dust-proof goggles.
<b>Hands</b>	Wear PVC or rubber gloves.
<b>Body</b>	When using large quantities or where heavy contamination is likely, wear coveralls.
<b>Respiratory</b>	Where an inhalation risk exists, wear a Class P1 (Particulate) respirator.



## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

<b>Appearance</b>	WHITE POWDER
<b>Odour</b>	ODOURLESS
<b>Flammability</b>	NON FLAMMABLE
<b>Flash point</b>	NOT RELEVANT
<b>Boiling point</b>	> 1600°C
<b>Melting point</b>	772°C
<b>Evaporation rate</b>	NOT RELEVANT
<b>pH</b>	7.0 to 9.0
<b>Vapour density</b>	NOT AVAILABLE
<b>Specific gravity</b>	2.15
<b>Solubility (water)</b>	590 kg/m <sup>3</sup> (Approximately)
<b>Vapour pressure</b>	NOT AVAILABLE
<b>Upper explosion limit</b>	NOT RELEVANT
<b>Lower explosion limit</b>	NOT RELEVANT
<b>Partition coefficient</b>	NOT AVAILABLE
<b>Autoignition temperature</b>	NOT AVAILABLE
<b>Decomposition temperature</b>	NOT AVAILABLE
<b>Viscosity</b>	NOT AVAILABLE
<b>Explosive properties</b>	NOT AVAILABLE
<b>Oxidising properties</b>	NOT AVAILABLE
<b>Odour threshold</b>	NOT AVAILABLE

**9.2 Other information**

% Volatiles

NOT AVAILABLE

---

**10. STABILITY AND REACTIVITY**

---

**10.1 Reactivity**

Carefully review all information provided in sections 10.2 to 10.6.

**10.2 Chemical stability**

Stable under recommended conditions of storage.

**10.3 Possibility of hazardous reactions**

Polymerization is not expected to occur.

**10.4 Conditions to avoid**

Avoid contact with incompatible substances.

**10.5 Incompatible materials**

Incompatible with acids (e.g. nitric acid), methyl vinyl ether, zinc/ galvanised metals, bromine trifluoride, boron oxide and calcium oxide. May react exothermically with water (i.e. releasing heat).

**10.6 Hazardous decomposition products**

May evolve toxic gases (chlorides) when heated to decomposition.

---

**11. TOXICOLOGICAL INFORMATION**

---

**11.1 Information on toxicological effects**

**Acute toxicity**

Based on available data, the classification criteria are not met. Toxicity Data available for the ingredients:  
CALCIUM CHLORIDE ANHYDROUS (10043-52-4):  
LD50 (Ingestion): 1000 mg/kg (rat)  
LD50 (Intraperitoneal): 210 mg/kg (mouse)  
LD50 (Intravenous): 42 mg/kg (mouse)  
LD50 (Subcutaneous): 823 mg/kg (mouse)  
LDLo (Ingestion): 1384 mg/kg (rabbit)  
LDLo (Intravenous): 150 mg/kg (guinea pig)  
LDLo (Subcutaneous): 249 mg/kg (cat)  
TDLo (Intravenous): 20 mg/kg/1 hour (woman)  
SODIUM CHLORIDE (7647-14-5):  
LC50 (Inhalation): > 42000 mg/m<sup>3</sup>/1 hour (rat)  
LD50 (Ingestion): 3000 mg/kg (rat)  
LD50 (Intraperitoneal): 2602 mg/kg (mouse)  
LD50 (Intravenous): 645 mg/kg (mouse)  
LD50 (Skin): > 10000 mg/kg (rabbit)  
LD50 (Subcutaneous): 3000 mg/kg (mouse)  
LDLo (Ingestion): 8000 mg/kg (rabbit)  
LDLo (Intravenous): 300 mg/kg (guinea pig)  
LDLo (Subcutaneous): 2160 mg/kg (guinea pig)  
TDLo (Ingestion): 12357 mg/kg (human)

**Skin** Not classified as a skin irritant. Contact may result in mechanical irritation, redness and rash.

**Eye** Irritating to the eyes. Contact may result in irritation, lacrimation, pain and redness.

**Sensitization** This product is not known to be a skin or respiratory sensitiser.

**Mutagenicity** Insufficient data available to classify as a mutagen.

**Carcinogenicity** Insufficient data available to classify as a carcinogen.

**Reproductive** Insufficient data available to classify as a reproductive toxin.

**STOT – single exposure** Not classified as causing organ effects from single exposure.

**STOT – repeated exposure** Not classified as causing organ effects from repeated exposure.

**Aspiration** This product does not present an aspiration hazard.

---

**12. ECOLOGICAL INFORMATION**

---



**12.1 Toxicity**

No information provided.

**12.2 Persistence and degradability**

Biodegradability does not pertain to inorganic substances.

**12.3 Bioaccumulative potential**

This product does not bioaccumulate.

**12.4 Mobility in soil**

No information provided.

**12.5 Other adverse effects**

No information provided.

---

**13. DISPOSAL CONSIDERATIONS**

---

**13.1 Waste treatment methods**

**Waste disposal** Ensure product is covered with moist soil to prevent dust generation and dispose of to approved Council landfill. Contact the manufacturer/supplier for additional information (if required).

**Legislation** Dispose of in accordance with relevant local legislation.

---

**14. TRANSPORT INFORMATION**

---

NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA

	LAND TRANSPORT (ADG)	SEA TRANSPORT (IMDG / IMO)	AIR TRANSPORT (IATA / ICAO)
14.1 UN Number	None Allocated	None Allocated	None Allocated
14.2 Proper Shipping Name	None Allocated	None Allocated	None Allocated
14.3 Transport hazard class	None Allocated	None Allocated	None Allocated
14.4 Packing Group	None Allocated	None Allocated	None Allocated

**14.5 Environmental hazards** No information provided

**14.6 Special precautions for user**

**Hazchem code** None Allocated

---

**15. REGULATORY INFORMATION**

---

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**Poison schedule** A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**Classifications** Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

The classifications and phrases listed below are based on the Approved Criteria for Classifying Hazardous Substances [NOHSC: 1008(2004)].

**Hazard codes** Xi Irritant

**Risk phrases** R36 Irritating to eyes.

**Safety phrases** S22 Do not breathe dust.  
S24 Avoid contact with skin.

**Inventory listing(s)** **AUSTRALIA: AICS (Australian Inventory of Chemical Substances)**  
All components are listed on AICS, or are exempt.

---

**16. OTHER INFORMATION**

---

**PRODUCT NAME    CALCIUM CHLORIDE POWDER 94-97%****Additional information**

RESPIRATORS: In general the use of respirators should be limited and engineering controls employed to avoid exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.

**PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:**

The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

**HEALTH EFFECTS FROM EXPOSURE:**

It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a ChemAlert report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

**Abbreviations**

ACGIH	American Conference of Governmental Industrial Hygienists
CAS #	Chemical Abstract Service number - used to uniquely identify chemical compounds
CNS	Central Nervous System
EC No.	EC No - European Community Number
EMS	Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods)
GHS	Globally Harmonized System
GTEPG	Group Text Emergency Procedure Guide
IARC	International Agency for Research on Cancer
LC50	Lethal Concentration, 50% / Median Lethal Concentration
LD50	Lethal Dose, 50% / Median Lethal Dose
mg/m <sup>3</sup>	Milligrams per Cubic Metre
OEL	Occupational Exposure Limit
pH	relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
ppm	Parts Per Million
STEL	Short-Term Exposure Limit
STOT-RE	Specific target organ toxicity (repeated exposure)
STOT-SE	Specific target organ toxicity (single exposure)
SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons
SWA	Safe Work Australia
TLV	Threshold Limit Value
TWA	Time Weighted Average

**Report status**

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

**Prepared by**

Risk Management Technologies  
5 Ventnor Ave, West Perth  
Western Australia 6005  
Phone: +61 8 9322 1711  
Fax: +61 8 9322 1794  
Email: info@rmt.com.au  
Web: www.rmt.com.au.

**[ End of SDS ]**

---

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

---

### 1.1 Product identifier

**Product name** CAUSTIC SODA  
**Synonym(s)** SODIUM HYDROXIDE SOLID

### 1.2 Uses and uses advised against

**Use(s)** MANUFACTURE OF CHEMICALS • REAGENT • SCRUBBING AGENT

### 1.3 Details of the supplier of the product

**Supplier name** NEWPARK DRILLING FLUIDS (AUSTRALIA) LTD  
**Address** 11 Alacrity Place, Henderson, WA, 6166, AUSTRALIA  
**Telephone** +61 8 9410 8200  
**Fax** +61 8 9410 8299  
**Website** [www.newpark.com](http://www.newpark.com)

### 1.4 Emergency telephone number(s)

**Emergency** 1800 127 406 (Australia); +64 3 3530199 (International)

---

## 2. HAZARDS IDENTIFICATION

---

### 2.1 Classification of the substance or mixture

CLASSIFIED AS HAZARDOUS ACCORDING TO AUSTRALIAN WHS REGULATIONS

**GHS classification(s)** Skin Corrosion/Irritation: Category 1A

### 2.2 Label elements

**Signal word** DANGER

**Pictogram(s)**



### Hazard statement(s)

H314 Causes severe skin burns and eye damage.

### Prevention statement(s)

P260 Do not breathe dust/fume/gas/mist/vapours/spray.  
P264 Wash thoroughly after handling.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.

### Response statement(s)

P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
P303 + P361 + P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.  
P304 + P340 IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P310 Immediately call a POISON CENTER or doctor/physician.  
P321 Specific treatment is advised - see first aid instructions.  
P363 Wash contaminated clothing before reuse.

### Storage statement(s)

P405 Store locked up.

**PRODUCT NAME CAUSTIC SODA**

**Disposal statement(s)**

P501 Dispose of contents/container in accordance with relevant regulations.

**2.3 Other hazards**

No information provided.

---

**3. COMPOSITION/ INFORMATION ON INGREDIENTS**

---

**3.1 Substances / Mixtures**

Ingredient	CAS Number	EC Number	Content
SODIUM HYDROXIDE	1310-73-2	215-185-5	>99%

---

**4. FIRST AID MEASURES**

---

**4.1 Description of first aid measures**

**Eye** If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.

**Inhalation** If inhaled, remove from contaminated area. To protect rescuer, use an Air-line respirator where an inhalation risk exists. Apply artificial respiration if not breathing.

**Skin** If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.

**Ingestion** For advice, contact a Poison Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting.

**First aid facilities** Eye wash facilities and safety shower should be available.

**4.2 Most important symptoms and effects, both acute and delayed**

Causes severe skin burns and eye damage.

**4.3 Immediate medical attention and special treatment needed**

CORROSIVE POISONING TREATMENT: Immediate treatment preferably in a hospital is mandatory. In treating corrosive poisoning, DO NOT INDUCE VOMITING; DO NOT ATTEMPT GASTRIC LAVAGE; and DO NOT ATTEMPT TO NEUTRALISE THE CORROSIVE SUBSTANCE. Vomiting will increase the severity of damage to the oesophagus as the corrosive substance will again come in contact with it. Attempting gastric lavage may result in perforating either the oesophagus or stomach. Immediately dilute the corrosive substance by having the patient drink milk or water. If the trachea has been damaged tracheostomy may be required. For oesophageal burns begin broad-spectrum antibiotics and corticosteroid therapy. Intravenous fluids will be required if oesophageal or gastric damage prevents ingestion of liquids. Long-range therapy will be directed toward preventing or treating oesophageal scars and strictures.

---

**5. FIRE FIGHTING MEASURES**

---

**5.1 Extinguishing media**

Use an extinguishing agent suitable for the surrounding fire. Use carbon dioxide or suitable dry chemical extinguisher. Do NOT use water.

**5.2 Special hazards arising from the substance or mixture**

Non flammable. May evolve flammable hydrogen gas in contact with some metals. Direct contact with water can produce a violent exothermic reaction.

**5.3 Advice for firefighters**

Treat as per requirements for surrounding fires. Evacuate area and contact emergency services. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

**5.4 Hazchem code**

2X  
2 Fine Water Spray.  
X Wear liquid-tight chemical protective clothing and breathing apparatus. Contain spill and run-off.

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures

Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. Allow only trained personnel wearing appropriate protective equipment to be involved in spill response. Avoid accidents, clean up immediately. Increase ventilation. Avoid walking through spilled product as it is slippery when spilt. Isolate the danger area. Use clean, non-sparking tools and equipment. Shut off all possible sources of ignition.

### 6.2 Environmental precautions

Prevent product from entering drains and waterways.

### 6.3 Methods of cleaning up

Mechanically collect as much of the spill as possible. Absorb with sand, earth or clay. Transfer to suitable, labelled, corrosion-resistant containers and dispose of promptly as hazardous waste. Spill on areas other than pavement, dirt or sand may be handled by removing the affected soils and placing into approved containers.

### 6.4 Reference to other sections

See Sections 8 and 13 for exposure controls and disposal.

## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Ensure an eye bath and safety shower are available and ready for use. Observe good personal hygiene practices and recommended procedures. Wash thoroughly after handling. Take precautionary measures against static discharges by bonding and grounding equipment. Avoid contact with eyes, skin and clothing. Do not inhale product vapours. Avoid prolonged or repeated exposure. Do not smoke, eat or drink when handling product. Product can react violently with water and acids. Caustic solution generates heat when further diluted with water. Concentrations greater than 40%, the heat generated can raise temperatures above the boiling point resulting in sporadic, violent eruptions or spattering. Emergency showers and eye-washes must be available. When used in its various applications, the product must be prevented from coming into uncontrolled direct contact with other products such as acids and metals. Never neutralise the solid product.

### 7.2 Conditions for safe storage, including any incompatibilities

Store in a cool, dry, well-ventilated area. Keep containers tightly closed when not in use. Inspect regularly for deficiencies such as damage or leaks. Protect against physical damage. Store away from incompatible materials as listed in section 10. Store away from aluminium, tin, zinc and alloys (bronzes), chrome and lead. Protect from damp and kept apart from acids, halogenated hydrocarbons, nitroparaffins, etc. The floor must be waterproof and anti-slip. A water supply or source must be provided in the place of storage. Emergency showers and eye-washes must be available. Special conditions: Prevent the product from becoming damp or erated. Hygroscopic product. Becomes carbonated in contact with the air or moisture.

### 7.3 Specific end use(s)

No information provided.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters

#### Exposure standards

Ingredient	Reference	TWA		STEL	
		ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>
Sodium hydroxide (peak limitation)	SWA (AUS)	--	2	--	--

#### Biological limits

No biological limit values have been entered for this product.

### 8.2 Exposure controls

**Engineering controls** Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical extraction ventilation is recommended. Maintain dust levels below the recommended exposure standard.

**PRODUCT NAME CAUSTIC SODA****PPE**

<b>Eye / Face</b>	Wear a faceshield and dust-proof goggles.
<b>Hands</b>	Wear PVC or rubber gloves.
<b>Body</b>	Wear coveralls and rubber boots and a PVC apron.
<b>Respiratory</b>	Where an inhalation risk exists, wear a Class P1 (Particulate) respirator. At high dust levels, wear an Air-line respirator or a Full-face Class P3 (Particulate) respirator.



---

**9. PHYSICAL AND CHEMICAL PROPERTIES**

---

**9.1 Information on basic physical and chemical properties**

<b>Appearance</b>	WHITE DELIQUESCENT PEARLS
<b>Odour</b>	ODOURLESS
<b>Flammability</b>	NON FLAMMABLE
<b>Flash point</b>	NOT RELEVANT
<b>Boiling point</b>	1390°C
<b>Melting point</b>	318°C
<b>Evaporation rate</b>	NOT AVAILABLE
<b>pH</b>	13.5 (1 % solution)
<b>Vapour density</b>	NOT AVAILABLE
<b>Specific gravity</b>	2.12
<b>Solubility (water)</b>	1110 kg/m <sup>3</sup> @ 20°C
<b>Vapour pressure</b>	NOT AVAILABLE
<b>Upper explosion limit</b>	NOT RELEVANT
<b>Lower explosion limit</b>	NOT RELEVANT
<b>Partition coefficient</b>	NOT AVAILABLE
<b>Autoignition temperature</b>	NOT AVAILABLE
<b>Decomposition temperature</b>	NOT AVAILABLE
<b>Viscosity</b>	NOT AVAILABLE
<b>Explosive properties</b>	NOT AVAILABLE
<b>Oxidising properties</b>	NOT AVAILABLE
<b>Odour threshold</b>	NOT AVAILABLE

**9.2 Other information**

<b>% Volatiles</b>	NOT AVAILABLE
--------------------	---------------

---

**10. STABILITY AND REACTIVITY**

---

**10.1 Reactivity**

Highly exothermal reaction with strong acids. Reacts dangerously with acetic acid, allyl chloride, chlorine trifluoride, chloroform, methylic alcohol, chloronitrotoluene, chlorosulphonic acid, glyoxal, cyanohydrin, hydrochloric acid, hydrofluoric acid, hydroquinone, nitric acid, sulphuric acid and oleum, nitropropane, phosphorous, propiolactone, phosphorous pentoxide, tetrachlorobenzene, tetrahydrofuran, etc. Caustic soda forms salts with nitromethane and nitroparaffins that explode on impact. Heat is generated when mixed with water. Spattering and boiling can occur. Caustic soda solution reacts readily with various reducing sugars (ie: fructose, galactose, maltose, dry whey solids) to produce carbon monoxide. Caustic soda forms salts with nitromethane and nitroparaffins that explode on impact. Reacts with aluminium, tin, zinc and their alloys, copper, lead, etc. giving off hydrogen.

**10.2 Chemical stability**

Stable under recommended conditions of storage.

**10.3 Possibility of hazardous reactions**

Polymerization is not expected to occur.

**10.4 Conditions to avoid**

Avoid heat, sparks, open flames and other ignition sources.

**10.5 Incompatible materials**

Incompatible with oxidising agents (e.g. hypochlorites), acids (e.g. nitric acid), metals, heat and ignition sources.

**10.6 Hazardous decomposition products**

Reacts with aluminium, tin, zinc and their alloys, copper, lead, etc. giving off hydrogen. When the product decomposes, toxic sodium oxide gases are evolved.

---

**11. TOXICOLOGICAL INFORMATION**

---

**11.1 Information on toxicological effects**

<b>Acute toxicity</b>	Highly corrosive. This product has the potential to cause serious adverse health effects. Use safe work practices to avoid eye or skin contact and inhalation. Over exposure may result in severe burns with corrosive tissue damage. Upon dilution, the potential for corrosive effects may be reduced.  SODIUM HYDROXIDE (1310-73-2): LD50 (Intraperitoneal): 40 mg/kg (mouse) LDLo (Ingestion): 1.57 mg/kg (human)
<b>Skin</b>	Causes severe burns. Contact may result in irritation, redness, pain, rash, dermatitis and possible burns.
<b>Eye</b>	Causes severe burns. Contact may result in irritation, lacrimation, pain, redness and corneal burns with possible permanent eye damage.
<b>Sensitization</b>	This product is not known to be a skin or respiratory sensitiser.
<b>Mutagenicity</b>	Insufficient data available to classify as a mutagen. Both the in vitro and the in vivo genetic toxicity tests indicated no evidence of mutagenic activity. Furthermore the substance is not expected to be systemically available in the body under normal handling and use conditions and for this reason additional testing is considered unnecessary (EU RAR, 2007).
<b>Carcinogenicity</b>	Insufficient data available to classify as a carcinogen. Systemic carcinogenicity is not expected to occur because the substance is not expected to be systemically available in the body under normal handling and use conditions.
<b>Reproductive</b>	Insufficient data available to classify as a reproductive toxin. The substance is not expected to be systemically available in the body under normal handling and use conditions and for this reason it can be stated that the substance will not reach the foetus nor reach male and female reproductive organs. The substance is not expected to be systemically available in the body under normal handling and use conditions and for this reason additional testing is considered unnecessary.
<b>STOT – single exposure</b>	Over exposure may result in irritation of the nose and throat, with coughing. High level exposure may result in breathing difficulties.
<b>STOT – repeated exposure</b>	Not classified as causing organ effects from repeated exposure.
<b>Aspiration</b>	This product does not present an aspiration hazard.

---

**12. ECOLOGICAL INFORMATION**

---

**12.1 Toxicity**

EC50 Ceriodaphnia: 40 mg/L.

No other valid studies available. The hazard of NaOH for the environment is caused by the hydroxyl ion (pH effect). For this reason the effect of NaOH on the organisms depends on the buffer capacity of the aquatic or terrestrial ecosystem (see also 3.1.2). Also the variation in acute toxicity for aquatic organisms can be explained for a significant extent by the variation in buffer capacity of the test medium. LC50 values ranged between 33 and 189 mg/L.

**12.2 Persistence and degradability**

Readily biodegradable. NaOH is a strong alkaline substance that dissociates completely in water to Na<sup>+</sup> and OH<sup>-</sup>. High water solubility and low vapour pressure indicate that NaOH will be found predominantly in aquatic environment. This implies that it will not adsorb on particulate matter or surfaces. Atmospheric emissions as aerosols are rapidly neutralized by carbon dioxide and the salts will be washed out by rain.

**12.3 Bioaccumulative potential**

Does not bioaccumulate. Considering its high water solubility, NaOH is not expected to bioconcentrate in organisms. In addition, sodium is a naturally-occurring element that is prevalent in the environment and to which organisms are exposed regularly, for which they have some capacity to regulate the concentration in the organism.

**12.4 Mobility in soil**

High water solubility and mobility

**12.5 Other adverse effects**

WATER: If released to waterways, alkaline products may change the pH of the waterway. Fish will die if the pH reaches 10-11 (goldfish 10.9, bluegill 10.5). SOIL: May leach to groundwater with toxic effects on aquatic life as above. ATMOSPHERE: Not expected to reside in the atmosphere. Drops or particles released to atmosphere should be removed by gravity and/or be rained out.

### 13. DISPOSAL CONSIDERATIONS

#### 13.1 Waste treatment methods

**Waste disposal** Collect without generating dust. Place in clean, sealed containers and dispose of to an approved landfill site. Contact the manufacturer/supplier for additional information (if required). The product can be neutralised using highly diluted hydrochloric acid, which should be added very slowly by specialised personnel wearing proper protection. Never neutralise the solid product.

**Legislation** Dispose of in accordance with relevant local legislation.

### 14. TRANSPORT INFORMATION

CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE



	LAND TRANSPORT (ADG)	SEA TRANSPORT (IMDG / IMO)	AIR TRANSPORT (IATA / ICAO)
14.1 UN Number	1823	1823	1823
14.2 Proper Shipping Name	SODIUM HYDROXIDE, SOLID	SODIUM HYDROXIDE, SOLID	SODIUM HYDROXIDE, SOLID
14.3 Transport hazard class	8	8	8
14.4 Packing Group	II	II	II

14.5 Environmental hazards No information provided

#### 14.6 Special precautions for user

Hazchem code 2X  
 GTEPG 8A1  
 EMS F-A, S-B

### 15. REGULATORY INFORMATION

#### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

**Poison schedule** Classified as a Schedule 6 (S6) Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**Classifications** Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.  
 The classifications and phrases listed below are based on the Approved Criteria for Classifying Hazardous Substances [NOHSC: 1008(2004)].

**Hazard codes** C Corrosive

**Risk phrases** R35 Causes severe burns.

**Safety phrases** S1/2 Keep locked up and out of reach of children.  
 S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice  
 S37/39 Wear suitable gloves and eye/face protection.  
 S45 In case of accident or if you feel unwell seek medical advice immediately (show the label where possible).

**Inventory listing(s)** AUSTRALIA: AICS (Australian Inventory of Chemical Substances)  
 All components are listed on AICS, or are exempt.

### 16. OTHER INFORMATION

Additional information



**PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:**

The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

**HEALTH EFFECTS FROM EXPOSURE:**

It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a ChemAlert report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

**Abbreviations**

ACGIH	American Conference of Governmental Industrial Hygienists
CAS #	Chemical Abstract Service number - used to uniquely identify chemical compounds
CNS	Central Nervous System
EC No.	EC No - European Community Number
EMS	Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods)
GHS	Globally Harmonized System
GTEPG	Group Text Emergency Procedure Guide
IARC	International Agency for Research on Cancer
LC50	Lethal Concentration, 50% / Median Lethal Concentration
LD50	Lethal Dose, 50% / Median Lethal Dose
mg/m <sup>3</sup>	Milligrams per Cubic Metre
OEL	Occupational Exposure Limit
pH	relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
ppm	Parts Per Million
STEL	Short-Term Exposure Limit
STOT-RE	Specific target organ toxicity (repeated exposure)
STOT-SE	Specific target organ toxicity (single exposure)
SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons
SWA	Safe Work Australia
TLV	Threshold Limit Value
TWA	Time Weighted Average

**Report status**

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

**Prepared by**

Risk Management Technologies  
5 Ventnor Ave, West Perth  
Western Australia 6005  
Phone: +61 8 9322 1711  
Fax: +61 8 9322 1794  
Email: info@rmt.com.au  
Web: www.rmt.com.au.

[ End of SDS ]

---

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

---

### 1.1 Product identifier

**Product name** CITRIC ACID  
**Synonym(s)** 2-HYDROXY-1,2,3-PROPANETRICARBOXYLIC ACID • CITRIC ACID ANHYDROUS • CITRIC ACID MONOHYDRATE

### 1.2 Uses and uses advised against

**Use(s)** INDUSTRIAL APPLICATIONS

### 1.3 Details of the supplier of the product

**Supplier name** NEWPARK DRILLING FLUIDS (AUSTRALIA) LTD  
**Address** 11 Alacrity Place, Henderson, WA, 6166, AUSTRALIA  
**Telephone** +61 8 9410 8200  
**Fax** +61 8 9410 8299  
**Website** [www.newpark.com](http://www.newpark.com)

### 1.4 Emergency telephone number(s)

**Emergency** 1800 127 406 (Australia); +64 3 3530199 (International)

---

## 2. HAZARDS IDENTIFICATION

---

### 2.1 Classification of the substance or mixture

CLASSIFIED AS HAZARDOUS ACCORDING TO AUSTRALIAN WHS REGULATIONS

**GHS classification(s)** Specific Target Organ Systemic Toxicity (Single Exposure): Category 3  
Skin Corrosion/Irritation: Category 2  
Serious Eye Damage / Eye Irritation: Category 2A

### 2.2 Label elements

**Signal word** WARNING

**Pictogram(s)**



### Hazard statement(s)

H315 Causes skin irritation.  
H319 Causes serious eye irritation.  
H335 May cause respiratory irritation.

### Prevention statement(s)

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.  
P264 Wash thoroughly after handling.  
P271 Use only outdoors or in a well-ventilated area.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.

## PRODUCT NAME CITRIC ACID

### Response statement(s)

P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P304 + P340	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312	Call a POISON CENTER or doctor/physician if you feel unwell.
P321	Specific treatment is advised - see first aid instructions.
P362	Take off contaminated clothing and wash before re-use.

### Storage statement(s)

P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.

### Disposal statement(s)

P501	Dispose of contents/container in accordance with relevant regulations.
------	--

### 2.3 Other hazards

No information provided.

---

## 3. COMPOSITION/ INFORMATION ON INGREDIENTS

---

### 3.1 Substances / Mixtures

Ingredient	CAS Number	EC Number	Content
CITRIC ACID	77-92-9	201-069-1	>99%
WATER	7732-18-5	231-791-2	<1%

---

## 4. FIRST AID MEASURES

---

### 4.1 Description of first aid measures

<b>Eye</b>	If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.
<b>Inhalation</b>	If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.
<b>Skin</b>	If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.
<b>Ingestion</b>	For advice, contact a Poison Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting.
<b>First aid facilities</b>	No information provided.

### 4.2 Most important symptoms and effects, both acute and delayed

Acute: Irritating to the eyes and skin. Delayed: No information available.

### 4.3 Immediate medical attention and special treatment needed

Treat symptomatically.

---

## 5. FIRE FIGHTING MEASURES

---

### 5.1 Extinguishing media

Dry agent, carbon dioxide, foam or water fog. Prevent contamination of drains and waterways.

### 5.2 Special hazards arising from the substance or mixture

Combustible. May evolve carbon oxides and hydrocarbons when heated to decomposition.

### 5.3 Advice for firefighters

Evacuate area and contact emergency services. Toxic gases may be evolved in a fire situation. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

### 5.4 Hazchem code

None allocated.

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures

Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. Ventilate area where possible.

### 6.2 Environmental precautions

Prevent product from entering drains and waterways.

### 6.3 Methods of cleaning up

Contain spillage, then collect and place in suitable containers for disposal. Avoid generating dust.

### 6.4 Reference to other sections

See Sections 8 and 13 for exposure controls and disposal.

## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

### 7.2 Conditions for safe storage, including any incompatibilities

Store in a cool, dry, well ventilated area, removed from moisture, incompatible substances and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use.

### 7.3 Specific end use(s)

No information provided.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters

#### Exposure standards

No exposure standards have been entered for this product.

**Biological limits** No Biological Limit Value allocated.

### 8.2 Exposure controls

**Engineering controls** Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical extraction ventilation is recommended. Maintain dust levels below the recommended exposure standard.

#### PPE

<b>Eye / Face</b>	Wear dust-proof goggles.
<b>Hands</b>	Wear PVC or rubber gloves.
<b>Body</b>	When using large quantities or where heavy contamination is likely, wear coveralls.
<b>Respiratory</b>	At high dust levels, wear a Class P1 (Particulate) respirator.



## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

<b>Appearance</b>	WHITE CRYSTALLINE POWDER
<b>Odour</b>	ODOURLESS
<b>Flammability</b>	COMBUSTIBLE
<b>Flash point</b>	174°C
<b>Boiling point</b>	175°C (Decomposes)
<b>Melting point</b>	153°C
<b>Evaporation rate</b>	NOT AVAILABLE

**9.1 Information on basic physical and chemical properties**

<b>pH</b>	2.2 (0.1M Solution)
<b>Vapour density</b>	NOT AVAILABLE
<b>Specific gravity</b>	1.665
<b>Solubility (water)</b>	1330 kg/m <sup>3</sup> @ 20°C
<b>Vapour pressure</b>	NOT AVAILABLE
<b>Upper explosion limit</b>	NOT AVAILABLE
<b>Lower explosion limit</b>	NOT AVAILABLE
<b>Partition coefficient</b>	NOT AVAILABLE
<b>Autoignition temperature</b>	345°C
<b>Decomposition temperature</b>	NOT AVAILABLE
<b>Viscosity</b>	NOT AVAILABLE
<b>Explosive properties</b>	NOT AVAILABLE
<b>Oxidising properties</b>	NOT AVAILABLE
<b>Odour threshold</b>	NOT AVAILABLE

**9.2 Other information**

<b>% Volatiles</b>	NOT AVAILABLE
--------------------	---------------

---

**10. STABILITY AND REACTIVITY**

---

**10.1 Reactivity**

Carefully review all information provided in sections 10.2 to 10.6.

**10.2 Chemical stability**

Stable under recommended conditions of storage.

**10.3 Possibility of hazardous reactions**

Polymerization is not expected to occur.

**10.4 Conditions to avoid**

Avoid heat, sparks, open flames and other ignition sources.

**10.5 Incompatible materials**

Incompatible with oxidising agents (e.g. hypochlorites) and alkalis (e.g. sodium hydroxide).

**10.6 Hazardous decomposition products**

May evolve carbon oxides and hydrocarbons when heated to decomposition.

---

**11. TOXICOLOGICAL INFORMATION**

---

**11.1 Information on toxicological effects**

<b>Acute toxicity</b>	Based on available data, the classification criteria are not met. LD50 (Ingestion): 3000 mg/kg (rat) LD50 (Intraperitoneal): 290 mg/kg (rat) LD50 (Intravenous): 42 mg/kg (mouse) LDLo (Ingestion): 7000 mg/kg (rabbit)
<b>Skin</b>	Irritating to the skin. Contact may result in irritation, redness, rash and dermatitis.
<b>Eye</b>	Irritating to the eyes. Contact may result in irritation, lacrimation, pain and redness. May result in burns with prolonged contact.
<b>Sensitization</b>	This product is not classified as causing skin or respiratory sensitisation. However, citric acid has the potential to cause allergic effects.
<b>Mutagenicity</b>	Insufficient data available to classify as a mutagen.
<b>Carcinogenicity</b>	Insufficient data available to classify as a carcinogen.
<b>Reproductive</b>	Insufficient data available to classify as a reproductive toxin.
<b>STOT – single exposure</b>	Irritating to the respiratory system. Over exposure may result in irritation of the nose and throat, with coughing.
<b>STOT – repeated exposure</b>	Not classified as causing organ effects from repeated exposure.
<b>Aspiration</b>	This product does not present an aspiration hazard.

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

LC50 (Leuciscus idus melanotus): 440 mg/L/48hrs.  
 LC50 (Daphnia magna (Water flea)): 1.535 mg/L/24hrs.

### 12.2 Persistence and degradability

This product is readily biodegradable.

### 12.3 Bioaccumulative potential

This product does not bioaccumulate.

### 12.4 Mobility in soil

No information provided.

### 12.5 Other adverse effects

WATER: If citric acid is released to water, it is expected to biodegrade rapidly. May be toxic to fish at moderately high levels (120 ppm is fatal to daphnia; 894 ppm with pH 4 is fatal to goldfish) due to acidic nature. Fairly high biological oxygen demand (BOD) which may cause oxygen depletion in large spills. Citric acid occurs naturally in many plants.

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

**Waste disposal** Neutralise with lime, anion exchanger or similar. For small amounts, absorb with sand or similar and dispose of to an approved landfill site. Contact the manufacturer/supplier for additional information (if required).

**Legislation** Dispose of in accordance with relevant local legislation.

## 14. TRANSPORT INFORMATION

### NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA

	LAND TRANSPORT (ADG)	SEA TRANSPORT (IMDG / IMO)	AIR TRANSPORT (IATA / ICAO)
14.1 UN Number	None Allocated	None Allocated	None Allocated
14.2 Proper Shipping Name	None Allocated	None Allocated	None Allocated
14.3 Transport hazard class	None Allocated	None Allocated	None Allocated
14.4 Packing Group	None Allocated	None Allocated	None Allocated

14.5 Environmental hazards No information provided

### 14.6 Special precautions for user

Hazchem code None Allocated

## 15. REGULATORY INFORMATION

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

**Poison schedule** A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**Classifications** Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

The classifications and phrases listed below are based on the Approved Criteria for Classifying Hazardous Substances [NOHSC: 1008(2004)].

**Hazard codes** Xi Irritant

**Risk phrases** R36/37/38 Irritating to eyes, respiratory system and skin.

**Safety phrases** S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice  
 S37/39 Wear suitable gloves and eye/face protection.

**PRODUCT NAME CITRIC ACID**

**Inventory listing(s) AUSTRALIA: AICS (Australian Inventory of Chemical Substances)**  
All components are listed on AICS, or are exempt.

---

**16. OTHER INFORMATION**

---

**Additional information** PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:  
The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

HEALTH EFFECTS FROM EXPOSURE:  
It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a ChemAlert report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

**Abbreviations**

ACGIH	American Conference of Governmental Industrial Hygienists
CAS #	Chemical Abstract Service number - used to uniquely identify chemical compounds
CNS	Central Nervous System
EC No.	EC No - European Community Number
EMS	Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods)
GHS	Globally Harmonized System
GTEPG	Group Text Emergency Procedure Guide
IARC	International Agency for Research on Cancer
LC50	Lethal Concentration, 50% / Median Lethal Concentration
LD50	Lethal Dose, 50% / Median Lethal Dose
mg/m <sup>3</sup>	Milligrams per Cubic Metre
OEL	Occupational Exposure Limit
pH	relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
ppm	Parts Per Million
STEL	Short-Term Exposure Limit
STOT-RE	Specific target organ toxicity (repeated exposure)
STOT-SE	Specific target organ toxicity (single exposure)
SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons
SWA	Safe Work Australia
TLV	Threshold Limit Value
TWA	Time Weighted Average

**Report status** This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

**Prepared by** Risk Management Technologies  
5 Ventnor Ave, West Perth  
Western Australia 6005  
Phone: +61 8 9322 1711  
Fax: +61 8 9322 1794  
Email: info@rmt.com.au  
Web: www.rmt.com.au.

**[ End of SDS ]**

---

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

---

### 1.1 Product identifier

**Product name** DEFOAM A (I)  
**Synonym(s)** DEFOAM E • DEFOAM-A (I)

### 1.2 Uses and uses advised against

**Use(s)** COMPLETION FLUID • DRILLING FLUID

### 1.3 Details of the supplier of the product

**Supplier name** NEWPARK DRILLING FLUIDS (AUSTRALIA) LTD  
**Address** 11 Alacrity Place, Henderson, WA, 6166, AUSTRALIA  
**Telephone** +61 8 9410 8200  
**Fax** +61 8 9410 8299  
**Website** [www.newpark.com](http://www.newpark.com)

### 1.4 Emergency telephone number(s)

**Emergency** 1800 127 406 (Australia); +64 3 3530199 (International)

---

## 2. HAZARDS IDENTIFICATION

---

### 2.1 Classification of the substance or mixture

CLASSIFIED AS HAZARDOUS ACCORDING TO AUSTRALIAN WHS REGULATIONS

**GHS classification(s)** Flammable Liquids: Category 4  
Skin Corrosion/Irritation: Category 2  
Serious Eye Damage / Eye Irritation: Category 2A  
Specific Target Organ Systemic Toxicity (Single Exposure): Category 3  
Specific Target Organ Systemic Toxicity (Single Exposure): Category 3

### 2.2 Label elements

**Signal word** WARNING

**Pictogram(s)**



**Hazard statement(s)**

H227 Combustible liquid.  
H315 Causes skin irritation.  
H319 Causes serious eye irritation.  
H335 May cause respiratory irritation.  
H336 May cause drowsiness or dizziness.

**Prevention statement(s)**

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.  
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.  
P264 Wash thoroughly after handling.  
P271 Use only outdoors or in a well-ventilated area.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.



**PRODUCT NAME DEFOAM A (I)****Response statement(s)**

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.  
P304 + P340 IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P312 Call a POISON CENTER or doctor/physician if you feel unwell.  
P321 Specific treatment is advised - see first aid instructions.  
P332 + P337 + P313 If skin or eye irritation occurs: Get medical advice/ attention.  
P362 Take off contaminated clothing and wash before re-use.  
P370 + P378 In case of fire: Use appropriate media for extinction.

**Storage statement(s)**

P403 + P233 + P235 Store in a well-ventilated place. Keep cool. Keep container tightly closed.  
P405 Store locked up.

**Disposal statement(s)**

P501 Dispose of contents/container in accordance with relevant regulations.

**2.3 Other hazards**

No information provided.

---

**3. COMPOSITION/ INFORMATION ON INGREDIENTS**

---

**3.1 Substances / Mixtures**

Ingredient	CAS Number	EC Number	Content
OCTAN-2-OL	123-96-6	204-667-0	>98%
WATER	7732-18-5	231-791-2	Remainder

---

**4. FIRST AID MEASURES**

---

**4.1 Description of first aid measures**

**Eye** If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.

**Inhalation** If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.

**Skin** If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.

**Ingestion** For advice, contact a Poison Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting.

**First aid facilities** No information provided.

**4.2 Most important symptoms and effects, both acute and delayed**

See Section 11 for more detailed information on health effects and symptoms.

**4.3 Immediate medical attention and special treatment needed**

Treat symptomatically.

---

**5. FIRE FIGHTING MEASURES**

---

**5.1 Extinguishing media**

Dry agent, carbon dioxide or foam. Prevent contamination of drains and waterways.

**5.2 Special hazards arising from the substance or mixture**

Combustible. May evolve carbon oxides and hydrocarbons when heated to decomposition.

**5.3 Advice for firefighters**

Evacuate area and contact emergency services. Toxic gases may be evolved in a fire situation. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

**5.4 Hazchem code**

None allocated.

---

## 6. ACCIDENTAL RELEASE MEASURES

---

### 6.1 Personal precautions, protective equipment and emergency procedures

Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. Clear area of all unprotected personnel. Ventilate area where possible. Contact emergency services where appropriate.

### 6.2 Environmental precautions

Prevent product from entering drains and waterways.

### 6.3 Methods of cleaning up

Contain spillage, then cover / absorb spill with non-combustible absorbent material (vermiculite, sand, or similar), collect and place in suitable containers for disposal. Eliminate all sources of ignition.

### 6.4 Reference to other sections

See Sections 8 and 13 for exposure controls and disposal.

---

## 7. HANDLING AND STORAGE

---

### 7.1 Precautions for safe handling

Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

### 7.2 Conditions for safe storage, including any incompatibilities

Store in a cool, dry, well ventilated area, removed from incompatible substances, heat or ignition sources and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use. Large storage areas should have appropriate ventilation systems. Store as a Class C1 Combustible Liquid (AS1940).

### 7.3 Specific end use(s)

No information provided.

---

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

---

### 8.1 Control parameters

#### **Exposure standards**

No exposure standards have been entered for this product.

#### **Biological limits**

No biological limit values have been entered for this product.

### 8.2 Exposure controls

**Engineering controls** Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical extraction ventilation is recommended.

#### **PPE**

<b>Eye / Face</b>	Wear splash-proof goggles.
<b>Hands</b>	Wear nitrile or neoprene gloves.
<b>Body</b>	When using large quantities or where heavy contamination is likely, wear coveralls.
<b>Respiratory</b>	Where an inhalation risk exists, wear a Type A (Organic vapour) respirator.



---

## 9. PHYSICAL AND CHEMICAL PROPERTIES

---

### 9.1 Information on basic physical and chemical properties

Appearance	CLEAR LIQUID
Odour	SLIGHT ODOUR
Flammability	CLASS C1 COMBUSTIBLE
Flash point	88°C (cc)
Boiling point	180°C
Melting point	-39°C
Evaporation rate	NOT AVAILABLE
pH	NOT AVAILABLE
Vapour density	4.5 (Air = 1)
Specific gravity	0.87
Solubility (water)	INSOLUBLE
Vapour pressure	1 mm Hg @ 33°C
Upper explosion limit	NOT RELEVANT
Lower explosion limit	NOT RELEVANT
Partition coefficient	NOT AVAILABLE
Autoignition temperature	NOT AVAILABLE
Decomposition temperature	NOT AVAILABLE
Viscosity	NOT AVAILABLE
Explosive properties	NOT AVAILABLE
Oxidising properties	NOT AVAILABLE
Odour threshold	NOT AVAILABLE

### 9.2 Other information

% Volatiles	100 %
-------------	-------

---

## 10. STABILITY AND REACTIVITY

---

### 10.1 Reactivity

Carefully review all information provided in sections 10.2 to 10.6.

### 10.2 Chemical stability

Stable under recommended conditions of storage.

### 10.3 Possibility of hazardous reactions

Polymerization is not expected to occur.

### 10.4 Conditions to avoid

Avoid heat, sparks, open flames and other ignition sources.

### 10.5 Incompatible materials

Incompatible with oxidising agents (e.g. hypochlorites), acids (e.g. nitric acid), heat and ignition sources.

### 10.6 Hazardous decomposition products

May evolve carbon oxides and hydrocarbons when heated to decomposition.

---

## 11. TOXICOLOGICAL INFORMATION

---

### 11.1 Information on toxicological effects

<b>Health hazard summary</b>	May be harmful - irritant. This product has the potential to cause adverse health effects with over exposure. Use safe work practices to avoid eye or skin contact and inhalation. Over exposure may result in central nervous system (CNS) effects.
<b>Eye</b>	Irritant. Contact may result in irritation, lacrimation, pain and redness.
<b>Inhalation</b>	Irritant. Over exposure may result in irritation of the nose and throat, coughing and headache. High level exposure may result in nausea, dizziness and drowsiness.
<b>Skin</b>	Irritant. Contact may result in drying and defatting of the skin, rash and dermatitis.
<b>Ingestion</b>	May be harmful. Ingestion may result in nausea, vomiting, abdominal pain, diarrhoea, dizziness and drowsiness. Aspiration or inhalation may cause chemical pneumonitis and pulmonary oedema.
<b>Toxicity data</b>	No LD50 data available for this product.

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

Toxicity to fish LC50 - Oncorhynchus mykiss (rainbow trout) - 75 mg/l - 96 h.

### 12.2 Persistence and degradability

No information provided.

### 12.3 Bioaccumulative potential

No information provided.

### 12.4 Mobility in soil

No information provided.

### 12.5 Other adverse effects

No information provided.

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

**Waste disposal** Incinerate where available. For small amounts, absorb with sand, vermiculite or similar and dispose of to an approved landfill site.

**Legislation** Dispose of in accordance with relevant local legislation.

## 14. TRANSPORT INFORMATION

NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA

	LAND TRANSPORT (ADG)	SEA TRANSPORT (IMDG / IMO)	AIR TRANSPORT (IATA / ICAO)
14.1 UN Number	None Allocated	None Allocated	None Allocated
14.2 Proper Shipping Name	None Allocated	None Allocated	None Allocated
14.3 Transport Hazard Class	None Allocated	None Allocated	None Allocated
14.4 Packing Group	None Allocated	None Allocated	None Allocated

14.5 Environmental hazards No information provided

### 14.6 Special precautions for user

Hazchem code None Allocated

## 15. REGULATORY INFORMATION

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

**Poison schedule** A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**Classifications** Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

The classifications and phrases listed below are based on the Approved Criteria for Classifying Hazardous Substances [NOHSC: 1008(2004)].

**Hazard codes** Xi Irritant  
Xn Harmful

**Risk phrases** R36/37/38 Irritating to eyes, respiratory system and skin.  
R67 Vapours may cause drowsiness and dizziness.

**Safety phrases** S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice  
S36 Wear suitable protective clothing.

**Inventory listing(s)** **AUSTRALIA: AICS (Australian Inventory of Chemical Substances)**  
All components are listed on AICS, or are exempt.

---

## 16. OTHER INFORMATION

---

### Additional information

**RESPIRATORS:** In general the use of respirators should be limited and engineering controls employed to avoid exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.

**WORK PRACTICES - SOLVENTS:** Organic solvents may present both a health and flammability hazard. It is recommended that engineering controls should be adopted to reduce exposure where practicable (for example, if using indoors, ensure explosion proof extraction ventilation is available). Flammable or combustible liquids with explosive limits have the potential for ignition from static discharge. Refer to AS 1020 (The control of undesirable static electricity) and AS 1940 (The storage and handling of flammable and combustible liquids) for control procedures.

### PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:

The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

### HEALTH EFFECTS FROM EXPOSURE:

It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

### Abbreviations

ACGIH	American Conference of Governmental Industrial Hygienists
CAS #	Chemical Abstract Service number - used to uniquely identify chemical compounds
CNS	Central Nervous System
EC No.	EC No - European Community Number
EMS	Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods)
GHS	Globally Harmonized System
GTEPG	Group Text Emergency Procedure Guide
IARC	International Agency for Research on Cancer
LC50	Lethal Concentration, 50% / Median Lethal Concentration
LD50	Lethal Dose, 50% / Median Lethal Dose
mg/m <sup>3</sup>	Milligrams per Cubic Metre
OEL	Occupational Exposure Limit
pH	relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
ppm	Parts Per Million
STEL	Short-Term Exposure Limit
STOT-RE	Specific target organ toxicity (repeated exposure)
STOT-SE	Specific target organ toxicity (single exposure)
SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons
SWA	Safe Work Australia
TLV	Threshold Limit Value
TWA	Time Weighted Average

**PRODUCT NAME DEFOAM A (I)**

**Report status**

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

**Prepared by**

Risk Management Technologies  
5 Ventnor Ave, West Perth  
Western Australia 6005  
Phone: +61 8 9322 1711  
Fax: +61 8 9322 1794  
Email: [info@rmt.com.au](mailto:info@rmt.com.au)  
Web: [www.rmt.com.au](http://www.rmt.com.au).

**[ End of SDS ]**

---

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

---

### 1.1 Product identifier

**Product name** DEFOAM AP 400  
**Synonym(s)** DEFOAMER

### 1.2 Uses and uses advised against

**Use(s)** TREATMENT OF FOAMING IN DRILLING FLUIDS

### 1.3 Details of the supplier of the product

**Supplier name** NEWPARK DRILLING FLUIDS (AUSTRALIA) LTD  
**Address** 11 Alacrity Place, Henderson, WA, 6166, AUSTRALIA  
**Telephone** +61 8 9410 8200  
**Fax** +61 8 9410 8299  
**Website** [www.newpark.com](http://www.newpark.com)

### 1.4 Emergency telephone number(s)

**Emergency** 1800 127 406 (Australia); +64 3 3530199 (International)

---

## 2. HAZARDS IDENTIFICATION

---

### 2.1 Classification of the substance or mixture

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO AUSTRALIAN WHS REGULATIONS

### 2.2 Label elements

No signal word, pictograms, hazard or precautionary statements have been allocated.

### 2.3 Other hazards

No information provided.

---

## 3. COMPOSITION/ INFORMATION ON INGREDIENTS

---

### 3.1 Substances / Mixtures

Ingredient	CAS Number	EC Number	Content
POLYETHYLENE GLYCOL	25322-68-3	500-038-2	45 to 60%
OCTAN-2-OL	123-96-6	204-667-0	40 to 55%

---

## 4. FIRST AID MEASURES

---

### 4.1 Description of first aid measures

**Eye** If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.

**Inhalation** If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.

**Skin** If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.

**Ingestion** For advice, contact a Poison Information Centre on 13 11 26 (Australia Wide) or a doctor (at once).

**First aid facilities** No information provided.

**4.2 Most important symptoms and effects, both acute and delayed**

Adverse effects not expected from this product under normal conditions of use.

**4.3 Immediate medical attention and special treatment needed**

Treat symptomatically.

---

**5. FIRE FIGHTING MEASURES**

---

**5.1 Extinguishing media**

Use an extinguishing agent suitable for the surrounding fire.

**5.2 Special hazards arising from the substance or mixture**

Non flammable. May evolve carbon oxides and hydrocarbons when heated to decomposition.

**5.3 Advice for firefighters**

Treat as per requirements for surrounding fires. Evacuate area and contact emergency services. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

**5.4 Hazchem code**

None allocated.

---

**6. ACCIDENTAL RELEASE MEASURES**

---

**6.1 Personal precautions, protective equipment and emergency procedures**

Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. Clear area of all unprotected personnel. Ventilate area where possible. Contact emergency services where appropriate.

**6.2 Environmental precautions**

Prevent product from entering drains and waterways.

**6.3 Methods of cleaning up**

Contain spillage, then cover / absorb spill with non-combustible absorbent material (vermiculite, sand, or similar), collect and place in suitable containers for disposal. Eliminate all sources of ignition.

**6.4 Reference to other sections**

See Sections 8 and 13 for exposure controls and disposal.

---

**7. HANDLING AND STORAGE**

---

**7.1 Precautions for safe handling**

Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

**7.2 Conditions for safe storage, including any incompatibilities**

Store in a cool, dry, well ventilated area, removed from incompatible substances, heat or ignition sources and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use. Check regularly for leaks or spills. Large storage areas should have appropriate ventilation systems.

**7.3 Specific end use(s)**

No information provided.

---

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

---

**8.1 Control parameters**

**Exposure standards**

No exposure standards have been entered for this product.

**Biological limits**

No biological limit values have been entered for this product.



**8.2 Exposure controls**

**Engineering controls** Avoid inhalation. Use in well ventilated areas.

**PPE**

- Eye / Face** Wear splash-proof goggles.
- Hands** Wear PVC or rubber gloves.
- Body** When using large quantities or where heavy contamination is likely, wear coveralls.
- Respiratory** Where an inhalation risk exists, wear a Type A (Organic vapour) respirator.



---

**9. PHYSICAL AND CHEMICAL PROPERTIES**

---

**9.1 Information on basic physical and chemical properties**

<b>Appearance</b>	CLEAR COLOURLESS LIQUID
<b>Odour</b>	ODOURLESS
<b>Flammability</b>	NON FLAMMABLE
<b>Flash point</b>	NOT RELEVANT
<b>Boiling point</b>	100°C to 102°C
<b>Melting point</b>	NOT AVAILABLE
<b>Evaporation rate</b>	NOT AVAILABLE
<b>pH</b>	7 to 8
<b>Vapour density</b>	NOT AVAILABLE
<b>Specific gravity</b>	1.00 to 1.17
<b>Solubility (water)</b>	SOLUBLE
<b>Vapour pressure</b>	NOT AVAILABLE
<b>Upper explosion limit</b>	NOT RELEVANT
<b>Lower explosion limit</b>	NOT RELEVANT
<b>Partition coefficient</b>	NOT AVAILABLE
<b>Autoignition temperature</b>	NOT AVAILABLE
<b>Decomposition temperature</b>	NOT AVAILABLE
<b>Viscosity</b>	NOT AVAILABLE
<b>Explosive properties</b>	NOT AVAILABLE
<b>Oxidising properties</b>	NOT AVAILABLE
<b>Odour threshold</b>	NOT AVAILABLE

**9.2 Other information**

<b>Freezing point</b>	-7°C to 0°C
-----------------------	-------------

---

**10. STABILITY AND REACTIVITY**

---

**10.1 Reactivity**

Carefully review all information provided in sections 10.2 to 10.6.

**10.2 Chemical stability**

Stable under recommended conditions of storage.

**10.3 Possibility of hazardous reactions**

Polymerization is not expected to occur.

**10.4 Conditions to avoid**

Avoid heat, sparks, open flames and other ignition sources.

**10.5 Incompatible materials**

Incompatible with oxidising agents (e.g. hypochlorites), acids (e.g. nitric acid), heat and ignition sources.

**10.6 Hazardous decomposition products**

May evolve carbon oxides and hydrocarbons when heated to decomposition.

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

**Acute toxicity**

**Information available for the product:**

This product is expected to be of low toxicity. Under normal conditions of use, adverse health effects are not anticipated.

**Information available for the ingredient(s):**

Ingredient	Oral Toxicity (LD50)	Dermal Toxicity (LD50)	Inhalation Toxicity (LC50)
POLYETHYLENE GLYCOL	33750 mg/kg (rat)	--	--

<b>Skin</b>	Not classified as a skin irritant. Contact may cause temporary mild skin irritation.
<b>Eye</b>	Not classified as an eye irritant. Contact may cause discomfort, lacrimation and redness.
<b>Sensitization</b>	Not classified as causing skin or respiratory sensitisation.
<b>Mutagenicity</b>	Not classified as a mutagen.
<b>Carcinogenicity</b>	Not classified as a carcinogen.
<b>Reproductive</b>	Not classified as a reproductive toxin.
<b>STOT – single exposure</b>	Not classified as causing organ damage from single exposure.
<b>STOT – repeated exposure</b>	Not classified as causing organ damage from repeated exposure.
<b>Aspiration</b>	Not classified as causing aspiration.

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

No information provided.

### 12.2 Persistence and degradability

No information provided.

### 12.3 Bioaccumulative potential

No information provided.

### 12.4 Mobility in soil

No information provided.

### 12.5 Other adverse effects

No information provided.

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

<b>Waste disposal</b>	Dispose of to an approved landfill or waste processing site. Contact the manufacturer/supplier for additional information (if required).
<b>Legislation</b>	Dispose of in accordance with relevant local legislation.

## 14. TRANSPORT INFORMATION

NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA

	<b>LAND TRANSPORT (ADG)</b>	<b>SEA TRANSPORT (IMDG / IMO)</b>	<b>AIR TRANSPORT (IATA / ICAO)</b>
<b>14.1 UN Number</b>	None Allocated	None Allocated	None Allocated
<b>14.2 Proper Shipping Name</b>	None Allocated	None Allocated	None Allocated
<b>14.3 Transport hazard class</b>	None Allocated	None Allocated	None Allocated
<b>14.4 Packing Group</b>	None Allocated	None Allocated	None Allocated

**14.5 Environmental hazards** No information provided

**14.6 Special precautions for user**

**Hazchem code** None Allocated

---

## 15. REGULATORY INFORMATION

---

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**Poison schedule** A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**Classifications** Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

The classifications and phrases listed below are based on the Approved Criteria for Classifying Hazardous Substances [NOHSC: 1008(2004)].

**Hazard codes** None allocated.

**Risk phrases** None allocated.

**Safety phrases** None allocated.

**Inventory listing(s)** **AUSTRALIA: AICS (Australian Inventory of Chemical Substances)**  
All components are listed on AICS, or are exempt.

---

## 16. OTHER INFORMATION

---

**Additional information**

**PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:**

The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

**HEALTH EFFECTS FROM EXPOSURE:**

It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a ChemAlert report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

<b>Abbreviations</b>	ACGIH	American Conference of Governmental Industrial Hygienists
	CAS #	Chemical Abstract Service number - used to uniquely identify chemical compounds
	CNS	Central Nervous System
	EC No.	EC No - European Community Number
	EMS	Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods)
	GHS	Globally Harmonized System
	GTEPG	Group Text Emergency Procedure Guide
	IARC	International Agency for Research on Cancer
	LC50	Lethal Concentration, 50% / Median Lethal Concentration
	LD50	Lethal Dose, 50% / Median Lethal Dose
	mg/m <sup>3</sup>	Milligrams per Cubic Metre
	OEL	Occupational Exposure Limit
	pH	relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
	ppm	Parts Per Million
	STEL	Short-Term Exposure Limit
	STOT-RE	Specific target organ toxicity (repeated exposure)
	STOT-SE	Specific target organ toxicity (single exposure)
	SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons
	SWA	Safe Work Australia
	TLV	Threshold Limit Value
	TWA	Time Weighted Average

**Report status** This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

**Prepared by** Risk Management Technologies  
5 Ventnor Ave, West Perth  
Western Australia 6005  
Phone: +61 8 9322 1711  
Fax: +61 8 9322 1794  
Email: info@rmt.com.au  
Web: www.rmt.com.au.

**[ End of SDS ]**

# MATERIAL SAFETY DATA SHEET



## Driscal® D Polymer

Version 1.5

Revision Date 2012-10-31

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### Product information

Trade name : Driscal® D Polymer  
Material : 1112534, 1016818

**Company** : Drilling Specialties Company  
10001 Six Pines Drive  
The Woodlands, TX 77380

**Local** : Chevron Phillips Chemicals Australia P/L  
Suite 409  
685 Burke Road  
Camberwell, Victoria  
Australia 3124

MSDS Requests: 852-29784899  
Technical Information: 61 3 8080 5700  
Hours of operation: 8.30a.m - 5.00p.m.

#### Emergency telephone:

##### Health:

866.442.9628 (North America)  
1.832.813.4984 (International)  
61 3 8080 5700 (Australia)

##### Transport:

North America: CHEMTREC 800.424.9300 or 703.527.3887  
Asia: +800 CHEMCALL (+800 2436 2255) China: 0532.8388.9090  
EUROPE: BIG +32.14.584545 (phone) or +32.14583516 (telefax)  
Chemcare Asia: Tel: +65 6848 9048 - Mob: +65 8382 9188 - Fax: +65 6848 9013  
South America SOS-Cotec Inside Brazil: 0800.111.767 Outside Brazil: +55.19.3467.1600

Responsible Department : Product Safety and Toxicology Group  
E-mail address : MSDS@CPChem.com  
Website : www.CPChem.com

### SECTION 2: Hazards identification

#### GHS Classification

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS).

**Driscal® D Polymer**

Version 1.5

Revision Date 2012-10-31

**GHS-Labeling**

Not a dangerous substance or mixture according to the Globally Harmonized System (GHS).

**SECTION 3: Composition/information on ingredients**

Synonyms : High Temperature Polymer

Molecular formula : Mixture

Contains no hazardous ingredients according to GHS. :

Remarks : Contains no hazardous ingredients according to GHS.

**SECTION 4: First aid measures**

General advice : No hazards which require special first aid measures.

If inhaled : If unconscious place in recovery position and seek medical advice. If symptoms persist, call a physician.

In case of eye contact : In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Remove contact lenses. Protect unharmed eye. If eye irritation persists, consult a specialist.

If swallowed : Keep respiratory tract clear. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Keep respiratory tract clear. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.

**SECTION 5: Firefighting measures**

Flash point : Not applicable

Autoignition temperature : No data available

Special protective equipment for fire-fighters : Wear self contained breathing apparatus for fire fighting if necessary.

Further information : Standard procedure for chemical fires. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Fire and explosion protection : Provide appropriate exhaust ventilation at places where dust is formed.

Hazardous decomposition products : No data available.

**SECTION 6: Accidental release measures**

**Driscal® D Polymer**

Version 1.5

Revision Date 2012-10-31

- Personal precautions : Avoid dust formation.
- Environmental precautions : If the product contaminates rivers and lakes or drains inform respective authorities.
- Methods for cleaning up : Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

**SECTION 7: Handling and storage****Handling**

- Advice on safe handling : For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area.
- Advice on protection against fire and explosion : Provide appropriate exhaust ventilation at places where dust is formed.

**Storage**

- Requirements for storage areas and containers : Electrical installations / working materials must comply with the technological safety standards.
- Advice on common storage : No materials to be especially mentioned.

**SECTION 8: Exposure controls/personal protection****Engineering measures**

Adequate ventilation to control airborne concentrations below the exposure guidelines/limits. Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

**Personal protective equipment**

- Respiratory protection : Wear a supplied-air NIOSH approved respirator unless ventilation or other engineering controls are adequate to maintain minimal oxygen content of 19.5% by volume under normal atmospheric pressure.
- Hand protection : The suitability for a specific workplace should be discussed with the producers of the protective gloves. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.
- Eye protection : Safety glasses. Eye wash bottle with pure water.

**Driscal® D Polymer**

Version 1.5

Revision Date 2012-10-31

Skin and body protection : Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. Wear as appropriate:. Protective suit. Safety shoes.

Hygiene measures : General industrial hygiene practice.

**SECTION 9: Physical and chemical properties****Information on basic physical and chemical properties****Appearance**

Form : Powder  
Physical state : Solid  
Color : White  
Odor : No odor

**Safety data**

Flash point : Not applicable  
Lower explosion limit : No data available  
Upper explosion limit : No data available  
  
Oxidizing properties : no  
Autoignition temperature : No data available  
Molecular formula : Mixture  
Molecular Weight : Not applicable  
pH : Not applicable  
Pour point : No data available  
Boiling point/boiling range : No data available  
Vapor pressure : No data available  
Relative density : 1,44  
Water solubility : Soluble  
Partition coefficient: n-octanol/water : POW: < 3  
Viscosity, kinematic : No data available  
Relative vapor density : No data available  
Evaporation rate : No data available

**SECTION 10: Stability and reactivity**



**Driscal® D Polymer**

Version 1.5

Revision Date 2012-10-31

Chemical stability : This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

**Possibility of hazardous reactions**

Conditions to avoid : No data available.

Other data : No decomposition if stored and applied as directed.

**SECTION 11: Toxicological information**

**Driscal® D Polymer**  
**Acute oral toxicity** : LD50: not known

**Driscal® D Polymer**  
**Acute inhalation toxicity** : LC50: not known

**Driscal® D Polymer**  
**Acute dermal toxicity** : LD50: not known

**Driscal® D Polymer**  
**Skin irritation** : No skin irritation

**Driscal® D Polymer**  
**Eye irritation** : No eye irritation

**Driscal® D Polymer**  
**Aspiration toxicity** : No aspiration toxicity classification.

**Driscal® D Polymer**  
**Further information** : No data available.

**SECTION 12: Ecological information****Ecotoxicity effects**

**Toxicity to fish** : LC50: > 1.800 mg/l  
Exposure time: 96 h  
Species: Scophthalmus maximus (Flatfish, Flounder)

**Toxicity to daphnia and other aquatic invertebrates** : > 10000 MG/KG  
Exposure time: 10 Days  
Species: Corophium spp (Sediment Reworker)

**Toxicity to bacteria** : EC50: 2.859 mg/l  
Exposure time: 72 h  
Species: Skeletonema costatum (Marine Algae)

Elimination information (persistence and degradability)

**Driscal® D Polymer**

Version 1.5

Revision Date 2012-10-31

Biodegradability : This material is not expected to be readily biodegradable.

Additional ecological information : No data available

**SECTION 13: Disposal considerations**

The information in this MSDS pertains only to the product as shipped.

Use material for its intended purpose or recycle if possible. This material, if it must be discarded, may meet the criteria of a hazardous waste as defined by US EPA under RCRA (40 CFR 261) or other State and local regulations. Measurement of certain physical properties and analysis for regulated components may be necessary to make a correct determination. If this material is classified as a hazardous waste, federal law requires disposal at a licensed hazardous waste disposal facility.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.

**SECTION 14: Transport information**

**The shipping descriptions shown here are for bulk shipments only, and may not apply to shipments in non-bulk packages (see regulatory definition).**

Consult the appropriate domestic or international mode-specific and quantity-specific Dangerous Goods Regulations for additional shipping description requirements (e.g., technical name or names, etc.) Therefore, the information shown here, may not always agree with the bill of lading shipping description for the material. Flashpoints for the material may vary slightly between the MSDS and the bill of lading.

**US DOT (UNITED STATES DEPARTMENT OF TRANSPORTATION)**

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

**IMO / IMDG (INTERNATIONAL MARITIME DANGEROUS GOODS)**

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

**IATA (INTERNATIONAL AIR TRANSPORT ASSOCIATION)**

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

**ADR (AGREEMENT ON DANGEROUS GOODS BY ROAD (EUROPE))**

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

**RID (REGULATIONS CONCERNING THE INTERNATIONAL TRANSPORT OF DANGEROUS GOODS (EUROPE))**

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

**Driscal® D Polymer**

Version 1.5

Revision Date 2012-10-31

**ADN (EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY INLAND WATERWAYS)**  
 NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

**SECTION 15: Regulatory information****National legislation**

**Major Accident Hazard Legislation** : 96/82/EC Update: 2003  
 Directive 96/82/EC does not apply

**National legislation**

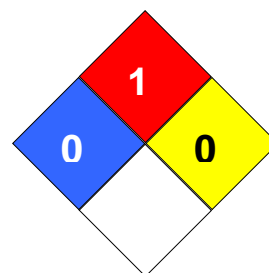
Standard for the Uniform Scheduling of Medicines and Poisons : No poison schedule number allocated

**Notification status**

Europe REACH : On the inventory, or in compliance with the inventory  
 United States of America US.TSCA : On TSCA Inventory  
 Canada DSL : All components of this product are on the Canadian DSL list.  
 Australia AICS : On the inventory, or in compliance with the inventory  
 New Zealand NZIoC : Not in compliance with the inventory  
 Japan ENCS : Not in compliance with the inventory  
 Korea KECI : Not in compliance with the inventory  
 Philippines PICCS : On the inventory, or in compliance with the inventory  
 China IECSC : On the inventory, or in compliance with the inventory

**SECTION 16: Other information**

**NFPA Classification** : Health Hazard: 0  
 Fire Hazard: 1  
 Reactivity Hazard: 0



**Driscal® D Polymer**

Version 1.5

Revision Date 2012-10-31

**Further information**

Legacy MSDS Number : 244990

Significant changes since the last version are highlighted in the margin. This version replaces all previous versions.

The information in this MSDS pertains only to the product as shipped.

The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Key or legend to abbreviations and acronyms used in the safety data sheet			
ACGIH	American Conference of Government Industrial Hygienists	LD50	Lethal Dose 50%
AICS	Australia, Inventory of Chemical Substances	LOAEL	Lowest Observed Adverse Effect Level
DSL	Canada, Domestic Substances List	NFPA	National Fire Protection Agency
NDSL	Canada, Non-Domestic Substances List	NIOSH	National Institute for Occupational Safety & Health
CNS	Central Nervous System	NTP	National Toxicology Program
CAS	Chemical Abstract Service	NZIoC	New Zealand Inventory of Chemicals
EC50	Effective Concentration	NOAEL	No Observable Adverse Effect Level
EC50	Effective Concentration 50%	NOEC	No Observed Effect Concentration
EGEST	EOSCA Generic Exposure Scenario Tool	OSHA	Occupational Safety & Health Administration
EOSCA	European Oilfield Specialty Chemicals Association	PEL	Permissible Exposure Limit
EINECS	European Inventory of Existing Chemical Substances	PICCS	Philippines Inventory of Commercial Chemical Substances
MAK	Germany Maximum Concentration Values	PRNT	Presumed Not Toxic
GHS	Globally Harmonized System	RCRA	Resource Conservation Recovery Act
>=	Greater Than or Equal To	STEL	Short-term Exposure Limit
IC50	Inhibition Concentration 50%	SARA	Superfund Amendments and Reauthorization Act.
IARC	International Agency for Research on Cancer	TLV	Threshold Limit Value
IECSC	Inventory of Existing Chemical Substances in China	TWA	Time Weighted Average
ENCS	Japan, Inventory of Existing and New Chemical Substances	TSCA	Toxic Substance Control Act
KECI	Korea, Existing Chemical Inventory	UVCB	Unknown or Variable Composition, Complex Reaction Products, and Biological Materials
<=	Less Than or Equal To	WHMIS	Workplace Hazardous Materials Information System
LC50	Lethal Concentration 50%		

# SAFETY DATA SHEET



## DSCO™ Defoam

Version 1.5

Revision Date 2014-10-28

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### Product information

Product Name : DSCO™ Defoam  
Material : 1093242, 1016819

**Company** : Chevron Phillips Chemical Company LP  
Drilling Specialties Company LLC  
10001 Six Pines Drive  
The Woodlands, TX 77380

#### Emergency telephone:

##### Health:

866.442.9628 (North America)  
1.832.813.4984 (International)

##### Transport:

North America: CHEMTREC 800.424.9300 or 703.527.3887  
Asia: +800 CHEMCALL (+800 2436 2255) China:+86-21-22157316  
EUROPE: BIG +32.14.584545 (phone) or +32.14583516 (telefax)  
South America SOS-Cotec Inside Brazil: 0800.111.767 Outside Brazil: +55.19.3467.1600

Responsible Department : Product Safety and Toxicology Group  
E-mail address : SDS@CPChem.com  
Website : www.CPChem.com

### SECTION 2: Hazards identification

#### Classification of the substance or mixture

This product has been classified in accordance with the hazard communication standard 29 CFR 1910.1200; the SDS and labels contain all the information as required by the standard.

#### Emergency Overview

**Form:** Liquid    **Physical state:** Liquid    **Color:** Clear to light amber    **Odor:** Slight  
OSHA Hazards : No OSHA Hazards

#### Classification

:

Not a hazardous substance or mixture.

**DSCO™ Defoam**

Version 1.5

Revision Date 2014-10-28

**Labeling**

Not a hazardous substance or mixture.

**Carcinogenicity:**

<b>IARC</b>	No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
<b>NTP</b>	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
<b>ACGIH</b>	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

**SECTION 3: Composition/information on ingredients**

Synonyms : None established

Molecular formula : (C3H6O)nH2O

Contains no hazardous ingredients according to GHS.

**SECTION 4: First aid measures**

General advice	: No hazards which require special first aid measures.
If inhaled	: If unconscious place in recovery position and seek medical advice. If symptoms persist, call a physician.
In case of skin contact	: If on skin, rinse well with water. If on clothes, remove clothes.
In case of eye contact	: Remove contact lenses. Protect unharmed eye. If eye irritation persists, consult a specialist.
If swallowed	: Keep respiratory tract clear. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.

**SECTION 5: Firefighting measures**

Flash point	: 185 °C (365 °F)
Autoignition temperature	: No data available
Special protective equipment for fire-fighters	: Wear self contained breathing apparatus for fire fighting if necessary.

**DSCO™ Defoam**

Version 1.5

Revision Date 2014-10-28

- Further information : Standard procedure for chemical fires. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Fire and explosion protection : Normal measures for preventive fire protection.
- Hazardous decomposition products : Carbon oxides.

**SECTION 6: Accidental release measures**

- Environmental precautions : If the product contaminates rivers and lakes or drains inform respective authorities.
- Methods for cleaning up : Wipe up with absorbent material (e.g. cloth, fleece). Keep in suitable, closed containers for disposal.

**SECTION 7: Handling and storage****Handling**

- Advice on safe handling : Avoid inhalation of vapor or mist. Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Dispose of rinse water in accordance with local and national regulations.
- Advice on protection against fire and explosion : Normal measures for preventive fire protection.

**Storage**

- Requirements for storage areas and containers : Electrical installations / working materials must comply with the technological safety standards.
- Advice on common storage : No materials to be especially mentioned.

**SECTION 8: Exposure controls/personal protection****Engineering measures**

Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selecting personal protective equipment. If engineering controls or work practices are not adequate to prevent exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.

**Personal protective equipment**

- Respiratory protection : Wear a supplied-air NIOSH approved respirator unless ventilation or other engineering controls are adequate to maintain minimal oxygen content of 19.5% by volume under normal atmospheric pressure.

**DSCO™ Defoam**

Version 1.5

Revision Date 2014-10-28

- Hand protection : The suitability for a specific workplace should be discussed with the producers of the protective gloves. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.
- Eye protection : Eye wash bottle with pure water. Tightly fitting safety goggles.
- Skin and body protection : Wear as appropriate. Choose body protection according to the amount and concentration of the dangerous substance at the work place. Lightweight protective clothing.
- Hygiene measures : General industrial hygiene practice.

**SECTION 9: Physical and chemical properties****Information on basic physical and chemical properties****Appearance**

- Form : Liquid  
 Physical state : Liquid  
 Color : Clear to light amber  
 Odor : Slight

**Safety data**

- Flash point : 185 °C (365 °F)  
 Lower explosion limit : No data available  
 Upper explosion limit : No data available
- Oxidizing properties : no  
 Autoignition temperature : No data available
- Thermal decomposition : No data available
- Molecular formula : (C<sub>3</sub>H<sub>6</sub>O)<sub>n</sub>H<sub>2</sub>O  
 Molecular weight : Not applicable  
 pH : Not applicable  
 pour point : No data available  
 Boiling point/boiling range : No data available  
 Vapor pressure : Not applicable  
 Relative density : 1, 25 °C(77 °F)



**DSCO™ Defoam**

Version 1.5

Revision Date 2014-10-28

Water solubility	: Partly soluble
Partition coefficient: n-octanol/water	: No data available
Viscosity, kinematic	: No data available
Relative vapor density	: No data available
Evaporation rate	: No data available
Percent volatile	: < 0.1 %

**SECTION 10: Stability and reactivity**

Chemical stability : This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

**Possibility of hazardous reactions**

Conditions to avoid	: High Temperatures.
Materials to avoid	: May react with oxygen and strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.
Thermal decomposition	: No data available
Hazardous decomposition products	: Carbon oxides
Other data	: No decomposition if stored and applied as directed.

**SECTION 11: Toxicological information**

**DSCO™ Defoam**  
**Acute oral toxicity** : LD50: > 2,000 mg/kg  
 Species: rat  
 Method: OECD Test Guideline 401

**DSCO™ Defoam**  
**Acute dermal toxicity** : LD50: > 3,000 mg/kg  
 Species: rabbit  
 Method: OECD Test Guideline 402

**DSCO™ Defoam**  
**Skin irritation** : No skin irritation

**DSCO™ Defoam**  
**Sensitization** : Did not cause sensitization on laboratory animals.

**DSCO™ Defoam**

Version 1.5

Revision Date 2014-10-28

**SECTION 12: Ecological information****Ecotoxicity effects**

**Toxicity to fish** : LC50: > 100 mg/l  
 Exposure time: 96 h  
 Species: Danio rerio (Zebra Fish)  
 static test Method: OECD Test Guideline 203

**Toxicity to daphnia and other aquatic invertebrates** : > 100 mg/l  
 Exposure time: 48 h  
 Species: Daphnia magna (Water flea)  
 static test Method: OECD Test Guideline 202

**Toxicity to algae** : EC50: > 100 mg/l  
 Exposure time: 72 h  
 Species: Desmodesmus subspicatus (green algae)  
 static test Method: OECD Test Guideline 201

Elimination information (persistence and degradability)

**Biodegradability** : aerobic  
 Result: Readily biodegradable.  
 86.6 %  
 Testing period: 28 d  
 Method: OECD Test Guideline 301F

**SECTION 13: Disposal considerations**

The information in this SDS pertains only to the product as shipped.

Use material for its intended purpose or recycle if possible. This material, if it must be discarded, may meet the criteria of a hazardous waste as defined by US EPA under RCRA (40 CFR 261) or other State and local regulations. Measurement of certain physical properties and analysis for regulated components may be necessary to make a correct determination. If this material is classified as a hazardous waste, federal law requires disposal at a licensed hazardous waste disposal facility.

**Contaminated packaging** : Empty containers should be taken to an approved waste handling site for recycling or disposal.

**SECTION 14: Transport information**

**The shipping descriptions shown here are for bulk shipments only, and may not apply to shipments in non-bulk packages (see regulatory definition).**

Consult the appropriate domestic or international mode-specific and quantity-specific Dangerous Goods Regulations for additional shipping description requirements (e.g., technical name or names, etc.) Therefore, the information shown here, may not always agree with the bill of lading shipping description for the material. Flashpoints for the material may vary slightly between the SDS and the bill of lading.

**DSCO™ Defoam**

Version 1.5

Revision Date 2014-10-28

**US DOT (UNITED STATES DEPARTMENT OF TRANSPORTATION)**

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

**IMO / IMDG (INTERNATIONAL MARITIME DANGEROUS GOODS)**

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

**IATA (INTERNATIONAL AIR TRANSPORT ASSOCIATION)**

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

**ADR (AGREEMENT ON DANGEROUS GOODS BY ROAD (EUROPE))**

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

**RID (REGULATIONS CONCERNING THE INTERNATIONAL TRANSPORT OF DANGEROUS GOODS (EUROPE))**

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

**ADN (EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY INLAND WATERWAYS)**

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

**SECTION 15: Regulatory information****National legislation**

**SARA 311/312 Hazards** : No SARA Hazards

CERCLA Reportable Quantity : This material does not contain any components with a CERCLA RQ.

SARA 302 Reportable Quantity : This material does not contain any components with a SARA 302 RQ.

SARA 302 Threshold Planning Quantity : SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 304 Reportable : This material does not contain any components with a section

**DSCO™ Defoam**

Version 1.5

Revision Date 2014-10-28

Quantity 304 EHS RQ.

SARA 313 Ingredients : SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

**Clean Air Act**

Ozone-Depletion Potential : This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 12 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCM I Intermediate or Final VOC's (40 CFR 60.489):

: Polypropylene Glycol - 25322-69-4

**US State Regulations**

Pennsylvania Right To Know : No components are subject to the Pennsylvania Right to Know Act.

New Jersey Right To Know : No components are subject to the New Jersey Right to Know Act.

California Prop. 65 Ingredients : This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

WARNING! This product contains a chemical known in the State of California to cause cancer.

Propylene oxide

75-56-9

**DSCO™ Defoam**

Version 1.5

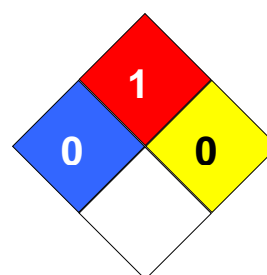
Revision Date 2014-10-28

**Notification status**

Europe REACH : On the inventory, or in compliance with the inventory  
 United States of America TSCA : On TSCA Inventory  
 Canada DSL : All components of this product are on the Canadian DSL.  
 Australia AICS : On the inventory, or in compliance with the inventory  
 New Zealand NZIoC : On the inventory, or in compliance with the inventory  
 Notification number: HSR003037  
 Japan ENCS : On the inventory, or in compliance with the inventory  
 Korea KECI : On the inventory, or in compliance with the inventory  
 Philippines PICCS : On the inventory, or in compliance with the inventory  
 China IECSC : On the inventory, or in compliance with the inventory

**SECTION 16: Other information**

**NFPA Classification** : Health Hazard: 0  
 Fire Hazard: 1  
 Reactivity Hazard: 0

**Further information**

Legacy SDS Number : 430500

Significant changes since the last version are highlighted in the margin. This version replaces all previous versions.

The information in this SDS pertains only to the product as shipped.

The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

**Key or legend to abbreviations and acronyms used in the safety data sheet**

ACGIH	American Conference of Government Industrial Hygienists	LD50	Lethal Dose 50%
AICS	Australia, Inventory of Chemical Substances	LOAEL	Lowest Observed Adverse Effect Level
DSL	Canada, Domestic Substances List	NFPA	National Fire Protection Agency
NDSL	Canada, Non-Domestic Substances List	NIOSH	National Institute for Occupational Safety & Health
CNS	Central Nervous System	NTP	National Toxicology Program
CAS	Chemical Abstract Service	NZIoC	New Zealand Inventory of Chemicals
EC50	Effective Concentration	NOAEL	No Observable Adverse Effect Level
EC50	Effective Concentration 50%	NOEC	No Observed Effect Concentration
EGEST	EOSCA Generic Exposure Scenario Tool	OSHA	Occupational Safety & Health Administration

**DSCO™ Defoam**

Version 1.5

Revision Date 2014-10-28

EOSCA	European Oilfield Specialty Chemicals Association	PEL	Permissible Exposure Limit
EINECS	European Inventory of Existing Chemical Substances	PICCS	Philippines Inventory of Commercial Chemical Substances
MAK	Germany Maximum Concentration Values	PRNT	Presumed Not Toxic
GHS	Globally Harmonized System	RCRA	Resource Conservation Recovery Act
>=	Greater Than or Equal To	STEL	Short-term Exposure Limit
IC50	Inhibition Concentration 50%	SARA	Superfund Amendments and Reauthorization Act.
IARC	International Agency for Research on Cancer	TLV	Threshold Limit Value
IECSC	Inventory of Existing Chemical Substances in China	TWA	Time Weighted Average
ENCS	Japan, Inventory of Existing and New Chemical Substances	TSCA	Toxic Substance Control Act
KECI	Korea, Existing Chemical Inventory	UVCB	Unknown or Variable Composition, Complex Reaction Products, and Biological Materials
<=	Less Than or Equal To	WHMIS	Workplace Hazardous Materials Information System
LC50	Lethal Concentration 50%		

---

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

---

### 1.1 Product identifier

**Product name** FLEXFIRM KA  
**Synonym(s)** POTASSIUM SILICATE POWDER

### 1.2 Uses and uses advised against

**Use(s)** DRILLING AID

### 1.3 Details of the supplier of the product

**Supplier name** NEWPARK DRILLING FLUIDS (AUSTRALIA) LTD  
**Address** 11 Alacrity Place, Henderson, WA, 6166, AUSTRALIA  
**Telephone** +61 8 9410 8200  
**Fax** +61 8 9410 8299  
**Website** [www.newpark.com](http://www.newpark.com)

### 1.4 Emergency telephone number(s)

**Emergency** 1800 127 406 (Australia); +64 3 3530199 (International)

---

## 2. HAZARDS IDENTIFICATION

---

### 2.1 Classification of the substance or mixture

CLASSIFIED AS HAZARDOUS ACCORDING TO AUSTRALIAN WHS REGULATIONS

**GHS classification(s)** Specific Target Organ Systemic Toxicity (Repeated Exposure): Category 2  
Specific Target Organ Systemic Toxicity (Single Exposure): Category 3  
Acute Toxicity: Oral: Category 4  
Serious Eye Damage / Eye Irritation: Category 2A  
Skin Corrosion/Irritation: Category 2

### 2.2 Label elements

**Signal word** WARNING

**Pictogram(s)**



**Hazard statement(s)**

H302 Harmful if swallowed.  
H315 Causes skin irritation.  
H319 Causes serious eye irritation.  
H335 May cause respiratory irritation.  
H373 May cause damage to organs through prolonged or repeated exposure.

**Prevention statement(s)**

P260 Do not breathe dust/fume/gas/mist/vapours/spray.  
P264 Wash thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P271 Use only outdoors or in a well-ventilated area.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.

**PRODUCT NAME FLEXFIRM KA****Response statement(s)**

P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.  
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.  
P304 + P340 IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P314 Get medical advice/attention if you feel unwell.  
P321 Specific treatment is advised - see first aid instructions.  
P330 Rinse mouth.  
P332 + P337 + P313 If skin or eye irritation occurs: Get medical advice/ attention.  
P362 Take off contaminated clothing and wash before re-use.

**Storage statement(s)**

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.  
P405 Store locked up.

**Disposal statement(s)**

P501 Dispose of contents/container in accordance with relevant regulations.

**2.3 Other hazards**

No information provided.

---

**3. COMPOSITION/ INFORMATION ON INGREDIENTS**

---

**3.1 Substances / Mixtures**

Ingredient	CAS Number	EC Number	Content
QUARTZ (CRYSTALLINE SILICA)	14808-60-7	238-878-4	0.1 to 1%
POTASSIUM SILICATE	1312-76-1	215-199-1	99%

---

**4. FIRST AID MEASURES**

---

**4.1 Description of first aid measures**

**Eye** If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.

**Inhalation** If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.

**Skin** If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.

**Ingestion** For advice, contact a Poison Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting.

**First aid facilities** No information provided.

**4.2 Most important symptoms and effects, both acute and delayed**

Irritating to the eyes and skin.

**4.3 Immediate medical attention and special treatment needed**

Treat symptomatically.

---

**5. FIRE FIGHTING MEASURES**

---

**5.1 Extinguishing media**

Use an extinguishing agent suitable for the surrounding fire.

**5.2 Special hazards arising from the substance or mixture**

Non flammable. May evolve toxic gases if strongly heated.

**5.3 Advice for firefighters**

Treat as per requirements for surrounding fires. Evacuate area and contact emergency services. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

**5.4 Hazchem code**

None allocated.



## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures

Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. Ventilate area where possible.

### 6.2 Environmental precautions

Prevent product from entering drains and waterways.

### 6.3 Methods of cleaning up

Contain spillage, then collect and place in suitable containers for disposal. Avoid generating dust.

### 6.4 Reference to other sections

See Sections 8 and 13 for exposure controls and disposal.

## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

### 7.2 Conditions for safe storage, including any incompatibilities

Store in a cool, dry, well ventilated area, removed from incompatible substances and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use. Check regularly for leaks or spills.

### 7.3 Specific end use(s)

No information provided.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters

#### Exposure standards

Ingredient	Reference	TWA		STEL	
		ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>
Quartz (respirable dust)	SWA (AUS)	--	0.1	--	--

#### Biological limits

No biological limit values have been entered for this product.

### 8.2 Exposure controls

**Engineering controls** Avoid inhalation. Use in well ventilated areas.

#### PPE

<b>Eye / Face</b>	Wear dust-proof goggles.
<b>Hands</b>	Wear PVC or rubber gloves.
<b>Body</b>	When using large quantities or where heavy contamination is likely, wear coveralls.
<b>Respiratory</b>	Where an inhalation risk exists, wear a Class P1 (Particulate) respirator.



## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

<b>Appearance</b>	WHITE POWDER
<b>Odour</b>	ODOURLESS
<b>Flammability</b>	NON FLAMMABLE
<b>Flash point</b>	NOT RELEVANT

**9.1 Information on basic physical and chemical properties**

Boiling point	NOT AVAILABLE
Melting point	NOT AVAILABLE
Evaporation rate	NOT AVAILABLE
pH	11.3 (50 % solution) (Approximately)
Vapour density	NOT AVAILABLE
Specific gravity	NOT AVAILABLE
Solubility (water)	SOLUBLE
Vapour pressure	NOT AVAILABLE
Upper explosion limit	NOT RELEVANT
Lower explosion limit	NOT RELEVANT
Partition coefficient	NOT AVAILABLE
Autoignition temperature	NOT AVAILABLE
Decomposition temperature	NOT AVAILABLE
Viscosity	NOT AVAILABLE
Explosive properties	NOT AVAILABLE
Oxidising properties	NOT AVAILABLE
Odour threshold	NOT AVAILABLE

**10. STABILITY AND REACTIVITY**

**10.1 Reactivity**

Carefully review all information provided in sections 10.2 to 10.6.

**10.2 Chemical stability**

Stable under recommended conditions of storage.

**10.3 Possibility of hazardous reactions**

Polymerization is not expected to occur.

**10.4 Conditions to avoid**

Avoid heat, sparks, open flames and other ignition sources.

**10.5 Incompatible materials**

Incompatible with oxidising agents (e.g. hypochlorites) and acids (e.g. nitric acid).

**10.6 Hazardous decomposition products**

May evolve toxic gases if heated to decomposition.

**11. TOXICOLOGICAL INFORMATION**

**11.1 Information on toxicological effects**

**Acute toxicity** Information available for the product:  
Harmful if swallowed.

Information available for the ingredient(s):

Ingredient	Oral Toxicity (LD50)	Dermal Toxicity (LD50)	Inhalation Toxicity (LC50)
POTASSIUM SILICATE	1600 mg/kg (rat)	--	--

<b>Skin</b>	Irritating to the skin. Contact may result in irritation, redness, pain, rash, dermatitis and possible skin burns.
<b>Eye</b>	Irritating to the eyes. Contact may result in irritation, lacrimation, pain, redness, conjunctivitis and possible burns.
<b>Sensitization</b>	Not classified as causing skin or respiratory sensitisation.
<b>Mutagenicity</b>	Insufficient data available to classify as a mutagen.
<b>Carcinogenicity</b>	Crystalline silica is classified as carcinogenic to humans (IARC Group 1). However, there is a body of evidence supporting the fact that increased cancer risk would be limited to people already suffering from silicosis.
<b>Reproductive</b>	Insufficient data available to classify as a reproductive toxin.
<b>STOT – single exposure</b>	Irritating to the respiratory system. Over exposure may result in irritation of the nose and throat, with coughing. High level exposure may result in breathing difficulties.
<b>STOT – repeated</b>	Repeated exposure to respirable silica may result in pulmonary fibrosis (silicosis). Silicosis is a fibronodular

**PRODUCT NAME FLEXFIRM KA**

**exposure** lung disease caused deposition in the lungs of fine respirable particles of crystalline silica. Principal symptoms of silicosis are coughing and breathlessness.

**Aspiration** Not classified as causing aspiration.

---

**12. ECOLOGICAL INFORMATION**

---

**12.1 Toxicity**

The high pH when undiluted or unneutralized is acutely harmful to aquatic life. The following data is reported for chemically similar Sodium Silicates on a 100% solids basis: A 96 hour median tolerance for fish (*Gambusia affinis*) of 2320 ppm; a 96 hour median tolerance for water fleas (*Daphnia magna*) of 247 ppm; a 96 hour median tolerance for snail eggs (*Lymnea*) of 632 ppm; and a 96 hour median tolerance for Amphipoda of 160 ppm.

**12.2 Persistence and degradability**

This material is not persistent in aquatic systems.

**12.3 Bioaccumulative potential**

Neither silica nor potassium will appreciably bio-concentrate up the food chain.

**12.4 Mobility in soil**

Expected to be mobile in soil. Diluted material rapidly depolymerizes to yield dissolved silica in a form that is indistinguishable from natural dissolved silica.

**12.5 Other adverse effects**

No information provided.

---

**13. DISPOSAL CONSIDERATIONS**

---

**13.1 Waste treatment methods**

**Waste disposal** Collect without generating dust. Place in clean, sealed containers and dispose of to an approved landfill site. Contact the manufacturer/supplier for additional information (if required).

**Legislation** Dispose of in accordance with relevant local legislation.

---

**14. TRANSPORT INFORMATION**

---

**NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA**

	LAND TRANSPORT (ADG)	SEA TRANSPORT (IMDG / IMO)	AIR TRANSPORT (IATA / ICAO)
14.1 UN Number	None Allocated	None Allocated	None Allocated
14.2 Proper Shipping Name	None Allocated	None Allocated	None Allocated
14.3 Transport hazard class	None Allocated	None Allocated	None Allocated
14.4 Packing Group	None Allocated	None Allocated	None Allocated

**14.5 Environmental hazards** No information provided

**14.6 Special precautions for user**

**Hazchem code** None Allocated

---

**15. REGULATORY INFORMATION**

---

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**Poison schedule** Classified as a Schedule 5 (S5) Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**Classifications** Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

The classifications and phrases listed below are based on the Approved Criteria for Classifying Hazardous Substances [NOHSC: 1008(2004)].

**Hazard codes** Xi Irritant  
Xn Harmful

**PRODUCT NAME FLEXFIRM KA**

<b>Risk phrases</b>	R22	Harmful if swallowed.
	R36/37/38	Irritating to eyes, respiratory system and skin.
	R48/20	Harmful: danger of serious damage to health by prolonged exposure through inhalation.
<b>Safety phrases</b>	S22	Do not breathe dust.
	S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice
	S36/37/39	Wear suitable protective clothing, gloves and eye/face protection.
<b>Inventory listing(s)</b>	<b>AUSTRALIA: AICS (Australian Inventory of Chemical Substances)</b> All components are listed on AICS, or are exempt.	

---

**16. OTHER INFORMATION**

---

<b>Additional information</b>	<b>PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:</b> The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.	
	<b>HEALTH EFFECTS FROM EXPOSURE:</b> It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a ChemAlert report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.	
<b>Abbreviations</b>	ACGIH	American Conference of Governmental Industrial Hygienists
	CAS #	Chemical Abstract Service number - used to uniquely identify chemical compounds
	CNS	Central Nervous System
	EC No.	EC No - European Community Number
	EMS	Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods)
	GHS	Globally Harmonized System
	GTEPG	Group Text Emergency Procedure Guide
	IARC	International Agency for Research on Cancer
	LC50	Lethal Concentration, 50% / Median Lethal Concentration
	LD50	Lethal Dose, 50% / Median Lethal Dose
	mg/m <sup>3</sup>	Milligrams per Cubic Metre
	OEL	Occupational Exposure Limit
	pH	relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
	ppm	Parts Per Million
	STEL	Short-Term Exposure Limit
	STOT-RE	Specific target organ toxicity (repeated exposure)
	STOT-SE	Specific target organ toxicity (single exposure)
	SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons
	SWA	Safe Work Australia
	TLV	Threshold Limit Value
TWA	Time Weighted Average	

<b>Report status</b>	This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').	
	It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.	
	While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.	

**PRODUCT NAME FLEXFIRM KA**

**Prepared by**

Risk Management Technologies  
5 Ventnor Ave, West Perth  
Western Australia 6005  
Phone: +61 8 9322 1711  
Fax: +61 8 9322 1794  
Email: info@rmt.com.au  
Web: www.rmt.com.au.

**[ End of SDS ]**

---

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

---

### 1.1 Product identifier

**Product name** FRAC ATTACK  
**Synonym(s)** FRAC-ATTACK

### 1.2 Uses and uses advised against

**Use(s)** LOST CIRCULATION MATERIAL

### 1.3 Details of the supplier of the product

**Supplier name** NEWPARK DRILLING FLUIDS (AUSTRALIA) LTD  
**Address** 11 Alacrity Place, Henderson, WA, 6166, AUSTRALIA  
**Telephone** +61 8 9410 8200  
**Fax** +61 8 9410 8299  
**Website** [www.newpark.com](http://www.newpark.com)

### 1.4 Emergency telephone number(s)

**Emergency** 1800 127 406 (Australia); +64 3 3530199 (International)

---

## 2. HAZARDS IDENTIFICATION

---

### 2.1 Classification of the substance or mixture

CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

**GHS classification(s)** Skin Corrosion/Irritation: Category 2  
Serious Eye Damage / Eye Irritation: Category 1  
Specific Target Organ Systemic Toxicity (Single Exposure): Category 3

### 2.2 Label elements

**Signal word** DANGER

**Pictogram(s)**



### Hazard statement(s)

H315 Causes skin irritation.  
H318 Causes serious eye damage.  
H335 May cause respiratory irritation.

### Prevention statement(s)

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.  
P264 Wash thoroughly after handling.  
P271 Use only outdoors or in a well-ventilated area.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.

**PRODUCT NAME FRAC ATTACK****Response statement(s)**

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.  
P304 + P340 IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P310 Immediately call a POISON CENTER or doctor/physician.  
P321 Specific treatment is advised - see first aid instructions.  
P332 + P313 If skin irritation occurs: Get medical advice/ attention.  
P362 Take off contaminated clothing and wash before re-use.

**Storage statement(s)**

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.  
P405 Store locked up.

**Disposal statement(s)**

P501 Dispose of contents/container in accordance with relevant regulations.

**2.3 Other hazards**

No information provided.

---

**3. COMPOSITION/ INFORMATION ON INGREDIENTS**

---

**3.1 Substances / Mixtures**

Ingredient	CAS Number	EC Number	Content
CALCIUM OXIDE	1305-78-8	215-138-9	<10%
CALCIUM HYDROXIDE	1305-62-0	215-137-3	<5%
CRISTOBALITE	14464-46-1	238-455-4	<5%
QUARTZ (CRYSTALLINE SILICA)	14808-60-7	238-878-4	<3%
2-PROPENENITRILE-1,3-BUTADIENE RUBBER	9003-18-3	618-357-1	<50%
NATURAL RUBBER	9006-04-6	232-689-0	<50%
POLYISOPRENE	9003-31-0	618-362-9	<50%
SBR ELASTOMERS	9003-55-8	618-370-2	<50%
CELLULOSE	9004-34-6	232-674-9	<30%
DIATOMACEOUS EARTH	61790-53-2	612-383-7	<15%
FULLERS EARTH	8031-18-3	617-052-0	<12%
MAGNESIUM OXIDE	1309-48-4	215-171-9	<2%

---

**4. FIRST AID MEASURES**

---

**4.1 Description of first aid measures**

**Eye** If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.

**Inhalation** If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.

**Skin** If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.

**Ingestion** For advice, contact a Poison Information Centre on 13 11 26 (Australia Wide) or a doctor (at once).

**First aid facilities** Eye wash facilities should be available.

**4.2 Most important symptoms and effects, both acute and delayed**

See Section 11 for more detailed information on health effects and symptoms.

**4.3 Immediate medical attention and special treatment needed**

Treat symptomatically.

---

**5. FIRE FIGHTING MEASURES**

---

## PRODUCT NAME FRAC ATTACK

### 5.1 Extinguishing media

Use an extinguishing agent suitable for the surrounding fire.

### 5.2 Special hazards arising from the substance or mixture

Non flammable.

### 5.3 Advice for firefighters

Treat as per requirements for surrounding fires. Evacuate area and contact emergency services. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

### 5.4 Hazchem code

None allocated.

---

## 6. ACCIDENTAL RELEASE MEASURES

---

### 6.1 Personal precautions, protective equipment and emergency procedures

Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. Clear area of all unprotected personnel. Contact emergency services where appropriate.

### 6.2 Environmental precautions

Prevent product from entering drains and waterways.

### 6.3 Methods of cleaning up

Contain spillage, then collect and place in suitable containers for reuse or disposal. Avoid generating dust.

### 6.4 Reference to other sections

See Sections 8 and 13 for exposure controls and disposal.

---

## 7. HANDLING AND STORAGE

---

### 7.1 Precautions for safe handling

Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

### 7.2 Conditions for safe storage, including any incompatibilities

Store in a cool, dry, well ventilated area, removed from incompatible substances and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use. Check regularly for leaks or spills.

### 7.3 Specific end use(s)

No information provided.

---

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

---

### 8.1 Control parameters

#### Exposure standards

Ingredient	Reference	TWA		STEL	
		ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>
Calcium hydroxide	SWA (AUS)	--	5	--	--
Calcium oxide	SWA (AUS)	--	2	--	--
Cellulose (paper fibre) (a)	SWA (AUS)	--	10	--	--
Cristobalite	SWA (AUS)	--	0.1	--	--
Diatomaceous earth (uncalcined) (a)	SWA (AUS)	--	10	--	--
Magnesium oxide (fume)	SWA (AUS)	--	10	--	--
Quartz (respirable dust)	SWA (AUS)	--	0.1	--	--

#### Biological limits

No biological limit values have been entered for this product.



## PRODUCT NAME FRAC ATTACK

### 8.2 Exposure controls

**Engineering controls** Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical extraction ventilation is recommended. Maintain dust levels below the recommended exposure standard.

### PPE

<b>Eye / Face</b>	Wear dust-proof goggles.
<b>Hands</b>	Wear PVC or rubber gloves.
<b>Body</b>	Wear coveralls.
<b>Respiratory</b>	Where an inhalation risk exists, wear a Class P1 (Particulate) respirator.



---

## 9. PHYSICAL AND CHEMICAL PROPERTIES

---

### 9.1 Information on basic physical and chemical properties

<b>Appearance</b>	BROWN/GREY POWDER
<b>Odour</b>	ODOURLESS
<b>Flammability</b>	NON FLAMMABLE
<b>Flash point</b>	NOT RELEVANT
<b>Boiling point</b>	NOT RELEVANT
<b>Melting point</b>	NOT AVAILABLE
<b>Evaporation rate</b>	NON VOLATILE
<b>pH</b>	ALKALINE
<b>Vapour density</b>	NOT AVAILABLE
<b>Specific gravity</b>	2.10
<b>Solubility (water)</b>	NEGLIGIBLE
<b>Vapour pressure</b>	NOT AVAILABLE
<b>Upper explosion limit</b>	NOT RELEVANT
<b>Lower explosion limit</b>	NOT RELEVANT
<b>Partition coefficient</b>	NOT AVAILABLE
<b>Autoignition temperature</b>	NOT AVAILABLE
<b>Decomposition temperature</b>	NOT AVAILABLE
<b>Viscosity</b>	NOT AVAILABLE
<b>Explosive properties</b>	NOT AVAILABLE
<b>Oxidising properties</b>	NOT AVAILABLE
<b>Odour threshold</b>	NOT AVAILABLE

### 9.2 Other information

<b>% Volatiles</b>	NOT RELEVANT
--------------------	--------------

---

## 10. STABILITY AND REACTIVITY

---

### 10.1 Reactivity

Carefully review all information provided in sections 10.2 to 10.6.

### 10.2 Chemical stability

Stable under recommended conditions of storage.

### 10.3 Possibility of hazardous reactions

Polymerization will not occur.

### 10.4 Conditions to avoid

Avoid heat, sparks, open flames and other ignition sources.

### 10.5 Incompatible materials

Incompatible with oxidising agents (e.g. hypochlorites) and acids (e.g. nitric acid).

### 10.6 Hazardous decomposition products

May evolve Fluorine, Oxygen Difluoride, Chlorine, Trifluoride and Hydrofluoric Acid when heated to decomposition.

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

<b>Acute toxicity</b>	No known toxicity data is available for this product. Based on available data, the classification criteria are not met.
<b>Skin</b>	Irritating to the skin. Contact may result in irritation, redness, pain, rash, dermatitis and possible skin burns.
<b>Eye</b>	Irritating to the eyes. Contact may result in irritation, lacrimation, pain, redness, conjunctivitis and possible burns.
<b>Sensitization</b>	This product is not classified as causing skin or respiratory sensitisation.
<b>Mutagenicity</b>	Insufficient data available to classify as a mutagen.
<b>Carcinogenicity</b>	Crystalline silica is classified as carcinogenic to humans (IARC Group 1). However, there is insufficient respirable silica in this product to be classified as a carcinogen.
<b>Reproductive</b>	Insufficient data available to classify as a reproductive toxin.
<b>STOT – single exposure</b>	Irritating to the respiratory system. Over exposure may result in irritation of the nose and throat, with coughing.
<b>STOT – repeated exposure</b>	Chronic exposure to crystalline silica may cause lung fibrosis (silicosis), however due to the low levels of crystalline silica in this product, chronic health effects are not anticipated with normal use.
<b>Aspiration</b>	Not relevant.

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

No information provided.

### 12.2 Persistence and degradability

No information provided.

### 12.3 Bioaccumulative potential

No information provided.

### 12.4 Mobility in soil

No information provided.

### 12.5 Other adverse effects

No information provided.

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

<b>Waste disposal</b>	Collect without generating dust. Place in clean, sealed containers and dispose of to an approved landfill site. Contact the manufacturer/supplier for additional information (if required).
<b>Legislation</b>	Dispose of in accordance with relevant local legislation.

## 14. TRANSPORT INFORMATION

NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA

	LAND TRANSPORT (ADG)	SEA TRANSPORT (IMDG / IMO)	AIR TRANSPORT (IATA / ICAO)
<b>14.1 UN Number</b>	None Allocated	None Allocated	None Allocated
<b>14.2 Proper Shipping Name</b>	None Allocated	None Allocated	None Allocated
<b>14.3 Transport hazard class</b>	None Allocated	None Allocated	None Allocated
<b>14.4 Packing Group</b>	None Allocated	None Allocated	None Allocated

**14.5 Environmental hazards** No information provided

### 14.6 Special precautions for user

**Hazchem code** None Allocated

---

## 15. REGULATORY INFORMATION

---

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

<b>Poison schedule</b>	A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).	
<b>Classifications</b>	Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.  The classifications and phrases listed below are based on the Approved Criteria for Classifying Hazardous Substances [NOHSC: 1008(2004)].	
<b>Hazard codes</b>	Xi	Irritant
<b>Risk phrases</b>	R37/38 R41	Irritating to respiratory system and skin. Risk of serious damage to eyes.
<b>Safety phrases</b>	S26 S36/37/39 S45	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice Wear suitable protective clothing, gloves and eye/face protection. In case of accident or if you feel unwell seek medical advice immediately (show the label where possible).
<b>Inventory listing(s)</b>	<b>AUSTRALIA: AICS (Australian Inventory of Chemical Substances)</b> All components are listed on AICS, or are exempt.	

---

## 16. OTHER INFORMATION

---

**Additional information**      **RESPIRATORS:** In general the use of respirators should be limited and engineering controls employed to avoid exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.

**PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:**

The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

**HEALTH EFFECTS FROM EXPOSURE:**

It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a ChemAlert report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

**PRODUCT NAME    FRAC ATTACK****Abbreviations**

ACGIH	American Conference of Governmental Industrial Hygienists
CAS #	Chemical Abstract Service number - used to uniquely identify chemical compounds
CNS	Central Nervous System
EC No.	EC No - European Community Number
EMS	Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods)
GHS	Globally Harmonized System
GTEPG	Group Text Emergency Procedure Guide
IARC	International Agency for Research on Cancer
LC50	Lethal Concentration, 50% / Median Lethal Concentration
LD50	Lethal Dose, 50% / Median Lethal Dose
mg/m <sup>3</sup>	Milligrams per Cubic Metre
OEL	Occupational Exposure Limit
pH	relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
ppm	Parts Per Million
STEL	Short-Term Exposure Limit
STOT-RE	Specific target organ toxicity (repeated exposure)
STOT-SE	Specific target organ toxicity (single exposure)
SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons
SWA	Safe Work Australia
TLV	Threshold Limit Value
TWA	Time Weighted Average

**Revision history**

Revision	Description
2.0	Converted to GHS.
1.6	Standard SDS Review
1.5	Standard SDS Review
1.4	Standard SDS Review.
1.3	Standard SDS Review.
1.2	Standard SDS Review.
1.1	Standard SDS Review.
1.0	Initial SDS creation

**Report status**

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

**Prepared by**

Risk Management Technologies  
5 Ventnor Ave, West Perth  
Western Australia 6005  
Phone: +61 8 9322 1711  
Fax: +61 8 9322 1794  
Email: info@rmt.com.au  
Web: www.rmt.com.au.

**Revision:** 2  
**SDS date:** 05 February 2015

**[ End of SDS ]**

---

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

---

### 1.1 Product identifier

**Product name** FRACSEAL FINE/MEDIUM  
**Synonym(s)** FRACSEAL F • FRACSEAL FINE • FRACSEAL M • FRACSEAL MEDIUM

### 1.2 Uses and uses advised against

**Use(s)** DRILLING FLUID ADDITIVE

### 1.3 Details of the supplier of the product

**Supplier name** NEWPARK DRILLING FLUIDS (AUSTRALIA) LTD  
**Address** 11 Alacrity Place, Henderson, WA, 6166, AUSTRALIA  
**Telephone** +61 8 9410 8200  
**Fax** +61 8 9410 8299  
**Website** [www.newpark.com](http://www.newpark.com)

### 1.4 Emergency telephone number(s)

**Emergency** 1800 127 406 (Australia); +64 3 3530199 (International)

---

## 2. HAZARDS IDENTIFICATION

---

### 2.1 Classification of the substance or mixture

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

### 2.2 Label elements

No signal word, pictograms, hazard or precautionary statements have been allocated.

### 2.3 Other hazards

No information provided.

---

## 3. COMPOSITION/ INFORMATION ON INGREDIENTS

---

### 3.1 Substances / Mixtures

Ingredient	CAS Number	EC Number	Content
CELLULOSE	9004-34-6	232-674-9	100%

---

## 4. FIRST AID MEASURES

---

### 4.1 Description of first aid measures

**Eye** If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.

**Inhalation** If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.

**Skin** Exposure is considered unlikely. Skin irritation is not anticipated.

**Ingestion** For advice, contact a Poison Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). Due to product form and application, ingestion is considered unlikely.

**First aid facilities** No information provided.

### 4.2 Most important symptoms and effects, both acute and delayed

This product is expected to be of low toxicity. Under normal conditions of use, adverse health effects are not anticipated.

**4.3 Immediate medical attention and special treatment needed**

Treat symptomatically.

---

**5. FIRE FIGHTING MEASURES**

---

**5.1 Extinguishing media**

Dry agent, carbon dioxide, foam or water fog. Prevent contamination of drains and waterways.

**5.2 Special hazards arising from the substance or mixture**

Combustible. May evolve toxic gases (carbon oxides, hydrocarbons) when heated to decomposition. Finely divided dust may form explosive mixtures with air.

**5.3 Advice for firefighters**

Evacuate area and contact emergency services. Toxic gases may be evolved in a fire situation. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

**5.4 Hazchem code**

None allocated.

---

**6. ACCIDENTAL RELEASE MEASURES**

---

**6.1 Personal precautions, protective equipment and emergency procedures**

Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS.

**6.2 Environmental precautions**

Prevent product from entering drains and waterways.

**6.3 Methods of cleaning up**

Moisten with water to prevent a dust hazard and place in sealable containers for disposal.

**6.4 Reference to other sections**

See Sections 8 and 13 for exposure controls and disposal.

---

**7. HANDLING AND STORAGE**

---

**7.1 Precautions for safe handling**

Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

**7.2 Conditions for safe storage, including any incompatibilities**

Store in a cool, dry, well ventilated area, removed from incompatible substances, heat or ignition sources and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use. Check regularly for damage to containers.

**7.3 Specific end use(s)**

No information provided.

---

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

---

**8.1 Control parameters**

**Exposure standards**

Ingredient	Reference	TWA		STEL	
		ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>
Cellulose (paper fibre) (a)	SWA (AUS)	--	10	--	--

**Biological limits**

No biological limit values have been entered for this product.

**8.2 Exposure controls**

**Engineering controls** Avoid inhalation. Use in well ventilated areas. Maintain dust levels below the recommended exposure standard.

**PPE**

- Eye / Face** When using large quantities or where heavy contamination is likely, wear dust-proof goggles.
- Hands** Wear PVC or rubber gloves.
- Body** When using large quantities or where heavy contamination is likely, wear coveralls.
- Respiratory** Where an inhalation risk exists, wear a Class P1 (Particulate) respirator.



---

**9. PHYSICAL AND CHEMICAL PROPERTIES**

---

**9.1 Information on basic physical and chemical properties**

<b>Appearance</b>	YELLOW TO BROWN SOLID
<b>Odour</b>	ODOURLESS
<b>Flammability</b>	COMBUSTIBLE
<b>Flash point</b>	NOT AVAILABLE
<b>Boiling point</b>	NOT AVAILABLE
<b>Melting point</b>	500°C to 518°C
<b>Evaporation rate</b>	NOT AVAILABLE
<b>pH</b>	6.5 to 7.5
<b>Vapour density</b>	NOT AVAILABLE
<b>Specific gravity</b>	0.9
<b>Solubility (water)</b>	INSOLUBLE
<b>Vapour pressure</b>	NOT AVAILABLE
<b>Upper explosion limit</b>	NOT AVAILABLE
<b>Lower explosion limit</b>	NOT AVAILABLE
<b>Partition coefficient</b>	NOT AVAILABLE
<b>Autoignition temperature</b>	NOT AVAILABLE
<b>Decomposition temperature</b>	NOT AVAILABLE
<b>Viscosity</b>	NOT AVAILABLE
<b>Explosive properties</b>	NOT AVAILABLE
<b>Oxidising properties</b>	NOT AVAILABLE
<b>Odour threshold</b>	NOT AVAILABLE

**9.2 Other information**

<b>% Volatiles</b>	NOT AVAILABLE
--------------------	---------------

---

**10. STABILITY AND REACTIVITY**

---

**10.1 Reactivity**

Carefully review all information provided in sections 10.2 to 10.6.

**10.2 Chemical stability**

Stable under recommended conditions of storage.

**10.3 Possibility of hazardous reactions**

Polymerization is not expected to occur.

**10.4 Conditions to avoid**

Avoid heat, sparks, open flames and other ignition sources.

**10.5 Incompatible materials**

Incompatible with oxidising agents (e.g. hypochlorites).

**10.6 Hazardous decomposition products**

May evolve carbon oxides and hydrocarbons when heated to decomposition.

**11. TOXICOLOGICAL INFORMATION**

**11.1 Information on toxicological effects**

<b>Acute toxicity</b>	This product is expected to be of low toxicity. Under normal conditions of use, adverse health effects are not anticipated. Oral LD50 (rat) is > 5000 mg/kg. Dermal LD50 (rabbit) is > 2000 mg/kg. LC50 (rat) is 510 mg/m <sup>3</sup> /2 hours.
<b>Skin</b>	Not classified as a skin irritant.
<b>Eye</b>	Not classified as an eye irritant. Contact may cause mild discomfort.
<b>Sensitization</b>	This product is not known to be a skin or respiratory sensitiser.
<b>Mutagenicity</b>	No evidence of mutagenic effects.
<b>Carcinogenicity</b>	No evidence of carcinogenic effects.
<b>Reproductive</b>	No evidence of reproductive effects.
<b>STOT – single exposure</b>	Not classified as causing organ effects from single exposure.
<b>STOT – repeated exposure</b>	Not classified as causing organ effects from repeated exposure.
<b>Aspiration</b>	Not relevant.

**12. ECOLOGICAL INFORMATION**

**12.1 Toxicity**

No information provided.

**12.2 Persistence and degradability**

No information provided.

**12.3 Bioaccumulative potential**

No information provided.

**12.4 Mobility in soil**

No information provided.

**12.5 Other adverse effects**

No information provided.

**13. DISPOSAL CONSIDERATIONS**

**13.1 Waste treatment methods**

<b>Waste disposal</b>	Reuse where possible. No special precautions are normally required when handling this product.
<b>Legislation</b>	Dispose of in accordance with relevant local legislation.

**14. TRANSPORT INFORMATION**

NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA

	LAND TRANSPORT (ADG)	SEA TRANSPORT (IMDG / IMO)	AIR TRANSPORT (IATA / ICAO)
<b>14.1 UN Number</b>	None Allocated	None Allocated	None Allocated
<b>14.2 Proper Shipping Name</b>	None Allocated	None Allocated	None Allocated
<b>14.3 Transport hazard class</b>	None Allocated	None Allocated	None Allocated
<b>14.4 Packing Group</b>	None Allocated	None Allocated	None Allocated

**14.5 Environmental hazards** No information provided

**14.6 Special precautions for user**



Hazchem code None Allocated

## 15. REGULATORY INFORMATION

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

<b>Poison schedule</b>	A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).
<b>Classifications</b>	Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.  The classifications and phrases listed below are based on the Approved Criteria for Classifying Hazardous Substances [NOHSC: 1008(2004)].
<b>Hazard codes</b>	None allocated.
<b>Risk phrases</b>	None allocated.
<b>Safety phrases</b>	None allocated.
<b>Inventory listing(s)</b>	<b>AUSTRALIA: AICS (Australian Inventory of Chemical Substances)</b> All components are listed on AICS, or are exempt.

## 16. OTHER INFORMATION

<b>Additional information</b>	<p><b>PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:</b> The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.</p> <p><b>HEALTH EFFECTS FROM EXPOSURE:</b> It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a ChemAlert report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.</p>	
<b>Abbreviations</b>	ACGIH	American Conference of Governmental Industrial Hygienists
	CAS #	Chemical Abstract Service number - used to uniquely identify chemical compounds
	CNS	Central Nervous System
	EC No.	EC No - European Community Number
	GHS	Globally Harmonized System
	IARC	International Agency for Research on Cancer
	LC50	Lethal Concentration, 50% / Median Lethal Concentration
	LD50	Lethal Dose, 50% / Median Lethal Dose
	mg/m <sup>3</sup>	Milligrams per Cubic Metre
	OEL	Occupational Exposure Limit
	pH	relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
	ppm	Parts Per Million
	STEL	Short-Term Exposure Limit
	STOT-RE	Specific target organ toxicity (repeated exposure)
	STOT-SE	Specific target organ toxicity (single exposure)
	SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons
	SWA	Safe Work Australia
	TLV	Threshold Limit Value
	TWA	Time Weighted Average

**PRODUCT NAME   FRACSEAL FINE/MEDIUM****Revision history**

Revision	Description
3.2	Standard SDS Review.
3.1	Standard SDS Review.
3.0	Converted to GHS.
2.0	Standard SDS Review
1.0	Initial SDS creation

**Report status**

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

**Prepared by**

Risk Management Technologies  
5 Ventnor Ave, West Perth  
Western Australia 6005  
Phone: +61 8 9322 1711  
Fax: +61 8 9322 1794  
Email: info@rmt.com.au  
Web: www.rmt.com.au.

**Revision:** 3.2  
**SDS date:** 25 November 2014

**[ End of SDS ]**

---

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

---

### 1.1 Product identifier

Product name GAGETROL

Synonym(s)

### 1.2 Uses and uses advised against

Use(s) DRILLING AID

### 1.3 Details of the supplier of the product

Supplier name NEWPARK DRILLING FLUIDS (AUSTRALIA) LTD  
Address 11 Alacrity Place, Henderson, WA, 6166, AUSTRALIA  
Telephone +61 8 9410 8200  
Fax +61 8 9410 8299  
Website [www.newpark.com](http://www.newpark.com)

### 1.4 Emergency telephone number(s)

Emergency 1800 127 406 (Australia); +64 3 3530199 (International)

---

## 2. HAZARDS IDENTIFICATION

---

### 2.1 Classification of the substance or mixture

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO AUSTRALIAN WHS REGULATIONS

### 2.2 Label elements

No signal word, pictograms, hazard or precautionary statements have been allocated.

### 2.3 Other hazards

No information provided.

---

## 3. COMPOSITION/ INFORMATION ON INGREDIENTS

---

### 3.1 Substances / Mixtures

Ingredient	CAS Number	EC Number	Content
CARBOXYMETHYL STARCH	9057-06-1	-	100%

---

## 4. FIRST AID MEASURES

---

### 4.1 Description of first aid measures

**Eye** If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.

**Inhalation** Due to product form / nature of use, an inhalation hazard is not anticipated.

**Skin** If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water.

**Ingestion** For advice, contact a Poison Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). Due to product form and application, ingestion is considered unlikely.

**First aid facilities** No information provided.

### 4.2 Most important symptoms and effects, both acute and delayed

Adverse effects not expected from this product under normal conditions of use.

**4.3 Immediate medical attention and special treatment needed**

Treat symptomatically.

---

**5. FIRE FIGHTING MEASURES**

---

**5.1 Extinguishing media**

Dry agent, carbon dioxide, foam or water fog. Prevent contamination of drains and waterways.

**5.2 Special hazards arising from the substance or mixture**

Combustible. May evolve carbon oxides and hydrocarbons when heated to decomposition. Dust may form explosive mixtures with air.

**5.3 Advice for firefighters**

Evacuate area and contact emergency services. Toxic gases may be evolved in a fire situation. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

**5.4 Hazchem code**

None allocated.

---

**6. ACCIDENTAL RELEASE MEASURES**

---

**6.1 Personal precautions, protective equipment and emergency procedures**

Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS.

**6.2 Environmental precautions**

Prevent product from entering drains and waterways.

**6.3 Methods of cleaning up**

Contain spillage, then collect and place in suitable containers for disposal. Avoid generating dust.

**6.4 Reference to other sections**

See Sections 8 and 13 for exposure controls and disposal.

---

**7. HANDLING AND STORAGE**

---

**7.1 Precautions for safe handling**

Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

**7.2 Conditions for safe storage, including any incompatibilities**

Store in a cool, dry, well ventilated area, removed from incompatible substances, heat or ignition sources and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use. Check regularly for leaks or spills.

**7.3 Specific end use(s)**

No information provided.

---

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

---

**8.1 Control parameters**

**Exposure standards**

No exposure standards have been entered for this product.

**Biological limits**

No biological limit values have been entered for this product.

**8.2 Exposure controls**

**Engineering controls** Use engineering controls to eliminate potential dust exposure.

**PPE**

<b>Eye / Face</b>	When using large quantities or where heavy contamination is likely, wear dust-proof goggles.
<b>Hands</b>	When using large quantities or where heavy contamination is likely, wear PVC or rubber gloves.
<b>Body</b>	Not required under normal conditions of use.
<b>Respiratory</b>	Where an inhalation risk exists, wear a Class P1 (Particulate) respirator.

---

## 9. PHYSICAL AND CHEMICAL PROPERTIES

---

### 9.1 Information on basic physical and chemical properties

<b>Appearance</b>	OFF-WHITE POWDER
<b>Odour</b>	SLIGHT ODOUR
<b>Flammability</b>	COMBUSTIBLE
<b>Flash point</b>	NOT AVAILABLE
<b>Boiling point</b>	NOT AVAILABLE
<b>Melting point</b>	NOT AVAILABLE
<b>Evaporation rate</b>	NOT AVAILABLE
<b>pH</b>	9.0 to 10.5 (4 % solution)
<b>Vapour density</b>	NOT AVAILABLE
<b>Specific gravity</b>	NOT AVAILABLE
<b>Solubility (water)</b>	SOLUBLE
<b>Vapour pressure</b>	NOT AVAILABLE
<b>Upper explosion limit</b>	NOT AVAILABLE
<b>Lower explosion limit</b>	NOT AVAILABLE
<b>Partition coefficient</b>	NOT AVAILABLE
<b>Autoignition temperature</b>	NOT AVAILABLE
<b>Decomposition temperature</b>	NOT AVAILABLE
<b>Viscosity</b>	NOT AVAILABLE
<b>Explosive properties</b>	NOT AVAILABLE
<b>Oxidising properties</b>	NOT AVAILABLE
<b>Odour threshold</b>	NOT AVAILABLE

---

## 10. STABILITY AND REACTIVITY

---

### 10.1 Reactivity

Carefully review all information provided in sections 10.2 to 10.6.

### 10.2 Chemical stability

Stable under recommended conditions of storage.

### 10.3 Possibility of hazardous reactions

Polymerization is not expected to occur.

### 10.4 Conditions to avoid

Avoid heat, sparks, open flames and other ignition sources.

### 10.5 Incompatible materials

Incompatible with oxidising agents (e.g. hypochlorites).

### 10.6 Hazardous decomposition products

May evolve carbon oxides and hydrocarbons when heated to decomposition.

---

## 11. TOXICOLOGICAL INFORMATION

---

### 11.1 Information on toxicological effects

<b>Acute toxicity</b>	<b>Information available for the product:</b> This product is expected to be of low toxicity. Under normal conditions of use, adverse health effects are not anticipated.
<b>Skin</b>	Not classified as a skin irritant. Contact may result in mild irritation.
<b>Eye</b>	Not classified as an eye irritant. Contact may cause mild irritation and lacrimation.
<b>Sensitization</b>	This product is not known to be a skin or respiratory sensitiser.

**PRODUCT NAME GAGETROL**

<b>Mutagenicity</b>	No evidence of mutagenic effects.
<b>Carcinogenicity</b>	No evidence of carcinogenic effects.
<b>Reproductive</b>	No evidence of reproductive effects.
<b>STOT – single exposure</b>	No known effects from this product.
<b>STOT – repeated exposure</b>	No known effects from this product.
<b>Aspiration</b>	Not relevant.

---

**12. ECOLOGICAL INFORMATION**

---

**12.1 Toxicity**

This product is not anticipated to cause adverse effects to animal or plant life if released to the environment in small quantities.

**12.2 Persistence and degradability**

No information provided.

**12.3 Bioaccumulative potential**

Not expected to bioaccumulate.

**12.4 Mobility in soil**

No information provided.

**12.5 Other adverse effects**

No information provided.

---

**13. DISPOSAL CONSIDERATIONS**

---

**13.1 Waste treatment methods**

**Waste disposal** No special precautions are required for the disposal of this product.

**Legislation** Dispose of in accordance with relevant local legislation.

---

**14. TRANSPORT INFORMATION**

---

NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA

	LAND TRANSPORT (ADG)	SEA TRANSPORT (IMDG / IMO)	AIR TRANSPORT (IATA / ICAO)
<b>14.1 UN Number</b>	None Allocated	None Allocated	None Allocated
<b>14.2 Proper Shipping Name</b>	None Allocated	None Allocated	None Allocated
<b>14.3 Transport hazard class</b>	None Allocated	None Allocated	None Allocated
<b>14.4 Packing Group</b>	None Allocated	None Allocated	None Allocated

**14.5 Environmental hazards** No information provided

**14.6 Special precautions for user**

**Hazchem code** None Allocated

---

**15. REGULATORY INFORMATION**

---

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**Poison schedule** A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**Classifications** Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

The classifications and phrases listed below are based on the Approved Criteria for Classifying Hazardous Substances [NOHSC: 1008(2004)].

**PRODUCT NAME GAGETROL**

<b>Hazard codes</b>	None allocated.
<b>Risk phrases</b>	None allocated.
<b>Safety phrases</b>	None allocated.
<b>Inventory listing(s)</b>	<b>AUSTRALIA: AICS (Australian Inventory of Chemical Substances)</b> All components are listed on AICS, or are exempt.

---

**16. OTHER INFORMATION**

---

**Additional information** PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:  
The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

**HEALTH EFFECTS FROM EXPOSURE:**

It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a ChemAlert report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

**Abbreviations**

ACGIH	American Conference of Governmental Industrial Hygienists
CAS #	Chemical Abstract Service number - used to uniquely identify chemical compounds
CNS	Central Nervous System
EC No.	EC No - European Community Number
EMS	Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods)
GHS	Globally Harmonized System
GTEPG	Group Text Emergency Procedure Guide
IARC	International Agency for Research on Cancer
LC50	Lethal Concentration, 50% / Median Lethal Concentration
LD50	Lethal Dose, 50% / Median Lethal Dose
mg/m <sup>3</sup>	Milligrams per Cubic Metre
OEL	Occupational Exposure Limit
pH	relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
ppm	Parts Per Million
STEL	Short-Term Exposure Limit
STOT-RE	Specific target organ toxicity (repeated exposure)
STOT-SE	Specific target organ toxicity (single exposure)
SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons
SWA	Safe Work Australia
TLV	Threshold Limit Value
TWA	Time Weighted Average

**Report status** This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

**Prepared by**

Risk Management Technologies  
5 Ventnor Ave, West Perth  
Western Australia 6005  
Phone: +61 8 9322 1711  
Fax: +61 8 9322 1794  
Email: info@rmt.com.au  
Web: www.rmt.com.au

[ End of SDS ]



---

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

---

### 1.1 Product identifier

**Product name** GEOVIS  
**Synonym(s)** DIUTAN GUM

### 1.2 Uses and uses advised against

**Use(s)** VISCOSITY MODIFIER

### 1.3 Details of the supplier of the product

**Supplier name** NEWPARK DRILLING FLUIDS (AUSTRALIA) LTD  
**Address** 11 Alacrity Place, Henderson, WA, 6166, AUSTRALIA  
**Telephone** +61 8 9410 8200  
**Fax** +61 8 9410 8299  
**Website** [www.newpark.com](http://www.newpark.com)

### 1.4 Emergency telephone number(s)

**Emergency** 1800 127 406 (Australia); +64 3 3530199 (International)

---

## 2. HAZARDS IDENTIFICATION

---

### 2.1 Classification of the substance or mixture

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO AUSTRALIAN WHS REGULATIONS

### 2.2 Label elements

No signal word, pictograms, hazard or precautionary statements have been allocated.

### 2.3 Other hazards

No information provided.

---

## 3. COMPOSITION/ INFORMATION ON INGREDIENTS

---

### 3.1 Substances / Mixtures

Ingredient	CAS Number	EC Number	Content
D-GLUCURONO-6-DEOXY-L-MANNO-D-GLUCAN, ACETATE, CALCIUM MAGNESIUM POTASSIUM SODIUM SALT	595585-15-2	-	>50%

---

## 4. FIRST AID MEASURES

---

### 4.1 Description of first aid measures

**Eye** If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.

**Inhalation** If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.

**Skin** If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.

**Ingestion** For advice, contact a Poison Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting. Ingestion is considered unlikely due to product form.

**First aid facilities** No information provided.

**4.2 Most important symptoms and effects, both acute and delayed**

Adverse effects not expected from this product under normal conditions of use.

**4.3 Immediate medical attention and special treatment needed**

Treat symptomatically.

---

**5. FIRE FIGHTING MEASURES**

---

**5.1 Extinguishing media**

Dry agent, carbon dioxide, foam or water fog. Prevent contamination of drains and waterways.

**5.2 Special hazards arising from the substance or mixture**

Combustible. May evolve toxic gases (carbon oxides, hydrocarbons) when heated to decomposition. Finely divided dust may form explosive mixtures with air.

**5.3 Advice for firefighters**

Evacuate area and contact emergency services. Toxic gases may be evolved in a fire situation. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

**5.4 Hazchem code**

None allocated.

---

**6. ACCIDENTAL RELEASE MEASURES**

---

**6.1 Personal precautions, protective equipment and emergency procedures**

Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. Clear area of all unprotected personnel. Contact emergency services where appropriate.

**6.2 Environmental precautions**

Prevent product from entering drains and waterways.

**6.3 Methods of cleaning up**

Contain spillage, then collect and place in suitable containers for reuse or disposal. Avoid generating dust.

**6.4 Reference to other sections**

See Sections 8 and 13 for exposure controls and disposal.

---

**7. HANDLING AND STORAGE**

---

**7.1 Precautions for safe handling**

Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

**7.2 Conditions for safe storage, including any incompatibilities**

Store in a cool, dry, well ventilated area, removed from incompatible substances and foodstuffs. Ensure containers are adequately labelled and tightly closed when not in use.

**7.3 Specific end use(s)**

No information provided.

---

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

---

**8.1 Control parameters**

**Exposure standards**

No exposure standards have been entered for this product.

**Biological limits**

No biological limit values have been entered for this product.

**8.2 Exposure controls**

**Engineering controls** Avoid inhalation. Use in well ventilated areas.

**PPE**

<b>Eye / Face</b>	Wear dust-proof goggles.
<b>Hands</b>	Wear PVC or rubber gloves.
<b>Body</b>	When using large quantities or where heavy contamination is likely, wear coveralls.
<b>Respiratory</b>	Where an inhalation risk exists, wear a Class P1 (Particulate) respirator.



---

**9. PHYSICAL AND CHEMICAL PROPERTIES**

---

**9.1 Information on basic physical and chemical properties**

<b>Appearance</b>	WHITE TO TAN POWDER
<b>Odour</b>	SLIGHT ODOUR
<b>Flammability</b>	COMBUSTIBLE
<b>Flash point</b>	NOT RELEVANT
<b>Boiling point</b>	NOT AVAILABLE
<b>Melting point</b>	NOT AVAILABLE
<b>Evaporation rate</b>	NON VOLATILE
<b>pH</b>	NOT AVAILABLE
<b>Vapour density</b>	NOT AVAILABLE
<b>Specific gravity</b>	NOT AVAILABLE
<b>Solubility (water)</b>	SOLUBLE
<b>Vapour pressure</b>	NOT AVAILABLE
<b>Upper explosion limit</b>	NOT RELEVANT
<b>Lower explosion limit</b>	NOT RELEVANT
<b>Partition coefficient</b>	NOT AVAILABLE
<b>Autoignition temperature</b>	351°C
<b>Decomposition temperature</b>	NOT AVAILABLE
<b>Viscosity</b>	NOT AVAILABLE
<b>Explosive properties</b>	NOT AVAILABLE
<b>Oxidising properties</b>	NOT AVAILABLE
<b>Odour threshold</b>	NOT AVAILABLE

**9.2 Other information**

<b>% Volatiles</b>	0 %
--------------------	-----

---

**10. STABILITY AND REACTIVITY**

---

**10.1 Reactivity**

Carefully review all information provided in sections 10.2 to 10.6.

**10.2 Chemical stability**

Stable under recommended conditions of storage.

**10.3 Possibility of hazardous reactions**

Polymerization is not expected to occur.

**10.4 Conditions to avoid**

Avoid heat, sparks, open flames and other ignition sources.

**10.5 Incompatible materials**

Incompatible with oxidising agents (e.g. hypochlorites) and acids (e.g. nitric acid).

**10.6 Hazardous decomposition products**

May evolve carbon oxides and hydrocarbons when heated to decomposition.

---

**11. TOXICOLOGICAL INFORMATION**

---

**11.1 Information on toxicological effects**

**Acute toxicity** **Information available for the product:**  
 This product is expected to be of low toxicity. Under normal conditions of use, adverse health effects are not anticipated.

**Information available for the ingredient(s):**

Ingredient	Oral Toxicity (LD50)	Dermal Toxicity (LD50)	Inhalation Toxicity (LC50)
D-GLUCURONO-6-DEOXY-L-MANNO-D-GLUCAN, ACETATE, CALCIUM MAGNESIUM POTASSIUM SODIUM SALT	> 5000 mg/kg (rat)	--	--

**Skin** Not classified as a skin irritant. Contact may result in mild irritation. The hydrophilic nature of the notified polymer in powder form can contribute to mechanical irritation and collection in the eyes when dust is generated.

**Eye** Not classified as an eye irritant. Contact may cause discomfort, lacrimation and redness. The hydrophilic nature of the notified polymer in powder form can contribute to mechanical irritation and collection on the skin when dust is generated.

**Sensitization** This product is not known to be a skin or respiratory sensitiser.

**Mutagenicity** No evidence of mutagenic effects.

**Carcinogenicity** No evidence of carcinogenic effects.

**Reproductive** No evidence of reproductive effects.

**STOT – single exposure** No known effects from this product. The hydrophilic nature of the notified polymer in powder form can contribute to mechanical irritation and collection in the airways when dust is generated.

**STOT – repeated exposure** No known effects from this product.

**Aspiration** This product does not present an aspiration hazard.

---

**12. ECOLOGICAL INFORMATION**

**12.1 Toxicity**

The notified polymer is not toxic to fish (rainbow trout), aquatic invertebrates (daphnia magna) and marine invertebrates (acartia tonsa) under test conditions.

**12.2 Persistence and degradability**

Considered readily biodegradable.

**12.3 Bioaccumulative potential**

No experimental results provided. However, based on the molecular weight, water solubility and Kow value the notified polymer is not expected to bioaccumulate.

**12.4 Mobility in soil**

No information provided.

**12.5 Other adverse effects**

No information provided.

---

**13. DISPOSAL CONSIDERATIONS**

**13.1 Waste treatment methods**

**Waste disposal** Ensure product is covered with moist soil to prevent dust generation and dispose of to approved Council landfill. Contact the manufacturer/supplier for additional information (if required).

**Legislation** Dispose of in accordance with relevant local legislation.

---

**14. TRANSPORT INFORMATION**

**NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA**

	<b>LAND TRANSPORT (ADG)</b>	<b>SEA TRANSPORT (IMDG / IMO)</b>	<b>AIR TRANSPORT (IATA / ICAO)</b>
<b>14.1 UN Number</b>	None Allocated	None Allocated	None Allocated
<b>14.2 Proper Shipping Name</b>	None Allocated	None Allocated	None Allocated
<b>14.3 Transport hazard class</b>	None Allocated	None Allocated	None Allocated
<b>14.4 Packing Group</b>	None Allocated	None Allocated	None Allocated

**14.5 Environmental hazards** No information provided

**14.6 Special precautions for user**

**Hazchem code** None Allocated

---

## 15. REGULATORY INFORMATION

---

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**Poison schedule** A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**Classifications** Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

The classifications and phrases listed below are based on the Approved Criteria for Classifying Hazardous Substances [NOHSC: 1008(2004)].

**Hazard codes** None allocated.

**Risk phrases** None allocated.

**Safety phrases** None allocated.

**Inventory listing(s)** **AUSTRALIA: AICS (Australian Inventory of Chemical Substances)**  
All components are listed on AICS, or are exempt.

---

## 16. OTHER INFORMATION

---

**Additional information** **RESPIRATORS:** In general the use of respirators should be limited and engineering controls employed to avoid exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.

**PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:**

The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

**HEALTH EFFECTS FROM EXPOSURE:**

It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a ChemAlert report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

**Abbreviations**

ACGIH	American Conference of Governmental Industrial Hygienists
CAS #	Chemical Abstract Service number - used to uniquely identify chemical compounds
CNS	Central Nervous System
EC No.	EC No - European Community Number
EMS	Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods)
GHS	Globally Harmonized System
GTEPG	Group Text Emergency Procedure Guide
IARC	International Agency for Research on Cancer
LC50	Lethal Concentration, 50% / Median Lethal Concentration
LD50	Lethal Dose, 50% / Median Lethal Dose
mg/m <sup>3</sup>	Milligrams per Cubic Metre
OEL	Occupational Exposure Limit
pH	relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
ppm	Parts Per Million
STEL	Short-Term Exposure Limit
STOT-RE	Specific target organ toxicity (repeated exposure)
STOT-SE	Specific target organ toxicity (single exposure)
SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons
SWA	Safe Work Australia
TLV	Threshold Limit Value
TWA	Time Weighted Average

**Report status**

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

**Prepared by**

Risk Management Technologies  
5 Ventnor Ave, West Perth  
Western Australia 6005  
Phone: +61 8 9322 1711  
Fax: +61 8 9322 1794  
Email: info@rmt.com.au  
Web: www.rmt.com.au.

**[ End of SDS ]**

---

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

---

### 1.1 Product identifier

**Product name** GLYCHEM MC/DCP 208  
**Synonym(s)** DCP 208 • GLYCHEM - MC • GLYCHEM-MC (FORMERLY)

### 1.2 Uses and uses advised against

**Use(s)** DRILLING FLUID ADDITIVE • MUD INHIBITOR • SHALE INHIBITOR

### 1.3 Details of the supplier of the product

**Supplier name** NEWPARK DRILLING FLUIDS (AUSTRALIA) LTD  
**Address** 11 Alacrity Place, Henderson, WA, 6166, AUSTRALIA  
**Telephone** +61 8 9410 8200  
**Fax** +61 8 9410 8299  
**Website** [www.newpark.com](http://www.newpark.com)

### 1.4 Emergency telephone number(s)

**Emergency** 1800 127 406 (Australia); +64 3 3530199 (International)

---

## 2. HAZARDS IDENTIFICATION

---

### 2.1 Classification of the substance or mixture

CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

**GHS classification(s)** Serious Eye Damage / Eye Irritation: Category 1

### 2.2 Label elements

**Signal word** DANGER

**Pictogram(s)**



### Hazard statement(s)

H318 Causes serious eye damage.

### Prevention statement(s)

P280 Wear protective gloves/protective clothing/eye protection/face protection.

### Response statement(s)

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P310 Immediately call a POISON CENTRE or doctor/physician.

### Storage statement(s)

None allocated.

### Disposal statement(s)

None allocated.

### 2.3 Other hazards

No information provided.

### 3. COMPOSITION/ INFORMATION ON INGREDIENTS

#### 3.1 Substances / Mixtures

Ingredient	Identification	Classification		Content
		GHS	Risk	
POLY(OXY-1,2-ETHANEDIYL),ALPHA-BUTYL-OMEGA-HYDROXY	CAS: 9004-77-7 EC: 500-012-0	Not Available	Not Available	100%

### 4. FIRST AID MEASURES

#### 4.1 Description of first aid measures

<b>Eye</b>	If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.
<b>Inhalation</b>	If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.
<b>Skin</b>	If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.
<b>Ingestion</b>	For advice, contact a Poison Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting.
<b>First aid facilities</b>	Eye wash facilities should be available.

#### 4.2 Most important symptoms and effects, both acute and delayed

Irritating to the eyes.

#### 4.3 Immediate medical attention and special treatment needed

Treat symptomatically.

### 5. FIRE FIGHTING MEASURES

#### 5.1 Extinguishing media

Dry agent, carbon dioxide, foam or water fog. Prevent contamination of drains or waterways.

#### 5.2 Special hazards arising from the substance or mixture

Combustible. May evolve carbon oxides and hydrocarbons when heated to decomposition.

#### 5.3 Advice for firefighters

Evacuate area and contact emergency services. Toxic gases may be evolved in a fire situation. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

#### 5.4 Hazchem code

None allocated.

### 6. ACCIDENTAL RELEASE MEASURES

#### 6.1 Personal precautions, protective equipment and emergency procedures

Wear Personal Protective Equipment (PPE) as detailed in Section 8. Clear area of all unprotected personnel. Ventilate area where possible. Contact emergency services where appropriate.

#### 6.2 Environmental precautions

Prevent product from entering drains and waterways.

#### 6.3 Methods of cleaning up

Contain spillage, then cover/absorb spill with non-combustible absorbent material (vermiculite, sand, or similar), collect and place in suitable containers for disposal.

#### 6.4 Reference to other sections

See Sections 8 and 13 for exposure controls and disposal.



## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

### 7.2 Conditions for safe storage, including any incompatibilities

Store in a cool, dry, well ventilated area, removed from incompatible substances, heat or ignition sources and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use. Check regularly for leaks or spills. Large storage areas should have appropriate fire protection systems.

### 7.3 Specific end use(s)

No information provided.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters

#### Exposure standards

No exposure standards have been entered for this product.

#### Biological limits

No biological limit values have been entered for this product.

### 8.2 Exposure controls

**Engineering controls** Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical explosion proof extraction ventilation is recommended.

#### PPE

<b>Eye / Face</b>	Wear splash-proof goggles.
<b>Hands</b>	Wear PVC or rubber gloves.
<b>Body</b>	Wear coveralls.
<b>Respiratory</b>	Not required under normal conditions of use.



## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

<b>Appearance</b>	COLOURLESS LIQUID
<b>Odour</b>	MILD ODOUR
<b>Flammability</b>	CLASS C1 COMBUSTIBLE
<b>Flash point</b>	142°C
<b>Boiling point</b>	278°C
<b>Melting point</b>	-35°C
<b>Evaporation rate</b>	NOT AVAILABLE
<b>pH</b>	NOT AVAILABLE
<b>Vapour density</b>	NOT AVAILABLE
<b>Specific gravity</b>	0.989
<b>Solubility (water)</b>	SOLUBLE
<b>Vapour pressure</b>	0.33 hPa @ 25°C
<b>Upper explosion limit</b>	NOT RELEVANT
<b>Lower explosion limit</b>	NOT RELEVANT
<b>Partition coefficient</b>	NOT AVAILABLE
<b>Autoignition temperature</b>	202°C
<b>Decomposition temperature</b>	NOT AVAILABLE
<b>Viscosity</b>	NOT AVAILABLE
<b>Explosive properties</b>	NOT AVAILABLE
<b>Oxidising properties</b>	NOT AVAILABLE

**9.1 Information on basic physical and chemical properties**

Odour threshold NOT AVAILABLE

**9.2 Other information**

Freezing point < -12°C

---

**10. STABILITY AND REACTIVITY**

---

**10.1 Reactivity**

Carefully review all information provided in sections 10.2 to 10.6.

**10.2 Chemical stability**

Stable under recommended conditions of storage.

**10.3 Possibility of hazardous reactions**

Polymerization is not expected to occur.

**10.4 Conditions to avoid**

Avoid shock, friction, heavy impact, heat, sparks, open flames and other ignition sources.

**10.5 Incompatible materials**

Incompatible with oxidising agents (eg. hypochlorites), acids (eg. nitric acid), alkalis (eg. sodium hydroxide), heat and ignition sources.

**10.6 Hazardous decomposition products**

May evolve carbon oxides and hydrocarbons when heated to decomposition.

---

**11. TOXICOLOGICAL INFORMATION**

---

**11.1 Information on toxicological effects**

<b>Acute toxicity</b>	This product is expected to be of low toxicity. Under normal conditions of use, adverse health effects are not anticipated. Acute Oral Toxicity: LD50 (rat) = 2630 mg/kg. Acute Dermal Toxicity: LD50 (rat) = 3540 mg/kg. Acute Inhalation Toxicity: Not relevant, expert judgement.
<b>Skin</b>	Not classified as a skin irritant. Contact may result in mild irritation and dermatitis.
<b>Eye</b>	Classified as irritating to the eyes. Contact may result in irritation, lacrimation, pain and redness.
<b>Sensitization</b>	This product is not known to be a skin or respiratory sensitiser.
<b>Mutagenicity</b>	Insufficient data available to classify as a mutagen.
<b>Carcinogenicity</b>	Insufficient data available to classify as a carcinogen.
<b>Reproductive</b>	Insufficient data available to classify as a reproductive toxin.
<b>STOT – single exposure</b>	Not expected to cause organ effects from single exposure.
<b>STOT – repeated exposure</b>	Not expected to cause organ effects from repeated exposure. However, repeated exposure to some glycols may result in liver and kidney damage.
<b>Aspiration</b>	This product is not classified as causing aspiration.

---

**12. ECOLOGICAL INFORMATION**

---

**12.1 Toxicity**

Low toxicity to aquatic organisms.

**12.2 Persistence and degradability**

Biodegradation BOD5 : N.D. % ThOD Water : Readily biodegradable in water (Test: 69%, 28d, OECD 301D) Soil : T ½: N.D. days.

**12.3 Bioaccumulative potential**

Bioaccumulative potential: log Pow : 0.436 (OECD 107); BCF : N.D. (Slightly or not bioaccumulative).

**12.4 Mobility in soil**

The product is involatile and water soluble and will partition to the aqueous phase. The product will dissolve rapidly in water. If released to soil it will evaporate at a low rate.

**12.5 Other adverse effects**

No information provided.

**13. DISPOSAL CONSIDERATIONS**

**13.1 Waste treatment methods**

**Waste disposal** For small amounts, mix with sand and dispose of to approved landfill. For larger quantities, dissolve in flammable solvent and incinerate at an approved facility equipped with after burner and scrubber.

**Legislation** Dispose of in accordance with relevant local legislation.

**14. TRANSPORT INFORMATION**

**NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA**

	<b>LAND TRANSPORT (ADG)</b>	<b>SEA TRANSPORT (IMDG / IMO)</b>	<b>AIR TRANSPORT (IATA / ICAO)</b>
<b>14.1 UN Number</b>	None Allocated	None Allocated	None Allocated
<b>14.2 Proper Shipping Name</b>	None Allocated	None Allocated	None Allocated
<b>14.3 Transport hazard class</b>	None Allocated	None Allocated	None Allocated
<b>14.4 Packing Group</b>	None Allocated	None Allocated	None Allocated

**14.5 Environmental hazards** No information provided

**14.6 Special precautions for user**

**Hazchem code** None Allocated

**15. REGULATORY INFORMATION**

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**Poison schedule** A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**Classifications** Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

The classifications and phrases listed below are based on the Approved Criteria for Classifying Hazardous Substances [NOHSC: 1008(2004)].

**Hazard codes** Xi Irritant

**Risk phrases** R41 Risk of serious damage to eyes.

**Safety phrases**  
 S2 Keep out of reach of children.  
 S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice  
 S39 Wear eye/face protection.  
 S46 If swallowed, contact a doctor or Poisons Information Centre immediately and show container or label.

**Inventory listing(s)** **AUSTRALIA: AICS (Australian Inventory of Chemical Substances)**  
 All components are listed on AICS, or are exempt.

**16. OTHER INFORMATION**

**Additional information** **PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:**  
 The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

**HEALTH EFFECTS FROM EXPOSURE:**

It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a ChemAlert report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

**Abbreviations**

ACGIH	American Conference of Governmental Industrial Hygienists
CAS #	Chemical Abstract Service number - used to uniquely identify chemical compounds
CNS	Central Nervous System
EC No.	EC No - European Community Number
GHS	Globally Harmonized System
IARC	International Agency for Research on Cancer
LC50	Lethal Concentration, 50% / Median Lethal Concentration
LD50	Lethal Dose, 50% / Median Lethal Dose
mg/m <sup>3</sup>	Milligrams per Cubic Metre
OEL	Occupational Exposure Limit
PEL	Permissible Exposure Limit
pH	relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
ppm	Parts Per Million
REACH	Regulation on Registration, Evaluation, Authorisation and Restriction of Chemicals
STEL	Short-Term Exposure Limit
STOT-RE	Specific target organ toxicity (repeated exposure)
STOT-SE	Specific target organ toxicity (single exposure)
SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons
SWA	Safe Work Australia
TLV	Threshold Limit Value
TWA	Time Weighted Average

**Revision history**

Revision	Description
3.1	Standard SDS Review.
3.0	Converted to GHS.
2.0	Standard SDS Review
1.0	Initial SDS creation

**Report status**

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

**Prepared by**

Risk Management Technologies  
 5 Ventnor Ave, West Perth  
 Western Australia 6005  
 Phone: +61 8 9322 1711  
 Fax: +61 8 9322 1794  
 Email: info@rmt.com.au  
 Web: www.rmt.com.au.

**Revision:** 3.1  
**SDS date:** 28 August 2014

**[ End of SDS ]**

---

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

---

### 1.1 Product identifier

**Product name** IDCIDE-20  
**Synonym(s)** IDCIDE 20

### 1.2 Uses and uses advised against

**Use(s)** BIOCIDES • DRILLING FLUID ADDITIVE • WATER TREATMENT

### 1.3 Details of the supplier of the product

**Supplier name** NEWPARK DRILLING FLUIDS (AUSTRALIA) LTD  
**Address** 11 Alacrity Place, Henderson, WA, 6166, AUSTRALIA  
**Telephone** +61 8 9410 8200  
**Fax** +61 8 9410 8299  
**Website** [www.newpark.com](http://www.newpark.com)

### 1.4 Emergency telephone number(s)

**Emergency** 1800 127 406 (Australia); +64 3 3530199 (International)

---

## 2. HAZARDS IDENTIFICATION

---

### 2.1 Classification of the substance or mixture

CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

**GHS classification** Skin Sensitization: Category 1  
Skin Corrosion/Irritation: Category 2  
Serious Eye Damage / Eye Irritation: Category 2A

### 2.2 Label elements

**Signal word** WARNING

**Pictograms**



### Hazard statement(s)

H315 Causes skin irritation.  
H317 May cause an allergic skin reaction.  
H319 Causes serious eye irritation.

### Prevention statement(s)

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.  
P264 Wash thoroughly after handling.  
P272 Contaminated work clothing should not be allowed out of the workplace.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.

### Response statement(s)

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P321 Specific treatment is advised - see first aid instructions.  
P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.  
P362 Take off contaminated clothing and wash before re-use.

**PRODUCT NAME IDCIDE-20****Storage statement(s)**

None allocated.

**Disposal statement(s)**

P501 Dispose of contents/container in accordance with relevant regulations.

**2.3 Other hazards**

No information provided.

---

**3. COMPOSITION/ INFORMATION ON INGREDIENTS**

---

**3.1 Substances / Mixtures**

Ingredient	Identification	Classification		Content
		GHS	Risk	
TETRAKIS(HYDROXYMETHYL)PHOSPHONIUM SULPHATE	CAS: 55566-30-8 EC: 259-709-0	Not Available	Not Available	18 to 25%
WATER	CAS: 7732-18-5 EC: 231-791-2	Not Available	Not Available	Remainder

---

**4. FIRST AID MEASURES**

---

**4.1 Description of first aid measures**

<b>Eye</b>	If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.
<b>Inhalation</b>	If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.
<b>Skin</b>	If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.
<b>Ingestion</b>	For advice, contact a Poison Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting.
<b>First aid facilities</b>	Eye wash facilities should be available.

**4.2 Most important symptoms and effects, both acute and delayed**

See Section 11 for more detailed information on health effects and symptoms.

**4.3 Immediate medical attention and special treatment needed**

Treat symptomatically.

---

**5. FIRE FIGHTING MEASURES**

---

**5.1 Extinguishing media**

Use an extinguishing agent suitable for the surrounding fire.

**5.2 Special hazards arising from the substance or mixture**

Non flammable. May evolve toxic gases if strongly heated. May evolve carbon oxides, sulphur oxides and phosphates when heated to decomposition.

**5.3 Advice for firefighters**

Treat as per requirements for surrounding fires. Evacuate area and contact emergency services. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

**5.4 Hazchem code**

None allocated.

---

**6. ACCIDENTAL RELEASE MEASURES**

---

**6.1 Personal precautions, protective equipment and emergency procedures**

Wear Personal Protective Equipment (PPE) as detailed in Section 8. Clear area of all unprotected personnel. Ventilate area where possible.

### **6.2 Environmental precautions**

Prevent product from entering drains and waterways.

### **6.3 Methods of cleaning up**

Contain spillage, then cover/absorb spill with non-combustible absorbent material (vermiculite, sand, or similar), collect and place in suitable containers for disposal.

### **6.4 Reference to other sections**

See Sections 8 and 13 for exposure controls and disposal.

---

## **7. HANDLING AND STORAGE**

---

### **7.1 Precautions for safe handling**

Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

### **7.2 Conditions for safe storage, including any incompatibilities**

Store in a cool, dry, well ventilated area, removed from incompatible substances, heat or ignition sources and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use.

### **7.3 Specific end use(s)**

No information provided.

---

## **8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

---

### **8.1 Control parameters**

#### **Exposure standards**

No exposure standards have been entered for this product.

#### **Biological limits**

No biological limit values have been entered for this product.

### **8.2 Exposure controls**

**Engineering controls** Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical extraction ventilation is recommended.

#### **PPE**

<b>Eye / Face</b>	Wear a faceshield and splash-proof goggles.
<b>Hands</b>	Wear PVC or rubber gloves.
<b>Body</b>	Not required under normal conditions of use.
<b>Respiratory</b>	Not required under normal conditions of use.



---

## **9. PHYSICAL AND CHEMICAL PROPERTIES**

---

### **9.1 Information on basic physical and chemical properties**

<b>Appearance</b>	COLOURLESS TO PALE YELLOW LIQUID
<b>Odour</b>	SLIGHT ODOUR
<b>Flammability</b>	NON FLAMMABLE
<b>Flash point</b>	NOT RELEVANT
<b>Boiling point</b>	> 100°C
<b>Melting point</b>	< 0°C
<b>Evaporation rate</b>	AS FOR WATER
<b>pH</b>	3.0 to 3.5
<b>Vapour density</b>	NOT AVAILABLE
<b>Specific gravity</b>	1.08
<b>Solubility (water)</b>	SOLUBLE

**9.1 Information on basic physical and chemical properties**

Vapour pressure	18 mm Hg @ 20°C
Upper explosion limit	NOT RELEVANT
Lower explosion limit	NOT RELEVANT
Partition coefficient	NOT AVAILABLE
Autoignition temperature	NOT AVAILABLE
Decomposition temperature	NOT AVAILABLE
Viscosity	NOT AVAILABLE
Explosive properties	NOT AVAILABLE
Oxidising properties	NOT AVAILABLE
Odour threshold	NOT AVAILABLE

**9.2 Other information**

% Volatiles	> 60 % (Water)
-------------	----------------

**10. STABILITY AND REACTIVITY**

**10.1 Reactivity**

Carefully review all information provided in sections 10.2 to 10.6.

**10.2 Chemical stability**

Stable under recommended conditions of storage.

**10.3 Possibility of hazardous reactions**

Polymerization is not expected to occur.

**10.4 Conditions to avoid**

Avoid heat, sparks, open flames and other ignition sources.

**10.5 Incompatible materials**

Incompatible with oxidising agents (eg. hypochlorites) and acids (eg. nitric acid).

**10.6 Hazardous decomposition products**

May evolve carbon oxides, sulphur oxides and phosphates when heated to decomposition.

**11. TOXICOLOGICAL INFORMATION**

**11.1 Information on toxicological effects**

<b>Health hazard summary</b>	May be harmful - irritant. This product has the potential to cause adverse health effects with over exposure. Upon dilution, the potential for adverse health effects may be reduced.	
<b>Eye</b>	Irritant. Contact may result in irritation, lacrimation, pain and redness.	
<b>Inhalation</b>	Low to moderate irritant. Over exposure to vapours may result in irritation of the nose and throat, with coughing. High level exposure may result in dizziness, nausea and headache. Due to the low vapour pressure, an inhalation hazard is not anticipated with normal use.	
<b>Skin</b>	Irritant. Contact may result in irritation. May cause sensitisation by skin contact.	
<b>Ingestion</b>	May be harmful. Ingestion may result in gastrointestinal irritation, nausea, vomiting, abdominal pain and diarrhoea.	
<b>Toxicity data</b>	TETRAKIS(HYDROXYMETHYL)PHOSPHONIUM SULPHATE (55566-30-8)	
	LD50 (ingestion)	248 mg/kg (rat)
	TDL0 (ingestion)	650 mg/kg/13 weeks - intermittent (rat)



## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

75% TETRAKIS(HYDROXYMETHYL)PHOSPHONIUM SULPHATE (55566-30-8):  
 LC50 (Rainbow Trout) = 119 mg/L/96 hr  
 LC50(Bluegill Sunfish) = 93 mg/L/ 96 hr  
 EC50 (Daphnia Magna) = 19 mg/L/48 hr  
 LC50 (Brown Shrimp) = 340 mg/L/96 hr  
 LC50 (Mysid Shrimp ) = 9.5 mg/L/96 hr  
 LC50 (Sheepshead Minnow) = 94 mg/L/96 hr  
 LC50 (Jevenile Plaice) = 86 mg/L/96 hr

Waste Water management  
 EC50 (Activated Sludge) = 24 mg/L/3 hr

### 12.2 Persistence and degradability

This product is readily biodegradable.

### 12.3 Bioaccumulative potential

No information provided.

### 12.4 Mobility in soil

No information provided.

### 12.5 Other adverse effects

No information provided.

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

**Waste disposal** For small amounts, absorb with sand, vermiculite or similar and dispose of to an approved landfill site. For larger amounts, contact the manufacturer for additional information. Prevent contamination of drains or waterways as aquatic life may be threatened and environmental damage may result.

**Legislation** Dispose of in accordance with relevant local legislation.

## 14. TRANSPORT INFORMATION

NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA

	LAND TRANSPORT (ADG)	SEA TRANSPORT (IMDG / IMO)	AIR TRANSPORT (IATA / ICAO)
14.1 UN Number	None Allocated	None Allocated	None Allocated
14.2 Proper Shipping Name	None Allocated	None Allocated	None Allocated
14.3 Transport hazard class	None Allocated	None Allocated	None Allocated
14.4 Packing Group	None Allocated	None Allocated	None Allocated

14.5 Environmental hazards No information provided

### 14.6 Special precautions for user

Hazchem code None Allocated

## 15. REGULATORY INFORMATION

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

**Poison schedule** A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**Classifications** Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

The classifications and phrases listed below are based on the Approved Criteria for Classifying Hazardous Substances [NOHSC: 1008(2004)].

**PRODUCT NAME IDCIDE-20**

<b>Hazard codes</b>	Xi	Irritant
<b>Risk phrases</b>	R36/38 R43	Irritating to eyes and skin. May cause sensitisation by skin contact.
<b>Safety phrases</b>	S23 S24/25 S36	Do not breathe gas/fumes/vapour/spray (where applicable). Avoid contact with skin and eyes. Wear suitable protective clothing.
<b>Inventory listing(s)</b>	<b>AUSTRALIA: AICS (Australian Inventory of Chemical Substances)</b> All components are listed on AICS, or are exempt.	

---

**16. OTHER INFORMATION**

---

<b>Additional information</b>	<p><b>EXPOSURE CONTROL:</b> If utilised in a closed system the potential for over exposure is reduced. If not used in a closed system, local exhaust ventilation is recommended to control exposure. Provide eye wash and safety shower in close proximity to points of potential exposure. Where the potential for an inhalation risk exists, an approved respirator may be required. Do not eat, store, consume food, tobacco or drink in areas where product is used.</p> <p><b>RESPIRATORS:</b> In general the use of respirators should be limited and engineering controls employed to avoid exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.</p> <p><b>PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:</b> The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.</p> <p><b>HEALTH EFFECTS FROM EXPOSURE:</b> It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a ChemAlert report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.</p>
-------------------------------	---

<b>Abbreviations</b>	ACGIH	American Conference of Governmental Industrial Hygienists
	CAS #	Chemical Abstract Service number - used to uniquely identify chemical compounds
	CNS	Central Nervous System
	EC No.	EC No - European Community Number
	GHS	Globally Harmonized System
	IARC	International Agency for Research on Cancer
	LC50	Lethal Concentration, 50% / Median Lethal Concentration
	LD50	Lethal Dose, 50% / Median Lethal Dose
	mg/m <sup>3</sup>	Milligrams per Cubic Metre
	OEL	Occupational Exposure Limit
	PEL	Permissible Exposure Limit
	pH	relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
	ppm	Parts Per Million
	REACH	Regulation on Registration, Evaluation, Authorisation and Restriction of Chemicals
	STEL	Short-Term Exposure Limit
	STOT-RE	Specific target organ toxicity (repeated exposure)
	STOT-SE	Specific target organ toxicity (single exposure)
	SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons
	SWA	Safe Work Australia
	TLV	Threshold Limit Value
	TWA	Time Weighted Average

**PRODUCT NAME IDCIDE-20****Revision history**

Revision	Description
2.0	Converted to GHS.
1.0	Initial SDS creation

**Report status**

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

**Prepared by**

Risk Management Technologies  
5 Ventnor Ave, West Perth  
Western Australia 6005  
Phone: +61 8 9322 1711  
Fax: +61 8 9322 1794  
Email: info@rmt.com.au  
Web: www.rmt.com.au.

**Revision:** 2  
**SDS date:** 28 July 2014




**[ End of SDS ]**



## SAFETY DATA SHEET







EC 1272/2008 Regulation

### INCORR

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY		
<b>1.1. Substance Identification</b>		
Product Name:	<b>INCORR</b>	
<b>1.2. Substance Use</b>		
Application:	Corrosion inhibitor for drilling fluids	
<b>1.3. Company Identification</b>		
Name:	Newpark Drilling Fluids S.p.A.	
Address:	Via Salaria 1313/C	
City/Country:	00138 ROMA (Italy)	
Phone numbers:	+39 06 885611386 / +39 06 885611324 / +39 06 8856111	
Fax:	+39 06 8889363	
<b>1.4. Emergency Phone Numbers</b>		
	+39 06 885611386	+39 06 885611324
		+39 06 8856111
<b>1.5. Responsible Person E-Mail Address</b>		
e-mail:	<a href="mailto:laboratorio.roma@newpark.com">laboratorio.roma@newpark.com</a>	

2. HAZARDS IDENTIFICATION		
<b>2.1. Substance/Mixture Classification</b>		
<i>Indication of hazards specific for human health and environment:</i>		
<b>THE SUBSTANCE/MIXTURE IS CLASSIFIED AS DANGEROUS IN ACCORDANCE TO FOLLOWING REGULATIONS</b>		
<i>Classifications according to EC Regulation n. 1272/2008 - (CLP)</i>		
	<b>GHS07</b>	<b>Skin Irr. 2</b> H315: Causes skin irritation
	<b>GHS05</b>	<b>Eye Dam. 1</b> H318: Causes serious eye damage
	<b>GHS07</b>	<b>Skin Sens. 1B</b> H317: May cause an allergic skin reaction

<b>2.2. Label Elements</b>	
<b>Label according to EC Regulation n. 1272/2008 (CLP)</b>	
Hazards Identification:	<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">   <b>GHS05</b> </div> <div style="text-align: center;">   <b>GHS07</b> </div> </div> <p><b>Skin Irr. 2</b> H315: Causes skin irritation</p> <p><b>Eye Dam. 1</b> H318: Causes serious eye damage</p> <p><b>Skin Sens. 1B</b> H317: May cause an allergic skin reaction</p>
Precautionary Statements:	<p>P264: Wash with plenty of water and soap after handling            P272: Contaminated work clothing should not be allowed out of the workplace            P280: Wear protective gloves/protective clothing/eye protection/face protection            P310: Immediately call a POISON CENTER/doctor            P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing            P333+P313: If skin irritation or rash occurs: Get medical advice/attention</p>
Disposal	P501: Dispose of contents/container as per regulations
<b>2.3. Other Hazards</b>	
N.a.	

3. COMPOSITION / INFORMATION ON INGREDIENTS						
3.1. Chemical Properties of Substance or Mixture						
Composition:	Mixture					
Contains:	As per following table					
Molecular Formula:	---					
EC Number:	---					
CAS Number:	---					
UN Number:	---					
REACH Number:	---					
3.2. Information on ingredients						
Name	CAS No.	EC No.	Q.ty	Classification	Symbols	Hazard Statements
Ethanol, 2,2'-oxybis-, reaction products with ammonia, morpholine derivs. Residues	68909-77-3	272-712-1	> 10%	Skin Irr. 2	 GHS07	H315
				Eye Dam. 1	 GHS05	H318
				Skin Sens. 1B	 GHS07	H317
Poly(oxy-1,2-ethanediyl), alpha-hydro-omega-hydroxy-, mono[2-(4,5-dihydro-2-nortall-oil alkyl-1H-imidazol-1-yl)ethyl] ethers	68909-09-1	---	5-10%	Eye Irr. 2	 GHS07	H319
				Skin Irr. 2		H315
Acetic acid	64-19-7	200-580-7	1-5%	Flam Liq. 3	 GHS02	H226
				Skin Corr. 1A	 GHS05	H314

4. FIRST AID MEASURES	
<b>4.1. Description of First Aid Measures</b>	
General information:	In case of diseases, get medical attention. Show to the doctor this Material Safety Data Sheet
After inhalation:	Remove casualty to fresh air and keep warm and at rest
After skin contact:	Areas of the body that have - or are only even suspected of having - come into contact with the product must be rinsed immediately with plenty of running water and possibly with soap. Remove contaminated clothing immediately and dispose off safely
After eye contact:	After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately. Protect uninjured eye
After swallowing:	Do not under any circumstances induce vomiting. Seek immediately medical advice
Other information:	N.a.
<b>4.2. Main symptoms and effects, both acute and delayed</b>	
Symptoms:	N.a.
<b>4.3. Indication of any immediate medical attention and special treatment needed</b>	
Medical surveillance:	Medical surveillance during job not required. In case of disease or accident, consult immediately a doctor and show him this MSDS
Special intervention means:	N.a.

5. FIREFIGHTING MEASURES	
<b>5.1. Extinguishing Media</b>	
Precautions in case of fire:	In case of fire respect the following instructions:
Suitable extinguishing media:	In case of fire use: Water, CO2
Unsuitable extinguishing media:	Not known
Hazards arising from combustion:	Do not inhale explosion and combustion gases
Special firefighting equipment:	Use suitable breathing apparatus. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Move undamaged containers from immediate hazard area if it can be done safely

6. ACCIDENTAL RELEASE MEASURES	
<b>6.1. Personal Precautions</b>	
Protective equipment:	Wear personal protective equipment (gloves, goggles, coverall). Remove persons to safety
Emergency procedures:	Move unprotected people to a safe place
<b>6.2. Environmental Precautions</b>	
Containment media:	Suitable material for taking up: absorbing material, organic, sand
Containment methods:	Wash with plenty of water
Additional information:	Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains. Retain contaminated washing water and dispose it. In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities

7. HANDLING AND STORAGE	
<b>7.1. Precautions for Handling</b>	
Precautions for handling:	Avoid contact with skin and eyes, inhalation of vapors and mists. Do not use empty container before they have been cleaned. Before making transfer operations, assure that there are not any incompatible material residuals in the containers
<b>7.2. Precautions for Storage</b>	
Storage conditions:	Keep away from food, drink and feed
Storage area specifications:	Adequate ventilation in working area
Containers specifications:	Plastic drums
Incompatibility:	Keep away from food, drink and feed
<b>7.3. Particular Uses:</b>	
Particular uses:	N.a.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION		
<b>8.1. Exposure Limits</b>		
<b>Mixture</b>		
TLV <sub>Ceiling</sub> :	---	
TLV <sub>STEL</sub> :	---	
TLV <sub>TWA</sub> :	---	
Biological limit:	---	
<b>8.2. Professional Exposure Controls</b>		
Plant protections:	General ventilation is recommended	
Collective protections:	Provide adequate ventilation	
Individual protections:	Respiratory:	Use adequate protective respiratory equipment
	Eyes:	Use close fitting safety goggles
	Hand:	Chemical-resistant protective gloves
	Body:	Use clothing that provides comprehensive protection to the skin, e.g. cotton, rubber, PVC or viton
<b>8.3. Environmental Exposure Controls</b>		
Exposure Scenarios:	N.a.	



9. PHYSICAL AND CHEMICAL PROPERTIES	
<b>9.1. General Information</b>	
Form:	Liquid (20°C)
Appearance:	Liquid
Color:	N.a.
Odor:	Slight
Olfactory threshold:	N.a.
<b>9.2. Information about Health, Safety and Environment</b>	
pH:	7.0-9.0
Melting point:	N.a.
Boiling temperature:	ca. 100°C
Flash point:	> 100°C
Flammability (solid, gas):	N.a.
Auto ignition temperature:	N.a.
Decomposition temperature:	N.a.
Danger of explosion:	N.a.
Upper flammability limit:	N.a.
Lower flammability limit:	N.a.
Vapor pressure:	N.a.
Density at 20°C:	N.a.
Apparent density (20°C):	N.a.
Relative density:	0.95 - 1.05 kg/l
Vapor density:	N.a.
Evaporation rate:	N.a.
Solubility in water (20°C):	Soluble
Distribution coefficient (n-Octanol):	N.a.
Viscosity:	N.a.
<b>9.3. Other Information</b>	
Other information:	N.a.

10. STABILITY AND REACTIVITY	
<b>10.1. Reactivity</b>	
Conditions to be avoided:	Stable under normal conditions
<b>10.2. Chemical Stability</b>	
Incompatible materials:	Strong oxidizers
Possibility of dangerous reactions:	Stable under normal conditions
<b>10.3. Hazardous Decomposition Products</b>	
Other information	Not known

11. TOXICOLOGICAL INFORMATION	
<b>11.1. Acute Toxicity</b>	
<b>Substance Toxicity</b>	<i>Ethanol, 2,2'-oxybis-, reaction products with ammonia, morpholine derivs. Residues CAS No. 68909-77-3</i>
Acute oral toxicity:	LD50 (Rat): > 2000 mg/kg
Acute inhalation toxicity:	N.a.
Acute dermal toxicity:	Causes skin irritation
<b>Substance Toxicity</b>	<i>Acetic acid CAS No. 64-19-7</i>
Acute oral toxicity:	LD50 (Mouse): 4960 mg/kg
Acute inhalation toxicity:	LC50 (Mouse) 1h: 5620 ppm
Acute dermal toxicity:	Skin Rabbit 4h: Slightly irritant
<b>Mixture Toxicity</b>	
Acute oral toxicity:	LD50 (Rat): > 2000 mg/kg
Acute inhalation toxicity:	N.a.
Acute dermal toxicity:	N.a.
<b>11.2. Corrosively</b>	
Skin:	N.a.
Eyes:	N.a.
<b>11.3. Primary Irritability</b>	
Skin:	Causes skin irritation
Eyes:	Causes serious eye damage
<b>11.4. Harmfulness</b>	
Ingestion:	N.a.
Inhalation:	N.a.
<b>11.5. Sensitization</b>	
Skin:	N.a.
Eyes:	N.a.

12. ECOLOGICAL INFORMATION	
<b>12.1. Toxicity</b>	
<b>Substance</b>	<i>Ethanol, 2,2'-oxybis-, reaction products with ammonia, morpholine derivs. Residues CAS No. 68909-77-3</i>
Toxicity in the water:	LC50 (Fish): > 100 mg/l EC50 (Daphnia magna): > 100 mg/l EC50 (Alga): > 100 mg/l
Toxicity in the air:	N.a.
Toxicity in the soil:	N.a.
<b>Substance</b>	<i>Acetic acid CAS No. 64-19-7</i>
Toxicity in the water:	LC50 (Fish) 96h: > 1000 mg/l EC50 (Daphnia magna) 48h: > 1000 mg/l EC50 (Alga) 72h: > 1000 mg/l
Toxicity in the air:	N.a.
Toxicity in the soil:	N.a.
<b>12.2. Persistence and Degradability</b>	
Other information:	N.a.
<b>12.3. Bio cumulative Potential</b>	
Other information:	N.a.
<b>12.4. Mobility in Soil</b>	
Other information:	N.a.
<b>12.5. Results of PBT e vPvB Assessment</b>	
PBT:	N.a.
vPvB:	N.a.
<b>12.6. Other Adverse Effects</b>	
Other information:	N.a.

13. DISPOSAL CONSIDERATIONS	
<b>13.1. Waste Treatment Methods</b>	
Advices	If possible recover the product, otherwise dispose of in authorized landfill or incineration in accordance with local regulation
Waste code:	N.a.
<b>13.2. Packaging Disposal Methods</b>	
Advices:	Dispose of in according to local and national regulations
Other recommendations:	N.a.

14. TRANSPORT INFORMATION	
<b>14.1. Land/Rail Transport (ADR/RID)</b>	
UN Number:	No dangerous goods under transport regulations
UN shipping norms:	N.a.
Hazard class:	N.a.
Packaging group:	N.a.
Dangers for the environment:	N.a.
<b>14.2. Maritime Transport (IMDG)</b>	
IMDG Class:	No dangerous goods under transport regulations
Marine pollutant:	N.a.
<b>14.3. Air Transport (ICAO-TI and IATA-DGR)</b>	
ICAO Class:	No dangerous goods under transport regulations
IATA Class:	N.a.
<b>14.4. Bulk Transport</b>	
Annex II of MARPOL73/78:	No dangerous goods under transport regulations
IBC Code:	N.a.

15. REGULATORY INFORMATION
<b>15.1. Health, Safety and Environment Regulations/Legislation Specific for the Substance or Mixture</b>
D.Lgs. 3/2/1997 n. 52 (Classification, packaging and labeling of hazardous substances)
D.Lgs. 14/3/2003 n. 65 (Classification, packaging and labeling of hazardous mixtures)
D.Lgs. 2/2/2002 n. 25 (Risks due to chemical agents during the work)
D.M. Lavoro 26/02/2004 (Professional exposure limits)
D.M. 03/04/2007 (Implementation of the Directive n. 2006/8/CE)
CE Regulation n. 1907/2006 (REACH)
CE Regulation n.1272/2008 (CLP)
CE Regulation n.790/2009 (adaptation to technical and scientific progress of CLP Regulation)
CE Regulation n° 453/2010 (Modification of REACH Regulation)
Directive 1999/45/CE (DSP)
Directive 67/548/CEE (DPP)

16. OTHER INFORMATION
<b>16.1. Main Bibliographic Sources</b>
ECDIN - Environmental Chemicals Data and Information Network - Joint Research Centre, Commission of the European Communities
SAX's DANGEROUS PROPERTIES OF INDUSTRIAL MATERIALS - Eight Edition – Van Nostrand Reinold
Istituto Superiore di Sanità - Inventario Nazionale Sostanze Chimiche
ACGIH - Threshold Limit Values - 2009 edition
<b>16.2. Declarations</b>
<p>This sheet completes the technical bulletin without to substitute it. The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication.</p> <p>The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.</p> <p>This material safety datasheet only contains information relating to health and safety. The product has to be used in applications consistent with Newpark Drilling Fluids S.p.A. technology. Individuals handling this product should be informed of the safety precautions and should have access to this information.</p> <p>This safety data sheet has been completely updated in compliance to Regulation 453/2010/EU.</p> <p>This MSDS cancels and replaces any preceding release.</p>
<b>16.3. Abbreviations and Acronyms:</b>
<p><b>ADR:</b> Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)</p> <p><b>RID:</b> Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)</p> <p><b>GHS:</b> Globally Harmonized System of Classification and Labeling of Chemicals</p> <p><b>EINECS:</b> European Inventory of Existing Commercial Chemical Substances</p> <p><b>CAS:</b> Chemical Abstracts Service (division of the American Chemical Society)</p> <p><b>ACGIH:</b> American Conference of Industrial Hygienists</p> <p><b>EC50:</b> median effective concentration</p> <p><b>LC50:</b> median lethal concentration</p> <p><b>LD50:</b> median lethal dose</p> <p><b>NOEC:</b> no observable effect concentration</p> <p><b>PNEC:</b> predicted no-effect concentration</p> <p><b>PBT:</b> persistent, bio accumulative, toxic chemicals</p> <p><b>vPvB:</b> very persistent, very bio accumulative chemicals</p> <p><b>TLV-TWA:</b> Threshold limit value – Time weighted average; professional exposure limit average on 8 hours</p> <p><b>TLV-STEL:</b> Threshold limit value – Short Term exposure limit ; professional exposure limit at short term</p> <p><b>TLV-C:</b> Threshold limit value – Ceiling</p>
<b>16.4. Other Information</b>
<b>Full text of Hazard statements used in the previous sections</b>
<p>H226: Flammable liquid and vapour</p> <p>H314: Causes severe skin burns and eye damage</p> <p>H315: Causes skin irritation</p> <p>H317: May cause an allergic skin reaction</p> <p>H318: Causes serious eye damage</p> <p>H319: Causes serious eye irritation</p>
<b>Full text of Precautionary statements used in the previous sections</b>
<p>P264: Wash with plenty of water and soap after handling</p> <p>P272: Contaminated work clothing should not be allowed out of the workplace</p> <p>P280: Wear protective gloves/protective clothing/eye protection/face protection</p> <p>P310: Immediately call a POISON CENTER/doctor</p> <p>P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing</p> <p>P333+P313: If skin irritation or rash occurs: Get medical advice/attention</p> <p>P501: Dispose of contents/container as per regulations</p>

## SAFETY DATA SHEET

### 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

#### 1.1 Product identifier

**Product name** JK-161 LV  
**Synonym(s)** JK - 161 LV • LOW MOLECULAR WEIGHT PHPA • PARTIALLY HYDROLYZED POLYACRYLAMIDE • PHPA

#### 1.2 Uses and uses advised against

**Use(s)** ENCAPSULATING AGENT • HIGH PERFORMANCE WBM

#### 1.3 Details of the supplier of the product

**Supplier name** NEWPARK DRILLING FLUIDS (AUSTRALIA) LTD  
**Address** 11 Alacrity Place, Henderson, WA, 6166, AUSTRALIA  
**Telephone** +61 8 9410 8200  
**Fax** +61 8 9410 8299  
**Website** [www.newpark.com](http://www.newpark.com)

#### 1.4 Emergency telephone number(s)

**Emergency** 1800 127 406 (Australia); +64 3 3530199 (International)

### 2. HAZARDS IDENTIFICATION

#### 2.1 Classification of the substance or mixture

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO AUSTRALIAN WHS REGULATIONS

#### 2.2 Label elements

No signal word, pictograms, hazard or precautionary statements have been allocated.

#### 2.3 Other hazards

No information provided.

### 3. COMPOSITION/ INFORMATION ON INGREDIENTS

#### 3.1 Substances / Mixtures

Ingredient	CAS Number	EC Number	Content
ACRYLAMIDE, SODIUM ACRYLATE COPOLYMER	25085-02-3	607-529-1	>90%
WATER	7732-18-5	231-791-2	Remainder

### 4. FIRST AID MEASURES

#### 4.1 Description of first aid measures

**Eye** If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.

**Inhalation** If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.

**Skin** If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water.

**Ingestion** For advice, contact a Poison Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting.

**First aid facilities** Eye wash facilities and safety shower should be available.

**4.2 Most important symptoms and effects, both acute and delayed**

See Section 11 for more detailed information on health effects and symptoms.

**4.3 Immediate medical attention and special treatment needed**

Treat symptomatically.

---

**5. FIRE FIGHTING MEASURES**

---

**5.1 Extinguishing media**

Use an extinguishing agent suitable for the surrounding fire.

**5.2 Special hazards arising from the substance or mixture**

Non flammable. May evolve toxic gases (carbon/ nitrogen oxides, amines, ammonia, hydrocarbons) when heated to decomposition.

**5.3 Advice for firefighters**

Evacuate area and contact emergency services. Toxic gases may be evolved in a fire situation. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

**5.4 Hazchem code**

None allocated.

---

**6. ACCIDENTAL RELEASE MEASURES**

---

**6.1 Personal precautions, protective equipment and emergency procedures**

Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. Clear area of all unprotected personnel. Contact emergency services where appropriate.

**6.2 Environmental precautions**

Prevent product from entering drains and waterways.

**6.3 Methods of cleaning up**

Contain spillage, then collect and place in suitable containers for reuse or disposal. Avoid generating dust.

**6.4 Reference to other sections**

See Sections 8 and 13 for exposure controls and disposal.

---

**7. HANDLING AND STORAGE**

---

**7.1 Precautions for safe handling**

Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

**7.2 Conditions for safe storage, including any incompatibilities**

Store in a cool, dry, well ventilated area, removed from incompatible substances and foodstuffs. Ensure containers are adequately labelled and tightly closed when not in use.

**7.3 Specific end use(s)**

No information provided.

---

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

---

**8.1 Control parameters**

**Exposure standards**

Ingredient	Reference	TWA		STEL	
		ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>
Acrylamide	SWA (AUS)	--	0.03	--	--

**Biological limits** No Biological Limit Value allocated.

**8.2 Exposure controls**

**Engineering controls** Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical extraction ventilation is recommended.

**PPE**

- Eye / Face** Wear dust-proof goggles.
- Hands** Wear PVC or rubber gloves.
- Body** When using large quantities or where heavy contamination is likely, wear coveralls.
- Respiratory** Where an inhalation risk exists, wear a Class P1 (Particulate) respirator.




---

**9. PHYSICAL AND CHEMICAL PROPERTIES**

---

**9.1 Information on basic physical and chemical properties**

<b>Appearance</b>	WHITE GRANULAR SOLID
<b>Odour</b>	ODOURLESS
<b>Flammability</b>	NON FLAMMABLE
<b>Flash point</b>	NOT RELEVANT
<b>Boiling point</b>	NOT AVAILABLE
<b>Melting point</b>	NOT AVAILABLE
<b>Evaporation rate</b>	NOT AVAILABLE
<b>pH</b>	NOT AVAILABLE
<b>Vapour density</b>	NOT AVAILABLE
<b>Specific gravity</b>	0.8
<b>Solubility (water)</b>	10 g/L
<b>Vapour pressure</b>	NOT AVAILABLE
<b>Upper explosion limit</b>	NOT RELEVANT
<b>Lower explosion limit</b>	NOT RELEVANT
<b>Partition coefficient</b>	NOT AVAILABLE
<b>Autoignition temperature</b>	NOT AVAILABLE
<b>Decomposition temperature</b>	NOT AVAILABLE
<b>Viscosity</b>	NOT AVAILABLE
<b>Explosive properties</b>	NOT AVAILABLE
<b>Oxidising properties</b>	NOT AVAILABLE
<b>Odour threshold</b>	NOT AVAILABLE

**9.2 Other information**

<b>% Volatiles</b>	NOT AVAILABLE
--------------------	---------------

---

**10. STABILITY AND REACTIVITY**

---

**10.1 Reactivity**

Carefully review all information provided in sections 10.2 to 10.6.

**10.2 Chemical stability**

Stable under recommended conditions of storage.

**10.3 Possibility of hazardous reactions**

Polymerization is not expected to occur.

**10.4 Conditions to avoid**

Avoid heat, sparks, open flames and other ignition sources.

**10.5 Incompatible materials**

Incompatible with oxidising agents (e.g. hypochlorites) and acids (e.g. nitric acid).

**10.6 Hazardous decomposition products**

May evolve toxic gases (carbon/ nitrogen oxides, amines, ammonia, hydrocarbons) when heated to decomposition.



---

## 11. TOXICOLOGICAL INFORMATION

---

### 11.1 Information on toxicological effects

<b>Acute toxicity</b>	This product is expected to be of low toxicity. Under normal conditions of use, adverse health effects are not anticipated. LD50 rat (oral): > 2,000 mg/kg (OECD Guideline 401).
<b>Skin</b>	Low irritant. Prolonged or repeated contact may result in mild irritation, rash and dermatitis.
<b>Eye</b>	Low to moderate irritant. Contact may result in mild irritation, lacrimation and redness.
<b>Sensitization</b>	This product is not classified to be a skin or respiratory sensitiser. However, allergic reactions are possible.
<b>Mutagenicity</b>	This product is not classified as a mutagen.
<b>Carcinogenicity</b>	This product may contain trace amounts of residual acrylamide, which is classified as a probable human carcinogen (IARC Group 2A). However, due to the very low levels present, adverse health effects are not anticipated with normal use.
<b>Reproductive</b>	This product is not classified as a reproductive toxin.
<b>STOT – single exposure</b>	Not classified as causing organ effects from single exposure.
<b>STOT – repeated exposure</b>	Not classified as causing organ effects from repeated exposure.
<b>Aspiration</b>	This product is not classified as causing aspiration.

---

## 12. ECOLOGICAL INFORMATION

---

### 12.1 Toxicity

(10000 ppm test concentration) (EPA-821-R-02-012)  
 Mysidopsis bahia = 48hr LC50 = 16.2 mg/L.  
 Menidia beryllina = 48hr LC50 = 34.2 mg/L.  
 Scophthalmus Maximus = 96hr LC50 > 1000 mg/L.  
 Skeletonemia costatum = 72hr EC50 = 393 mg/L [NOEC = 118 mg/L]  
 Acartia tonsa = 48 hr EC50 = 393 mg/L [NOEC = 112 mg/L]  
 Corophium Volutator = 10 Day LC50 = 9338 mg/Kg [NOEC = 1000 mg/Kg]

### 12.2 Persistence and degradability

Not readily biodegradable (by OECD criteria).

### 12.3 Bioaccumulative potential

Based on its structural properties, the polymer is not biologically available. Accumulation in organisms is not to be expected.

### 12.4 Mobility in soil

No information provided.

### 12.5 Other adverse effects

No information provided.

---

## 13. DISPOSAL CONSIDERATIONS

---

### 13.1 Waste treatment methods

<b>Waste disposal</b>	Dispose of to an approved landfill or waste processing site. Contact the manufacturer/supplier for additional information (if required).
<b>Legislation</b>	Dispose of in accordance with relevant local legislation.

---

## 14. TRANSPORT INFORMATION

---

NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA

	LAND TRANSPORT (ADG)	SEA TRANSPORT (IMDG / IMO)	AIR TRANSPORT (IATA / ICAO)
14.1 UN Number	None Allocated	None Allocated	None Allocated
14.2 Proper Shipping Name	None Allocated	None Allocated	None Allocated
14.3 Transport hazard class	None Allocated	None Allocated	None Allocated
14.4 Packing Group	None Allocated	None Allocated	None Allocated

14.5 Environmental hazards No information provided

14.6 Special precautions for user

Hazchem code None Allocated

15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

**Poison schedule** A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**Classifications** Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

The classifications and phrases listed below are based on the Approved Criteria for Classifying Hazardous Substances [NOHSC: 1008(2004)].

**Hazard codes** None allocated.

**Risk phrases** None allocated.

**Safety phrases** None allocated.

**Inventory listing(s)** **AUSTRALIA: AICS (Australian Inventory of Chemical Substances)**  
All components are listed on AICS, or are exempt.

16. OTHER INFORMATION

**Additional information** ACRYLIC - ACRYLAMIDE RESINS: These resins are generally of low toxicity. Toxicity increases with presence of significant concentrations of acrylic - acrylamide monomers. These monomers have been linked with the development of skin sensitisation.

RESPIRATORS: In general the use of respirators should be limited and engineering controls employed to avoid exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:  
The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

HEALTH EFFECTS FROM EXPOSURE:  
It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a ChemAlert report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

<b>Abbreviations</b>	ACGIH	American Conference of Governmental Industrial Hygienists
	CAS #	Chemical Abstract Service number - used to uniquely identify chemical compounds
	CNS	Central Nervous System
	EC No.	EC No - European Community Number
	EMS	Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods)
	GHS	Globally Harmonized System
	GTEPG	Group Text Emergency Procedure Guide
	IARC	International Agency for Research on Cancer
	LC50	Lethal Concentration, 50% / Median Lethal Concentration
	LD50	Lethal Dose, 50% / Median Lethal Dose
	mg/m <sup>3</sup>	Milligrams per Cubic Metre
	OEL	Occupational Exposure Limit
	pH	relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
	ppm	Parts Per Million
	STEL	Short-Term Exposure Limit
	STOT-RE	Specific target organ toxicity (repeated exposure)
	STOT-SE	Specific target organ toxicity (single exposure)
	SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons
	SWA	Safe Work Australia
	TLV	Threshold Limit Value
	TWA	Time Weighted Average

**Report status** This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

**Prepared by** Risk Management Technologies  
5 Ventnor Ave, West Perth  
Western Australia 6005  
Phone: +61 8 9322 1711  
Fax: +61 8 9322 1794  
Email: info@rmt.com.au  
Web: www.rmt.com.au.

**[ End of SDS ]**

---

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

---

### 1.1 Product identifier

**Product name**            **MAGNESIUM OXIDE**  
**Synonym(s)**            CALCINED MAGNESIA • MAGNESIA • MAGOXI16 / 27 - PRODUCT CODE

### 1.2 Uses and uses advised against

**Use(s)**                    DRILLING FLUID ADDITIVE • PH INDICATOR

### 1.3 Details of the supplier of the product

**Supplier name**        **NEWPARK DRILLING FLUIDS (AUSTRALIA) LTD**  
**Address**               11 Alacrity Place, Henderson, WA, 6166, AUSTRALIA  
**Telephone**           +61 8 9410 8200  
**Fax**                     +61 8 9410 8299  
**Website**               [www.newpark.com](http://www.newpark.com)

### 1.4 Emergency telephone number(s)

**Emergency**            1800 127 406 (Australia); +64 3 3530199 (International)

---

## 2. HAZARDS IDENTIFICATION

---

### 2.1 Classification of the substance or mixture

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO AUSTRALIAN WHS REGULATIONS

### 2.2 Label elements

No signal word, pictograms, hazard or precautionary statements have been allocated.

### 2.3 Other hazards

No information provided.

---

## 3. COMPOSITION/ INFORMATION ON INGREDIENTS

---

### 3.1 Substances / Mixtures

Ingredient	CAS Number	EC Number	Content
CALCIUM OXIDE	1305-78-8	215-138-9	<3.5%
MAGNESIUM OXIDE	1309-48-4	215-171-9	>94%
SILICA, AMORPHOUS	7631-86-9	231-545-4	<2.5%

---

## 4. FIRST AID MEASURES

---

### 4.1 Description of first aid measures

**Eye**                        If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.

**Inhalation**               If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.

**Skin**                       If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.

**Ingestion**                For advice, contact a Poison Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting.

**PRODUCT NAME    MAGNESIUM OXIDE**

**First aid facilities**      Eye wash facilities and safety shower should be available.

**4.2 Most important symptoms and effects, both acute and delayed**

See Section 11 for more detailed information on health effects and symptoms.

**4.3 Immediate medical attention and special treatment needed**

Treat symptomatically.

---

**5. FIRE FIGHTING MEASURES**

---

**5.1 Extinguishing media**

Use an extinguishing agent suitable for the surrounding fire.

**5.2 Special hazards arising from the substance or mixture**

Non flammable. May evolve magnesium oxides when heated to decomposition.

**5.3 Advice for firefighters**

Treat as per requirements for surrounding fires. Evacuate area and contact emergency services. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

**5.4 Hazchem code**

None allocated.

---

**6. ACCIDENTAL RELEASE MEASURES**

---

**6.1 Personal precautions, protective equipment and emergency procedures**

Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. Ventilate area where possible.

**6.2 Environmental precautions**

Prevent product from entering drains and waterways.

**6.3 Methods of cleaning up**

Contain spillage, then collect and place in suitable containers for disposal. Avoid generating dust.

**6.4 Reference to other sections**

See Sections 8 and 13 for exposure controls and disposal.

---

**7. HANDLING AND STORAGE**

---

**7.1 Precautions for safe handling**

Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

**7.2 Conditions for safe storage, including any incompatibilities**

Store in a cool, dry, well ventilated area, removed from incompatible substances and foodstuffs. Ensure product is adequately labelled, protected from physical damage and sealed when not in use.

**7.3 Specific end use(s)**

No information provided.

---

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

---

**8.1 Control parameters**

**Exposure standards**

Ingredient	Reference	TWA		STEL	
		ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>
Calcium oxide	SWA (AUS)	--	2	--	--
Fumed silica (respirable dust)	SWA (AUS)	--	2	--	--
Magnesium oxide (fume)	SWA (AUS)	--	10	--	--

**PRODUCT NAME    MAGNESIUM OXIDE**

**Biological limits**

No biological limit values have been entered for this product.

**8.2 Exposure controls**

**Engineering controls**    Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical extraction ventilation is recommended.

**PPE**

- Eye / Face**            Wear dust-proof goggles.
- Hands**                Wear PVC or rubber gloves.
- Body**                 Not required under normal conditions of use.
- Respiratory**        Where an inhalation risk exists, wear a Class P1 (Particulate) respirator.



---

**9. PHYSICAL AND CHEMICAL PROPERTIES**

---

**9.1 Information on basic physical and chemical properties**

<b>Appearance</b>	WHITE GRANULES
<b>Odour</b>	ODOURLESS
<b>Flammability</b>	NON FLAMMABLE
<b>Flash point</b>	NOT RELEVANT
<b>Boiling point</b>	3600°C
<b>Melting point</b>	2800°C
<b>Evaporation rate</b>	NOT AVAILABLE
<b>pH</b>	NOT AVAILABLE
<b>Vapour density</b>	NOT AVAILABLE
<b>Specific gravity</b>	3.6 - 3.7
<b>Solubility (water)</b>	SLIGHTLY SOLUBLE
<b>Vapour pressure</b>	NOT AVAILABLE
<b>Upper explosion limit</b>	NOT RELEVANT
<b>Lower explosion limit</b>	NOT RELEVANT
<b>Partition coefficient</b>	NOT AVAILABLE
<b>Autoignition temperature</b>	NOT AVAILABLE
<b>Decomposition temperature</b>	NOT AVAILABLE
<b>Viscosity</b>	NOT AVAILABLE
<b>Explosive properties</b>	NOT AVAILABLE
<b>Oxidising properties</b>	NOT AVAILABLE
<b>Odour threshold</b>	NOT AVAILABLE

**9.2 Other information**

<b>% Volatiles</b>	0 %
--------------------	-----

---

**10. STABILITY AND REACTIVITY**

---

**10.1 Reactivity**

Carefully review all information provided in sections 10.2 to 10.6.

**10.2 Chemical stability**

Stable under recommended conditions of storage.

**10.3 Possibility of hazardous reactions**

Polymerization is not expected to occur.

**10.4 Conditions to avoid**

Avoid heat, sparks, open flames and other ignition sources.

**10.5 Incompatible materials**

Incompatible (violently) with interhalogens (e.g. bromine pentafluoride, chlorine trifluoride) and phosphorus pentachloride. May ignite or explode when heated with aluminium powder. Also incompatible with acids (e.g. nitric acid) and dampness as material hydrates.

**10.6 Hazardous decomposition products**

May evolve magnesium oxides when heated to decomposition.

---

**11. TOXICOLOGICAL INFORMATION**

---

**11.1 Information on toxicological effects****Acute toxicity****Information available for the product:**

This product is expected to be of low toxicity. Based on available data, the classification criteria are not met.

**Information available for the ingredient(s):**

Ingredient	Oral Toxicity (LD50)	Dermal Toxicity (LD50)	Inhalation Toxicity (LC50)
SILICA, AMORPHOUS	3160 mg/kg (rat)	--	--

**Skin**

Contact may result in irritation, redness, rash and dermatitis.

**Eye**

Contact may result in irritation, lacrimation, pain and redness.

**Sensitization**

This product is not classified as causing skin or respiratory sensitisation.

**Mutagenicity**

This product is not classified as a mutagen.

**Carcinogenicity**

This product is not classified as a carcinogen.

**Reproductive**

This product is not classified as a reproductive toxin.

**STOT – single exposure**

Not classified as causing organ effects from single exposure.

**STOT – repeated exposure**

Not classified as causing organ effects from repeated exposure.

**Aspiration**

Not relevant.

---

**12. ECOLOGICAL INFORMATION**

---

**12.1 Toxicity**

No information provided.

**12.2 Persistence and degradability**

The methods for determining the biological degradability are not applicable to inorganic substances.

**12.3 Bioaccumulative potential**

Not expected to bioaccumulate.

**12.4 Mobility in soil**

No information provided.

**12.5 Other adverse effects**

No information provided.

---

**13. DISPOSAL CONSIDERATIONS**

---

**13.1 Waste treatment methods****Waste disposal**

For small amounts, cover with moist sand, vermiculite or similar to avoid dust hazard and dispose of to an approved landfill site. Contact the manufacturer/supplier for additional information if disposing of large quantities (if required).

**Legislation**

Dispose of in accordance with relevant local legislation.

---

**14. TRANSPORT INFORMATION**

---

**NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA**

**PRODUCT NAME    MAGNESIUM OXIDE**

	<b>LAND TRANSPORT (ADG)</b>	<b>SEA TRANSPORT (IMDG / IMO)</b>	<b>AIR TRANSPORT (IATA / ICAO)</b>
<b>14.1 UN Number</b>	None Allocated	None Allocated	None Allocated
<b>14.2 Proper Shipping Name</b>	None Allocated	None Allocated	None Allocated
<b>14.3 Transport hazard class</b>	None Allocated	None Allocated	None Allocated
<b>14.4 Packing Group</b>	None Allocated	None Allocated	None Allocated

**14.5 Environmental hazards**    No information provided

**14.6 Special precautions for user**

**Hazchem code**                    None Allocated

---

**15. REGULATORY INFORMATION**

---

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**Poison schedule**            A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**Classifications**            Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

The classifications and phrases listed below are based on the Approved Criteria for Classifying Hazardous Substances [NOHSC: 1008(2004)].

**Hazard codes**                None allocated.

**Risk phrases**                None allocated.

**Safety phrases**              None allocated.

**Inventory listing(s)**        **AUSTRALIA: AICS (Australian Inventory of Chemical Substances)**  
All components are listed on AICS, or are exempt.

---

**16. OTHER INFORMATION**

---

**Additional information**        **EXPOSURE STANDARDS - TIME WEIGHTED AVERAGES:** Exposure standards are established on the premise of an 8 hour work period of normal intensity, under normal climatic conditions and where a 16 hour break between shifts exists to enable the body to eliminate absorbed contaminants. In the following circumstances, exposure standards must be reduced: Strenuous work conditions; hot, humid climates; high altitude conditions; extended shifts (which increase the exposure period and shorten the period of recuperation).

**RESPIRATORS:** In general the use of respirators should be limited and engineering controls employed to avoid exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.

**PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:**  
The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

**HEALTH EFFECTS FROM EXPOSURE:**  
It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a ChemAlert report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.



**PRODUCT NAME    MAGNESIUM OXIDE****Abbreviations**

ACGIH	American Conference of Governmental Industrial Hygienists
CAS #	Chemical Abstract Service number - used to uniquely identify chemical compounds
CNS	Central Nervous System
EC No.	EC No - European Community Number
EMS	Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods)
GHS	Globally Harmonized System
GTEPG	Group Text Emergency Procedure Guide
IARC	International Agency for Research on Cancer
LC50	Lethal Concentration, 50% / Median Lethal Concentration
LD50	Lethal Dose, 50% / Median Lethal Dose
mg/m <sup>3</sup>	Milligrams per Cubic Metre
OEL	Occupational Exposure Limit
pH	relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
ppm	Parts Per Million
STEL	Short-Term Exposure Limit
STOT-RE	Specific target organ toxicity (repeated exposure)
STOT-SE	Specific target organ toxicity (single exposure)
SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons
SWA	Safe Work Australia
TLV	Threshold Limit Value
TWA	Time Weighted Average

**Report status**

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

**Prepared by**

Risk Management Technologies  
5 Ventnor Ave, West Perth  
Western Australia 6005  
Phone: +61 8 9322 1711  
Fax: +61 8 9322 1794  
Email: info@rmt.com.au  
Web: www.rmt.com.au.

**[ End of SDS ]**



# MATERIAL SAFETY DATA SHEET

---

## SECTION 1 IDENTIFICATION OF THE MATERIAL AND SUPPLIER

---

**Product Name: MONO ETHYLENE GLYCOL (MEG)**

Company: Recochem Inc. ABN: 69 010 485 999  
Address : 1809 Lytton Road, Lytton, Queensland 4178  
Phone: (07) 3308 5200 Fax: (07) 3308 5201  
Emergency Telephone Number: (07) 3308 5200 Day, After Hours 1300 131 001

Other Names: Glycol, MEG, Ethylene Diol, 1,2-Ethanediol  
Manufacturer's Product Code: 19950  
Recommended Use: Radiator Antifreeze Coolant Base Fluid

---

## SECTION 2 HAZARDS IDENTIFICATION

---

**CLASSIFIED AS HAZARDOUS ACCORDING TO CRITERIA OF WORKSAFE AUSTRALIA  
NOT A DANGEROUS GOODS ACCORDING TO THE CRITERIA OF THE ADG CODE**

**Symbol:** Xn - Harmful  
**Risk Phrases:** R22 - Harmful if swallowed  
**Safety Phrases:** S2 - Keep out of the reach of children

---

## SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

---

**Hazardous Ingredients**

<i>Chemical Entity</i>	<i>CAS Number</i>	<i>Proportion (%)</i>
Ethylene Glycol	107-21-1	100

---

## SECTION 4 FIRST AID MEASURES

---

**FIRST AID TREATMENT**

**Swallowed:** If swallowed, do NOT induce vomiting. Have conscious person drink several glasses of water or milk. SEEK IMMEDIATE MEDICAL ATTENTION.  
**Eye:** If in eyes, hold eyes open, flood with water for at least 15 minutes. If irritation persists seek medical attention.  
**Skin:** If skin contact occurs, wash skin thoroughly with water and follow by washing with soap if available. If irritation persists, seek medical attention.  
**Inhaled:** Remove victim from exposure if safe to do so. If rapid recovery does not occur, transport to nearest medical facility for additional treatment.

**First Aid facilities:** Potable water should be available to rinse eyes or skin. Provide eye baths and safety showers.  
**Advice to Doctor:** Treat symptomatically.  
**Additional Information:** None available.

---

## SECTION 5 FIRE FIGHTING MEASURES

---

**Suitable Extinguishing Media:** For a small fire use dry chemicals, carbon dioxide, water spray or foam. For large fires use water spray or fog. Do not use water jet.  
**Hazards from combustion products:** Carbon dioxide and carbon monoxide.  
**Precautions for Fire Fighters and Special Protective Equipment:** Wear full protective clothing and self-contained breathing apparatus.  
**Additional Information:** When heated to decomposition, emits acrid smoke and irritating fumes. Not a product presenting risks of explosion.

**Product: MONO ETHYLENE GLYCOL**

---

**SECTION 6 ACCIDENTAL RELEASE MEASURES**

---

Observe all local and national regulations.

**Spills and Disposal, Methods and Materials for Containment and Clean Up Procedures:** For small spills, dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container. For large spills, absorb with an inert material and put the spilled material in an appropriate waste disposal container. Dispose of in accordance with regional regulations.

---

**SECTION 7 HANDLING AND STORAGE**

---

**Precautions for Safe Handling and Storage:** Avoid contact with eyes, skin and clothing. DO NOT ingest. Avoid breathing dust, keep container closed. Use only with adequate ventilation. Wash thoroughly after handling. Do not eat, drink or smoke in contaminated areas. Before eating, drinking or smoking, remove contaminated clothing and wash hands. Do not store near strong oxidants. Keep container in a cool, well-ventilated area. Avoid all possible sources of ignition. Do not store near strong oxidisers.

---

**SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION**

---

**Exposure Standards:** National Occupational Health & Safety Commission (NOHSC) Worksafe Australia has set an exposure standard of 52mg/m<sup>3</sup> (20ppm) TWA (vapour), 104mg/m<sup>3</sup> (40ppm) STEL (vapour) and 10mg/m<sup>3</sup> TWA (particulate).

**Biological Limit Values:** No biological limit allocated.

**Personal Protective Equipment:**

**Respiratory Protection:** Wear appropriate respirator when ventilation is inadequate.

**Hand Protection:** Use solvent resistant gloves (nitrile, PVC or neoprene).

**Eye Protection:** Wear safety goggles.

**Protective Clothing:** No special protection is ordinarily required beyond standard issue work clothes.

**Engineering Controls:** Ensure that adequate ventilation is provided. Maintain air concentrations below recommended exposure standards. Avoid generating and inhaling mists.

---

**SECTION 9 IDENTIFICATION**

---

**PHYSICAL DESCRIPTION / CHEMICAL PROPERTIES**

Appearance	Clear colourless viscous liquid
Odour	None
Vapour Pressure (mmHg @ 20°C):	0.06
Vapour Density (air = 1)	2.1
Boiling Point (°C):	197
Freezing/Melting Point (°C):	-13
Solubility in Water	Soluble in water, methanol, diethyl ether
Specific Gravity (g/ml @ 15°C):	1.115 – 1.125
Flashpoint (°C):	116.1 (Closed Cup)
Flammability Limits (%):	3.2 – 15.3
Auto Ignition Temperature (°C):	412
Percent Volatiles	0

---

**SECTION 10 STABILITY AND REACTIVITY**

---

**Chemical Stability:** Stable under normal conditions of use.

**Conditions to Avoid:** No additional remark.

**Incompatible Materials:** Strong oxidising agents, acids, alkalis.

**Hazardous Decomposition Products:** Burning can produce carbon monoxide and/or carbon dioxide.

---

**SECTION 11 TOXICOLOGICAL INFORMATION**

---

**HEALTH EFFECTS**

*Acute:*

**Swallowed:** Hazardous in case of ingestion.

**Eye:** Contact may cause eye irritation.

**Skin:** Irritant – prolonged contact may cause dermatitis.

**Product: MONO ETHYLENE GLYCOL**

**Inhaled:** Inhalation should be minimal since vapours are unlikely due to physical properties. Inhalation may cause irritation to lung.

**Chronic:** Toxic to kidneys and liver.

**Toxicity to Animals:**

Acute oral toxicity (LD50): 4700mg/kg (Rat)

Acute dermal toxicity (LD50): 9530 mg/kg (Rabbit)

---

**SECTION 12 ECOLOGICAL INFORMATION**

---

**Ecotoxicity:**

Fish : Low toxicity: LC/EC/IC50 > 100mg/l

Aquatic Invertebrates : Low toxicity: LC/EC/IC50 > 100mg/l

Algae : Low toxicity: LC/EC/IC50 > 100mg/l

Microorganisms : Low toxicity: LC/EC/IC50 > 100mg/l

**Mobility:** Miscible with water.

**Persistence/degradability:** Biodegradable.

---

**SECTION 13 DISPOSAL CONSIDERATIONS**

---

**Disposal Methods:** Ensure waste disposal conforms to local waste disposal regulations.

---

**SECTION 14 TRANSPORT INFORMATION**

---

UN Number:	Non Regulated	Proper Shipping Name:	N/A
Class:	N/A	Subsidiary Risk:	N/A
Packing Group:	N/A	Hazchem Code:	N/A

Special Precautions  
for User:

---

**SECTION 15 REGULATORY INFORMATION**

---

Poisons Schedule : 6

AICS : Listed

Dangerous Goods Initial Emergency Response Guide (SAA/SNZ HB76:2010) : N/A

---

**SECTION 16 OTHER INFORMATION**

---

Further Information may be obtained by contacting Recochem on (07) 3308 5200

---

The information sourced for the preparation of this document was correct and complete at the time of writing to the best of the writer's knowledge. The document represents the commitment to the company's responsibilities surrounding the supply of this product, undertaken in good faith. This document should be taken as a safety guide for the product and its recommended uses but is in no way an absolute authority. Please consult the relevant legislation and regulations governing the use and storage of this type of product.

---

---

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

---

### 1.1 Product identifier

**Product name** MICROFLOW  
**Synonym(s)** MICRO FLOW

### 1.2 Uses and uses advised against

**Use(s)** DRILLING FLUID ADDITIVE

### 1.3 Details of the supplier of the product

**Supplier name** NEWPARK DRILLING FLUIDS (AUSTRALIA) LTD  
**Address** 11 Alacrity Place, Henderson, WA, 6166, AUSTRALIA  
**Telephone** +61 8 9410 8200  
**Fax** +61 8 9410 8299  
**Website** [www.newpark.com](http://www.newpark.com)

### 1.4 Emergency telephone number(s)

**Emergency** 1800 127 406 (Australia); +64 3 3530199 (International)

---

## 2. HAZARDS IDENTIFICATION

---

### 2.1 Classification of the substance or mixture

CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

**GHS classification(s)** Flammable Liquids: Category 3  
Specific Target Organ Systemic Toxicity (Single Exposure): Category 3  
Serious Eye Damage / Eye Irritation: Category 2A

### 2.2 Label elements

**Signal word** WARNING

**Pictogram(s)**



### Hazard statement(s)

H226 Flammable liquid and vapour.  
H319 Causes serious eye irritation.  
H336 May cause drowsiness or dizziness.

### Prevention statement(s)

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.  
P233 Keep container tightly closed.  
P240 Ground/bond container and receiving equipment.  
P241 Use explosion-proof electrical/ventilating/lighting equipment.  
P242 Use only non-sparking tools.  
P243 Take precautionary measures against static discharge.  
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.  
P264 Wash thoroughly after handling.  
P271 Use only outdoors or in a well-ventilated area.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.

**PRODUCT NAME MICROFLOW****Response statement(s)**

P303 + P361 + P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.  
P304 + P340 IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P312 Call a POISON CENTER or doctor/physician if you feel unwell.  
P337 + P313 If eye irritation persists: Get medical advice/attention.  
P370 + P378 In case of fire: Use appropriate media for extinction.

**Storage statement(s)**

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.  
P403 + P235 Store in a well-ventilated place. Keep cool.  
P405 Store locked up.

**Disposal statement(s)**

P501 Dispose of contents/container in accordance with relevant regulations.

**2.3 Other hazards**

No information provided.

---

**3. COMPOSITION/ INFORMATION ON INGREDIENTS**

---

**3.1 Substances / Mixtures**

Ingredient	CAS Number	EC Number	Content
ISOPROPYL ALCOHOL	67-63-0	200-661-7	15 to 50%
SWEET ORANGE OIL	68647-72-3	614-678-6	20 to 60%

**Ingredient Notes** Terpenes (Sweet Orange Oil) may appear as CAS# 94266-47-4.

---

**4. FIRST AID MEASURES**

---

**4.1 Description of first aid measures**

**Eye** If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.

**Inhalation** If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.

**Skin** If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.

**Ingestion** For advice, contact a Poison Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting.

**First aid facilities** Eye wash facilities should be available.

**4.2 Most important symptoms and effects, both acute and delayed**

Irritating to the eyes. Vapours may cause drowsiness and dizziness.

**4.3 Immediate medical attention and special treatment needed**

Treat symptomatically.

---

**5. FIRE FIGHTING MEASURES**

---

**5.1 Extinguishing media**

Dry agent, carbon dioxide or foam. Prevent contamination of drains and waterways.

**5.2 Special hazards arising from the substance or mixture**

Flammable. May evolve carbon oxides and hydrocarbons when heated to decomposition. Eliminate all ignition sources including cigarettes, open flames, spark producing switches/tools, heaters, naked lights, pilot lights, mobile phones, etc when handling. Earth containers when dispensing fluids.

**5.3 Advice for firefighters**

Evacuate area and contact emergency services. Toxic gases may be evolved in a fire situation. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

**5.4 Hazchem code**

- 3Y
- Alcohol Resistant Foam is the preferred firefighting medium. Else use;
- 3 Normal Foam (protein based foam that is not alcohol resistant).
- Y Risk of violent reaction or explosion. Wear full fire kit and breathing apparatus. Contain spill and run-off.

**6. ACCIDENTAL RELEASE MEASURES**

**6.1 Personal precautions, protective equipment and emergency procedures**

Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. Clear area of all unprotected personnel. Ventilate area where possible. Contact emergency services where appropriate.

**6.2 Environmental precautions**

Prevent product from entering drains and waterways.

**6.3 Methods of cleaning up**

Contain spillage, then cover / absorb spill with non-combustible absorbent material (vermiculite, sand, or similar), collect and place in suitable containers for disposal.

**6.4 Reference to other sections**

See Sections 8 and 13 for exposure controls and disposal.

**7. HANDLING AND STORAGE**

**7.1 Precautions for safe handling**

Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

**7.2 Conditions for safe storage, including any incompatibilities**

Store in a cool, dry, well ventilated area, removed from incompatible substances, heat or ignition sources and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use. Large storage areas should be banded and have appropriate ventilation systems.

**7.3 Specific end use(s)**

No information provided.

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

**8.1 Control parameters**

**Exposure standards**

Ingredient	Reference	TWA		STEL	
		ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>
Isopropyl alcohol	SWA (AUS)	400	983	500	1230

**Biological limits**

Ingredient	Determinant	Sampling Time	BEI
ISOPROPYL ALCOHOL	Acetone in urine	End of shift at end of workweek	40 mg/L

Reference: ACGIH Biological Exposure Indices

**8.2 Exposure controls**

**Engineering controls**

Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical explosion proof extraction ventilation is recommended. Flammable/explosive vapours may accumulate in poorly ventilated areas. Vapours are heavier than air and may travel some distance to an ignition source and flash back. Maintain vapour levels below the recommended exposure standard.

**PPE**

<b>Eye / Face</b>	Wear splash-proof goggles.
<b>Hands</b>	Wear nitrile or neoprene gloves.
<b>Body</b>	When using large quantities or where heavy contamination is likely, wear coveralls.
<b>Respiratory</b>	Where an inhalation risk exists, wear a Type A (Organic vapour) respirator. If spraying, wear a Type A-Class P1 (Organic gases/vapours and Particulate) respirator.



---

**9. PHYSICAL AND CHEMICAL PROPERTIES**

---

**9.1 Information on basic physical and chemical properties**

<b>Appearance</b>	CLEAR TO OPAQUE MILKY WHITE LIQUID
<b>Odour</b>	CITRUS ODOUR
<b>Flammability</b>	FLAMMABLE
<b>Flash point</b>	25°C
<b>Boiling point</b>	154.4°C
<b>Melting point</b>	NOT AVAILABLE
<b>Evaporation rate</b>	NOT AVAILABLE
<b>pH</b>	NOT AVAILABLE
<b>Vapour density</b>	NOT AVAILABLE
<b>Specific gravity</b>	0.917 - 0.977
<b>Solubility (water)</b>	SOLUBLE
<b>Vapour pressure</b>	18 mm Hg @ 20°C
<b>Upper explosion limit</b>	6.1 %
<b>Lower explosion limit</b>	0.7 %
<b>Partition coefficient</b>	NOT AVAILABLE
<b>Autoignition temperature</b>	NOT AVAILABLE
<b>Decomposition temperature</b>	NOT AVAILABLE
<b>Viscosity</b>	NOT AVAILABLE
<b>Explosive properties</b>	NOT AVAILABLE
<b>Oxidising properties</b>	NOT AVAILABLE
<b>Odour threshold</b>	NOT AVAILABLE

**9.2 Other information**

<b>% Volatiles</b>	55 - 75 %
--------------------	-----------

---

**10. STABILITY AND REACTIVITY**

---

**10.1 Reactivity**

Carefully review all information provided in sections 10.2 to 10.6.

**10.2 Chemical stability**

Stable under recommended conditions of storage.

**10.3 Possibility of hazardous reactions**

Polymerization is not expected to occur.

**10.4 Conditions to avoid**

Avoid heat, sparks, open flames and other ignition sources.

**10.5 Incompatible materials**

Incompatible with oxidising agents (e.g. hypochlorites), acids (e.g. nitric acid), metals, heat and ignition sources.

**10.6 Hazardous decomposition products**

May evolve carbon oxides and hydrocarbons when heated to decomposition.



---

## 11. TOXICOLOGICAL INFORMATION

---

### 11.1 Information on toxicological effects

<b>Acute toxicity</b>	May be harmful if swallowed. Oral Toxicity: An oral LD50 in mice of 3600 mg/kg has been reported for isopropanol.
<b>Skin</b>	Not classified as a skin irritant. Prolonged or repeated contact may result in irritation, rash and dermatitis.
<b>Eye</b>	Irritating to the eyes. Contact may result in irritation, lacrimation, pain and redness.
<b>Sensitization</b>	This product is not classified as causing skin or respiratory sensitisation.
<b>Mutagenicity</b>	Insufficient data available to classify as a mutagen.
<b>Carcinogenicity</b>	Isopropyl alcohol is not classifiable as to its carcinogenicity to humans (IARC Group 3).
<b>Reproductive</b>	Insufficient data available to classify as a reproductive toxin.
<b>STOT – single exposure</b>	Over exposure may result in irritation of the nose and throat, coughing and headache. High level exposure may result in nausea, dizziness and drowsiness.
<b>STOT – repeated exposure</b>	Not classified as causing organ damage from repeated exposure. However, chronic exposure to some solvents have been reported to cause adverse effects to the central nervous system (CNS), liver and kidney.
<b>Aspiration</b>	This product is not classified as causing aspiration.

---

## 12. ECOLOGICAL INFORMATION

---

### 12.1 Toxicity

Not expected to be dangerous to the aquatic environment.

### 12.2 Persistence and degradability

This product is readily biodegradable.

### 12.3 Bioaccumulative potential

This product is not expected to bioaccumulate.

### 12.4 Mobility in soil

Relatively volatile and would therefore readily evaporate from dry soil and surfaces.

### 12.5 Other adverse effects

No information provided.

---

## 13. DISPOSAL CONSIDERATIONS

---

### 13.1 Waste treatment methods

<b>Waste disposal</b>	For small amounts, absorb with sand, vermiculite or similar and dispose of to an approved landfill site. Contact the manufacturer/supplier for additional information if disposing of large quantities (if required). Prevent contamination of drains and waterways as aquatic life may be threatened and environmental damage may result.
<b>Legislation</b>	Dispose of in accordance with relevant local legislation.

---

## 14. TRANSPORT INFORMATION

---

CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE



**PRODUCT NAME MICROFLOW**

	LAND TRANSPORT (ADG)	SEA TRANSPORT (IMDG / IMO)	AIR TRANSPORT (IATA / ICAO)
14.1 UN Number	1993	1993	1993
14.2 Proper Shipping Name	FLAMMABLE LIQUID, N.O.S.	FLAMMABLE LIQUID, N.O.S.	FLAMMABLE LIQUID, N.O.S.
14.3 Transport hazard class	3	3	3
14.4 Packing Group	III	III	III

**14.5 Environmental hazards** Not a Marine Pollutant

**14.6 Special precautions for user**

Hazchem code •3Y  
GTEPG 3A1  
EMS F-E, S-E

**15. REGULATORY INFORMATION****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**Poison schedule** A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**Classifications** Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

The classifications and phrases listed below are based on the Approved Criteria for Classifying Hazardous Substances [NOHSC: 1008(2004)].

**Hazard codes**

F	Flammable
Xi	Irritant
Xn	Harmful

**Risk phrases**

R10	Flammable.
R36	Irritating to eyes.
R67	Vapours may cause drowsiness and dizziness.

**Safety phrases**

S2	Keep out of reach of children.
S7	Keep container tightly closed.
S16	Keep away from sources of ignition - No smoking.
S24/25	Avoid contact with skin and eyes.
S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice

**Inventory listing(s)** **AUSTRALIA: AICS (Australian Inventory of Chemical Substances)**  
All components are listed on AICS, or are exempt.

**16. OTHER INFORMATION****Additional information****PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:**

The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

**HEALTH EFFECTS FROM EXPOSURE:**

It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a ChemAlert report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

**PRODUCT NAME MICROFLOW****Abbreviations**

ACGIH	American Conference of Governmental Industrial Hygienists
CAS #	Chemical Abstract Service number - used to uniquely identify chemical compounds
CNS	Central Nervous System
EC No.	EC No - European Community Number
GHS	Globally Harmonized System
IARC	International Agency for Research on Cancer
LC50	Lethal Concentration, 50% / Median Lethal Concentration
LD50	Lethal Dose, 50% / Median Lethal Dose
mg/m <sup>3</sup>	Milligrams per Cubic Metre
OEL	Occupational Exposure Limit
pH	relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
ppm	Parts Per Million
STEL	Short-Term Exposure Limit
STOT-RE	Specific target organ toxicity (repeated exposure)
STOT-SE	Specific target organ toxicity (single exposure)
SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons
SWA	Safe Work Australia
TLV	Threshold Limit Value
TWA	Time Weighted Average

**Revision history**

Revision	Description
2.1	Standard SDS Review.
2.0	Converted to GHS.
1.0	Initial SDS creation

**Report status**

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

**Prepared by**

Risk Management Technologies  
5 Ventnor Ave, West Perth  
Western Australia 6005  
Phone: +61 8 9322 1711  
Fax: +61 8 9322 1794  
Email: info@rmt.com.au  
Web: www.rmt.com.au.

**Revision:** 2.1  
**SDS date:** 12 January 2015

**[ End of SDS ]**

---

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

---

### 1.1 Product identifier

**Product name** NDFT 376  
**Synonym(s)** NDFT 377

### 1.2 Uses and uses advised against

**Use(s)** LOST CIRCULATION MATERIAL

### 1.3 Details of the supplier of the product

**Supplier name** NEWPARK DRILLING FLUIDS (AUSTRALIA) LTD  
**Address** 11 Alacrity Place, Henderson, WA, 6166, AUSTRALIA  
**Telephone** +61 8 9410 8200  
**Fax** +61 8 9410 8299  
**Website** [www.newpark.com](http://www.newpark.com)

### 1.4 Emergency telephone number(s)

**Emergency** 1800 127 406 (Australia); +64 4 917 9888 (International)

---

## 2. HAZARDS IDENTIFICATION

---

### 2.1 Classification of the substance or mixture

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

### 2.2 Label elements

No signal word, pictograms, hazard or precautionary statements have been allocated.

### 2.3 Other hazards

No information provided.

---

## 3. COMPOSITION/ INFORMATION ON INGREDIENTS

---

### 3.1 Substances / Mixtures

Ingredient	CAS Number	EC Number	Content
ORGANIC FIBRE(S)	9004-34-6	232-674-9	100%

---

## 4. FIRST AID MEASURES

---

### 4.1 Description of first aid measures

**Eye** If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.

**Inhalation** If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.

**Skin** If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.

**Ingestion** For advice, contact a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). Due to product form and application, ingestion is considered unlikely.

**First aid facilities** None allocated.

**4.2 Most important symptoms and effects, both acute and delayed**

See Section 11 for more detailed information on health effects and symptoms.

**4.3 Immediate medical attention and special treatment needed**

Treat symptomatically.

---

**5. FIRE FIGHTING MEASURES**

---

**5.1 Extinguishing media**

Dry agent, carbon dioxide, foam or water fog. Prevent contamination of drains and waterways.

**5.2 Special hazards arising from the substance or mixture**

Combustible. May evolve carbon oxides and hydrocarbons when heated to decomposition.

**5.3 Advice for firefighters**

Evacuate area and contact emergency services. Toxic gases may be evolved in a fire situation. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

**5.4 Hazchem code**

None allocated.

---

**6. ACCIDENTAL RELEASE MEASURES**

---

**6.1 Personal precautions, protective equipment and emergency procedures**

Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. Clear area of all unprotected personnel. Contact emergency services where appropriate.

**6.2 Environmental precautions**

Prevent product from entering drains and waterways.

**6.3 Methods of cleaning up**

Contain spillage, then collect and place in suitable containers for reuse or disposal. Avoid generating dust.

**6.4 Reference to other sections**

See Sections 8 and 13 for exposure controls and disposal.

---

**7. HANDLING AND STORAGE**

---

**7.1 Precautions for safe handling**

Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

**7.2 Conditions for safe storage, including any incompatibilities**

Store in a cool, dry, well ventilated area, removed from incompatible substances, heat or ignition sources and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use. Check regularly for leaks or spills. Large storage areas should have appropriate ventilation systems.

**7.3 Specific end use(s)**

No information provided.

---

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

---

**8.1 Control parameters**

**Exposure standards**

Ingredient	Reference	TWA		STEL	
		ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>
Cellulose (paper fibre) (a)	SWA (AUS)	--	10	--	--

**Biological limits**

No biological limit values have been entered for this product.

**8.2 Exposure controls**

**Engineering controls** Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical explosion proof extraction ventilation is recommended. Maintain dust levels below the recommended exposure standard.

**PPE**

- Eye / Face** Wear dust-proof goggles.
- Hands** Wear PVC or rubber gloves.
- Body** Not required under normal conditions of use.
- Respiratory** Where an inhalation risk exists, wear a Class P1 (Particulate) respirator.



---

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**9.1 Information on basic physical and chemical properties**

<b>Appearance</b>	YELLOW TO BROWN SOLID
<b>Odour</b>	SLIGHT ODOUR
<b>Flammability</b>	COMBUSTIBLE
<b>Flash point</b>	NOT AVAILABLE
<b>Boiling point</b>	NOT AVAILABLE
<b>Melting point</b>	NOT AVAILABLE
<b>Evaporation rate</b>	NOT AVAILABLE
<b>pH</b>	7 to 8
<b>Vapour density</b>	NOT AVAILABLE
<b>Specific gravity</b>	0.9 to 1.2
<b>Solubility (water)</b>	INSOLUBLE
<b>Vapour pressure</b>	NOT AVAILABLE
<b>Upper explosion limit</b>	NOT AVAILABLE
<b>Lower explosion limit</b>	NOT AVAILABLE
<b>Partition coefficient</b>	NOT AVAILABLE
<b>Autoignition temperature</b>	NOT AVAILABLE
<b>Decomposition temperature</b>	NOT AVAILABLE
<b>Viscosity</b>	NOT AVAILABLE
<b>Explosive properties</b>	NOT AVAILABLE
<b>Oxidising properties</b>	NOT AVAILABLE
<b>Odour threshold</b>	NOT AVAILABLE

---

## 10. STABILITY AND REACTIVITY

**10.1 Reactivity**

Carefully review all information provided in sections 10.2 to 10.6.

**10.2 Chemical stability**

Stable under recommended conditions of storage.

**10.3 Possibility of hazardous reactions**

Polymerization is not expected to occur.

**10.4 Conditions to avoid**

Avoid heat, sparks, open flames and other ignition sources.

**10.5 Incompatible materials**

Incompatible with oxidising agents (e.g. hypochlorites), acids (e.g. nitric acid), heat and ignition sources.

**10.6 Hazardous decomposition products**

May evolve carbon oxides and hydrocarbons when heated to decomposition.

---

**11. TOXICOLOGICAL INFORMATION**

---

**11.1 Information on toxicological effects**

**Acute toxicity** This product is expected to be of low acute toxicity. Under normal conditions of use, adverse health effects are not anticipated.

Information available for the ingredient(s):

Ingredient	Oral Toxicity (LD50)	Dermal Toxicity (LD50)	Inhalation Toxicity (LC50)
ORGANIC FIBRE(S)	> 5000 mg/kg (rat)	> 2000 mg/kg (rabbit)	> 5800 mg/m <sup>3</sup> /4 hours

**Skin** Not classified as a skin irritant. Skin irritation is not anticipated under normal conditions of use.

**Eye** Not classified as an eye irritant. Eye irritation is not anticipated under normal conditions of use.

**Sensitisation** Not classified as causing skin or respiratory sensitisation.

**Mutagenicity** Not classified as a mutagen.

**Carcinogenicity** Not classified as a carcinogen.

**Reproductive** Not classified as a reproductive toxin.

**STOT - single exposure** Not classified as causing organ damage from single exposure.

**STOT - repeated exposure** Not classified as causing organ damage from repeated exposure.

**Aspiration** Not relevant.

---

**12. ECOLOGICAL INFORMATION**

---

**12.1 Toxicity**

No information provided.

**12.2 Persistence and degradability**

No information provided.

**12.3 Bioaccumulative potential**

No information provided.

**12.4 Mobility in soil**

No information provided.

**12.5 Other adverse effects**

No information provided.

---

**13. DISPOSAL CONSIDERATIONS**

---

**13.1 Waste treatment methods**

**Waste disposal** Reuse or recycle where possible. Alternatively, ensure product is covered with moist soil to prevent dust generation and dispose of to an approved landfill site. Contact the manufacturer/supplier for additional information (if required).

**Legislation** Dispose of in accordance with relevant local legislation.

---

**14. TRANSPORT INFORMATION**

---

NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA

	LAND TRANSPORT (ADG)	SEA TRANSPORT (IMDG / IMO)	AIR TRANSPORT (IATA / ICAO)
<b>14.1 UN Number</b>	None allocated.	None allocated.	None allocated.
<b>14.2 Proper Shipping Name</b>	None allocated.	None allocated.	None allocated.
<b>14.3 Transport hazard class</b>	None allocated.	None allocated.	None allocated.
<b>14.4 Packing Group</b>	None allocated.	None allocated.	None allocated.

**14.5 Environmental hazards**

No information provided.

**14.6 Special precautions for user**

Hazchem code                None allocated.

---

**15. REGULATORY INFORMATION**

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**Poison schedule**                A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**Classifications**                Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

The classifications and phrases listed below are based on the Approved Criteria for Classifying Hazardous Substances [NOHSC: 1008(2004)].

**Hazard codes**                    None allocated.

**Risk phrases**                    None allocated.

**Safety phrases**                 None allocated.

**Inventory listing(s)**            **AUSTRALIA: AICS (Australian Inventory of Chemical Substances)**  
All components are listed on AICS, or are exempt.

---

**16. OTHER INFORMATION**

**Additional information**                EXPOSURE STANDARDS - TIME WEIGHTED AVERAGES: Exposure standards are established on the premise of an 8 hour work period of normal intensity, under normal climatic conditions and where a 16 hour break between shifts exists to enable the body to eliminate absorbed contaminants. In the following circumstances, exposure standards must be reduced: Strenuous work conditions; hot, humid climates; high altitude conditions; extended shifts (which increase the exposure period and shorten the period of recuperation).

COMBUSTIBLE - EXPLOSIVE CARBONACEOUS DUST: Carbonaceous/organic dusts have the potential, with dispersion, to present an explosion hazard if an ignition source exists. All equipment used to handle, transfer or store this product MUST BE cleaned thoroughly prior to cutting, welding, drilling or exposure to any other form of heat or ignition sources. If bulk stored, containers should be ventilated on a routine basis to avoid vapour accumulation (where applicable, eg for flocculants).

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:  
The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as form of product, method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

HEALTH EFFECTS FROM EXPOSURE:  
It should be noted that the effects from exposure to this product will depend on several factors including: form of product; frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.



<b>Abbreviations</b>	ACGIH	American Conference of Governmental Industrial Hygienists
	CAS #	Chemical Abstract Service number - used to uniquely identify chemical compounds
	CNS	Central Nervous System
	EC No.	EC No - European Community Number
	EMS	Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods)
	GHS	Globally Harmonized System
	GTEPG	Group Text Emergency Procedure Guide
	IARC	International Agency for Research on Cancer
	LC50	Lethal Concentration, 50% / Median Lethal Concentration
	LD50	Lethal Dose, 50% / Median Lethal Dose
	mg/m <sup>3</sup>	Milligrams per Cubic Metre
	OEL	Occupational Exposure Limit
	pH	relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
	ppm	Parts Per Million
	STEL	Short-Term Exposure Limit
	STOT-RE	Specific target organ toxicity (repeated exposure)
	STOT-SE	Specific target organ toxicity (single exposure)
	SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons
	SWA	Safe Work Australia
	TLV	Threshold Limit Value
	TWA	Time Weighted Average

**Report status** This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

**Prepared by** Risk Management Technologies  
5 Ventnor Ave, West Perth  
Western Australia 6005  
Phone: +61 8 9322 1711  
Fax: +61 8 9322 1794  
Email: [info@rmt.com.au](mailto:info@rmt.com.au)  
Web: [www.rmt.com.au](http://www.rmt.com.au)

**[ End of SDS ]**

## SAFETY DATA SHEET

### 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

#### 1.1 Product identifier

**Product name** NEWPAC LV/RD

**Synonym(s)** NEWPAC RD • POLICELL RG • RHEOPAC LV • RHEOPAC R • RHEOPAC R/LV/UL/RD/LVD • RHEOPAC UL

#### 1.2 Uses and uses advised against

**Use(s)** DRILLING FLUID ADDITIVE

#### 1.3 Details of the supplier of the product

**Supplier name** NEWPARK DRILLING FLUIDS (AUSTRALIA) LTD

**Address** 11 Alacrity Place, Henderson, WA, 6166, AUSTRALIA

**Telephone** +61 8 9410 8200

**Fax** +61 8 9410 8299

**Website** [www.newpark.com](http://www.newpark.com)

#### 1.4 Emergency telephone number(s)

**Emergency** 1800 127 406 (Australia); +64 3 3530199 (International)

### 2. HAZARDS IDENTIFICATION

#### 2.1 Classification of the substance or mixture

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

#### 2.2 Label elements

No signal word, pictograms, hazard or precautionary statements have been allocated.

#### 2.3 Other hazards

No information provided.

### 3. COMPOSITION/ INFORMATION ON INGREDIENTS

#### 3.1 Substances / Mixtures

Ingredient	CAS Number	EC Number	Content
SODIUM CARBOXYMETHYL CELLULOSE	9004-32-4	618-378-6	>88%
SODIUM CHLORIDE	7647-14-5	231-598-3	<1.8%
WATER	7732-18-5	231-791-2	<10%
SODIUM GLYCOLATE	2836-32-0	212-730-9	<0.7%

### 4. FIRST AID MEASURES

#### 4.1 Description of first aid measures

**Eye** If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.

**Inhalation** If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.

**Skin** If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.

**Ingestion** For advice, contact a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting. Ingestion is considered unlikely due to product form.

**PRODUCT NAME NEWPAC LV/RD**

**First aid facilities** None allocated.

**4.2 Most important symptoms and effects, both acute and delayed**

Adverse effects not expected from this product under normal conditions of use.

**4.3 Immediate medical attention and special treatment needed**

Treat symptomatically.

---

**5. FIRE FIGHTING MEASURES**

---

**5.1 Extinguishing media**

Dry agent, carbon dioxide, foam or water fog. Prevent contamination of drains and waterways.

**5.2 Special hazards arising from the substance or mixture**

Combustible. May evolve toxic gases (carbon oxides, hydrocarbons) when heated to decomposition. Finely divided dust may form explosive mixtures with air.

**5.3 Advice for firefighters**

Evacuate area and contact emergency services. Toxic gases may be evolved in a fire situation. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

**5.4 Hazchem code**

None allocated.

---

**6. ACCIDENTAL RELEASE MEASURES**

---

**6.1 Personal precautions, protective equipment and emergency procedures**

Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. Clear area of all unprotected personnel. Contact emergency services where appropriate.

**6.2 Environmental precautions**

Prevent product from entering drains and waterways.

**6.3 Methods of cleaning up**

Contain spillage, then collect and place in suitable containers for reuse or disposal. Avoid generating dust.

**6.4 Reference to other sections**

See Sections 8 and 13 for exposure controls and disposal.

---

**7. HANDLING AND STORAGE**

---

**7.1 Precautions for safe handling**

Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

**7.2 Conditions for safe storage, including any incompatibilities**

Store in a cool, dry, well ventilated area, removed from incompatible substances and foodstuffs. Ensure containers are adequately labelled and tightly closed when not in use.

**7.3 Specific end use(s)**

No information provided.

---

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

---

**8.1 Control parameters**

**Exposure standards**

No exposure standards have been entered for this product.

**Biological limits**

No biological limit values have been entered for this product.

## 8.2 Exposure controls

**Engineering controls** Avoid inhalation. Use in well ventilated areas. Maintain dust levels below the recommended exposure standard.

### PPE

<b>Eye / Face</b>	Wear dust-proof goggles.
<b>Hands</b>	Wear PVC or rubber gloves.
<b>Body</b>	When using large quantities or where heavy contamination is likely, wear coveralls.
<b>Respiratory</b>	Where an inhalation risk exists, wear a Class P1 (Particulate) respirator.



---

## 9. PHYSICAL AND CHEMICAL PROPERTIES

---

### 9.1 Information on basic physical and chemical properties

<b>Appearance</b>	WHITE OR YELLOWISH POWDER/GRANULES
<b>Odour</b>	SLIGHT ODOUR
<b>Flammability</b>	COMBUSTIBLE
<b>Flash point</b>	NOT AVAILABLE
<b>Boiling point</b>	NOT AVAILABLE
<b>Melting point</b>	NOT AVAILABLE
<b>Evaporation rate</b>	NOT AVAILABLE
<b>pH</b>	6.0 to 8.5 (1 % solution)
<b>Vapour density</b>	NOT AVAILABLE
<b>Specific gravity</b>	NOT AVAILABLE
<b>Solubility (water)</b>	SOLUBLE
<b>Vapour pressure</b>	NOT AVAILABLE
<b>Upper explosion limit</b>	NOT AVAILABLE
<b>Lower explosion limit</b>	NOT AVAILABLE
<b>Partition coefficient</b>	NOT AVAILABLE
<b>Autoignition temperature</b>	NOT AVAILABLE
<b>Decomposition temperature</b>	NOT AVAILABLE
<b>Viscosity</b>	NOT AVAILABLE
<b>Explosive properties</b>	NOT AVAILABLE
<b>Oxidising properties</b>	NOT AVAILABLE
<b>Odour threshold</b>	NOT AVAILABLE

---

## 10. STABILITY AND REACTIVITY

---

### 10.1 Reactivity

Carefully review all information provided in sections 10.2 to 10.6.

### 10.2 Chemical stability

Stable under recommended conditions of storage.

### 10.3 Possibility of hazardous reactions

Polymerization is not expected to occur.

### 10.4 Conditions to avoid

Avoid heat, sparks, open flames and other ignition sources.

### 10.5 Incompatible materials

Incompatible with oxidising agents (e.g. hypochlorites) and acids (e.g. nitric acid).

### 10.6 Hazardous decomposition products

May evolve carbon oxides and hydrocarbons when heated to decomposition.

**11. TOXICOLOGICAL INFORMATION**

**11.1 Information on toxicological effects**

**Acute toxicity** This product is expected to be of low acute toxicity. Under normal conditions of use, adverse health effects are not anticipated.

Toxicity Data available on the ingredients:  
 SODIUM CARBOXYMETHYL CELLULOSE (9004-32-4)  
 LD50 (Ingestion): 16000 mg/kg (guinea pig)  
 LD50 (Skin): > 2000 mg/kg (rabbit)  
 TDLo (Ingestion): 140 mg/kg (rat)  
 SODIUM CHLORIDE (7647-14-5)  
 LC50 (Inhalation): > 42000 mg/m<sup>3</sup>/1 hour (rat)  
 LD50 (Ingestion): 3000 mg/kg (rat)  
 LD50 (Intraperitoneal): 2602 mg/kg (mouse)  
 LD50 (Intravenous): 645 mg/kg (mouse)  
 LD50 (Skin): > 10000 mg/kg (rabbit)  
 LD50 (Subcutaneous): 3000 mg/kg (mouse)  
 LDLo (Ingestion): 8000 mg/kg (rabbit)  
 LDLo (Intravenous): 300 mg/kg (guinea pig)  
 LDLo (Subcutaneous): 2160 mg/kg (guinea pig)  
 TDLo (Ingestion): 12357 mg/kg (human)  
 SODIUM GLYCOLATE (2836-32-0)  
 LD50 (Ingestion): 6700 mg/kg (mouse)  
 LDLo (Ingestion): 500 mg/kg (cat)

**Information available for the ingredient(s):**

Ingredient	Oral Toxicity (LD50)	Dermal Toxicity (LD50)	Inhalation Toxicity (LC50)
SODIUM CARBOXYMETHYL CELLULOSE	16000 mg/kg (guinea)	> 2000 mg/kg (rabbit)	--
SODIUM CHLORIDE	3000 mg/kg (rat)	> 10000 mg/kg (rabbit)	> 42000 mg/m <sup>3</sup> /1 hour
SODIUM GLYCOLATE	6700 mg/kg (mouse)	--	--

**Additional ingredient toxicity value(s):**

SODIUM CARBOXYMETHYL CELLULOSE (9004-32-4)  
 TDLo (oral) 140 mg/kg (rat)

SODIUM CHLORIDE (7647-14-5)  
 LD50 (intraperitoneal) 2602 mg/kg (mouse)  
 LD50 (intravenous) 645 mg/kg (mouse)  
 LD50 (subcutaneous) 3000 mg/kg (mouse)  
 LDLo (intravenous) 300 mg/kg (guinea pig)  
 LDLo (oral) 8000 mg/kg (rabbit)  
 LDLo (subcutaneous) 2160 mg/kg (guinea pig)  
 TDLo (oral) 12357 mg/kg (human)

SODIUM GLYCOLATE (2836-32-0)  
 LDLo (oral) 500 mg/kg (cat)

**Skin** Not classified as a skin irritant. Contact may result in mild irritation.

**Eye** Not classified as an eye irritant. Contact may cause discomfort, lacrimation and redness.

**Sensitisation** Not classified as causing skin or respiratory sensitisation.

**Mutagenicity** No evidence of mutagenic effects.

**Carcinogenicity** No evidence of carcinogenic effects.

**Reproductive** No relevant or reliable studies were identified.

**STOT – single exposure** Not classified as causing organ damage from single exposure.

**STOT - repeated exposure** Not classified as causing organ damage from repeated exposure.

**Aspiration** This product does not present an aspiration hazard.

**12. ECOLOGICAL INFORMATION**

**12.1 Toxicity**

LC50 (Fresh Water Trout) > 21,000 ppm/96hrs.  
 LC50 (Salt Water Stickel Back) > 56,000 ppm/96hrs.

**12.2 Persistence and degradability**

No information provided.

**12.3 Bioaccumulative potential**

Not expected to bioaccumulate.

**12.4 Mobility in soil**

No information provided.

**12.5 Other adverse effects**

This product is not anticipated to cause adverse effects to animal or plant life if released to the environment in small quantities.

**13. DISPOSAL CONSIDERATIONS****13.1 Waste treatment methods**

**Waste disposal** Ensure product is covered with moist soil to prevent dust generation and dispose of to approved Council landfill. Contact the manufacturer/supplier for additional information (if required).

**Legislation** Dispose of in accordance with relevant local legislation.

**14. TRANSPORT INFORMATION****NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA**

	LAND TRANSPORT (ADG)	SEA TRANSPORT (IMDG / IMO)	AIR TRANSPORT (IATA / ICAO)
<b>14.1 UN Number</b>	None allocated.	None allocated.	None allocated.
<b>14.2 Proper Shipping Name</b>	None allocated.	None allocated.	None allocated.
<b>14.3 Transport hazard class</b>	None allocated.	None allocated.	None allocated.
<b>14.4 Packing Group</b>	None allocated.	None allocated.	None allocated.

**14.5 Environmental hazards**

No information provided.

**14.6 Special precautions for user**

**Hazchem code** None allocated.

**15. REGULATORY INFORMATION****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**Poison schedule** A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**Classifications** Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.  
 The classifications and phrases listed below are based on the Approved Criteria for Classifying Hazardous Substances [NOHSC: 1008(2004)].

**Hazard codes** None allocated.

**Risk phrases** None allocated.

**Safety phrases** None allocated.

**Inventory listing(s)** **AUSTRALIA: AICS (Australian Inventory of Chemical Substances)**  
 All components are listed on AICS, or are exempt.

## 16. OTHER INFORMATION

**Additional information** RESPIRATORS: In general the use of respirators should be limited and engineering controls employed to avoid exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.

**PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:**

The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

**HEALTH EFFECTS FROM EXPOSURE:**

It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

**Abbreviations**

ACGIH	American Conference of Governmental Industrial Hygienists
CAS #	Chemical Abstract Service number - used to uniquely identify chemical compounds
CNS	Central Nervous System
EC No.	EC No - European Community Number
EMS	Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods)
GHS	Globally Harmonized System
GTEPG	Group Text Emergency Procedure Guide
IARC	International Agency for Research on Cancer
LC50	Lethal Concentration, 50% / Median Lethal Concentration
LD50	Lethal Dose, 50% / Median Lethal Dose
mg/m <sup>3</sup>	Milligrams per Cubic Metre
OEL	Occupational Exposure Limit
pH	relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
ppm	Parts Per Million
STEL	Short-Term Exposure Limit
STOT-RE	Specific target organ toxicity (repeated exposure)
STOT-SE	Specific target organ toxicity (single exposure)
SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons
SWA	Safe Work Australia
TLV	Threshold Limit Value
TWA	Time Weighted Average

**Report status**

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

**Prepared by**

Risk Management Technologies  
 5 Ventnor Ave, West Perth  
 Western Australia 6005  
 Phone: +61 8 9322 1711  
 Fax: +61 8 9322 1794  
 Email: info@rmt.com.au  
 Web: www.rmt.com.au.

[ End of SDS ]



---

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

---

### 1.1 Product identifier

**Product name** XANTHAN GUM (P)  
**Synonym(s)** NEWZAN D • XANTHAN GUM (BIOPOLYMER)

### 1.2 Uses and uses advised against

**Use(s)** DRILLING FLUID ADDITIVE • VISCOSITY MODIFIER

### 1.3 Details of the supplier of the product

**Supplier name** NEWPARK DRILLING FLUIDS (AUSTRALIA) LTD  
**Address** 11 Alacrity Place, Henderson, WA, 6166, AUSTRALIA  
**Telephone** +61 8 9410 8200  
**Fax** +61 8 9410 8299  
**Website** [www.newpark.com](http://www.newpark.com)

### 1.4 Emergency telephone number(s)

**Emergency** 1800 127 406 (Australia); +64 3 3530199 (International)

---

## 2. HAZARDS IDENTIFICATION

---

### 2.1 Classification of the substance or mixture

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

### 2.2 Label elements

No signal word, pictograms, hazard or precautionary statements have been allocated.

### 2.3 Other hazards

No information provided.

---

## 3. COMPOSITION/ INFORMATION ON INGREDIENTS

---

### 3.1 Substances / Mixtures

Ingredient	CAS Number	EC Number	Content
XANTHAN GUM	11138-66-2	234-394-2	>87%
WATER	7732-18-5	231-791-2	<13%

---

## 4. FIRST AID MEASURES

---

### 4.1 Description of first aid measures

**Eye** If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.

**Inhalation** If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.

**Skin** If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.

**Ingestion** For advice, contact a Poison Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting. Ingestion is considered unlikely due to product form.

**First aid facilities** Eye wash facilities and safety shower should be available.

**4.2 Most important symptoms and effects, both acute and delayed**

Adverse effects not expected from this product under normal conditions of use.

**4.3 Immediate medical attention and special treatment needed**

Treat symptomatically.

---

**5. FIRE FIGHTING MEASURES**

---

**5.1 Extinguishing media**

Dry agent, carbon dioxide, foam or water fog. Prevent contamination of drains and waterways.

**5.2 Special hazards arising from the substance or mixture**

Combustible. May evolve toxic gases (carbon oxides, hydrocarbons) when heated to decomposition. Finely divided dust may form explosive mixtures with air.

**5.3 Advice for firefighters**

Evacuate area and contact emergency services. Toxic gases may be evolved in a fire situation. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

**5.4 Hazchem code**

None allocated.

---

**6. ACCIDENTAL RELEASE MEASURES**

---

**6.1 Personal precautions, protective equipment and emergency procedures**

Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. Clear area of all unprotected personnel. Contact emergency services where appropriate.

**6.2 Environmental precautions**

Prevent product from entering drains and waterways.

**6.3 Methods of cleaning up**

Contain spillage, then collect and place in suitable containers for reuse or disposal. Avoid generating dust.

**6.4 Reference to other sections**

See Sections 8 and 13 for exposure controls and disposal.

---

**7. HANDLING AND STORAGE**

---

**7.1 Precautions for safe handling**

Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

**7.2 Conditions for safe storage, including any incompatibilities**

Store in a cool, dry, well ventilated area, removed from incompatible substances and foodstuffs. Ensure containers are adequately labelled and tightly closed when not in use.

**7.3 Specific end use(s)**

No information provided.

---

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

---

**8.1 Control parameters**

**Exposure standards**

No exposure standards have been entered for this product.

**Biological limits**

No biological limit values have been entered for this product.

**8.2 Exposure controls**

**Engineering controls** Avoid inhalation. Use in well ventilated areas.

**PRODUCT NAME XANTHAN GUM (P)**

**PPE**

<b>Eye / Face</b>	Wear dust-proof goggles.
<b>Hands</b>	Wear PVC or rubber gloves.
<b>Body</b>	When using large quantities or where heavy contamination is likely, wear coveralls.
<b>Respiratory</b>	Wear a Class P1 (Particulate) respirator. Where an inhalation risk exists, wear a Class P1 (Particulate) respirator.



---

## 9. PHYSICAL AND CHEMICAL PROPERTIES

---

### 9.1 Information on basic physical and chemical properties

<b>Appearance</b>	LIGHT BEIGE POWDER
<b>Odour</b>	SLIGHT ODOUR
<b>Flammability</b>	COMBUSTIBLE
<b>Flash point</b>	NOT RELEVANT
<b>Boiling point</b>	NOT AVAILABLE
<b>Melting point</b>	NOT AVAILABLE
<b>Evaporation rate</b>	NOT AVAILABLE
<b>pH</b>	NOT AVAILABLE
<b>Vapour density</b>	NOT AVAILABLE
<b>Specific gravity</b>	1.5
<b>Solubility (water)</b>	MISCIBLE
<b>Vapour pressure</b>	NOT AVAILABLE
<b>Upper explosion limit</b>	NOT RELEVANT
<b>Lower explosion limit</b>	NOT RELEVANT
<b>Partition coefficient</b>	NOT AVAILABLE
<b>Autoignition temperature</b>	NOT AVAILABLE
<b>Decomposition temperature</b>	NOT AVAILABLE
<b>Viscosity</b>	NOT AVAILABLE
<b>Explosive properties</b>	NOT AVAILABLE
<b>Oxidising properties</b>	NOT AVAILABLE
<b>Odour threshold</b>	NOT AVAILABLE

### 9.2 Other information

<b>% Volatiles</b>	NOT AVAILABLE
--------------------	---------------

---

## 10. STABILITY AND REACTIVITY

---

### 10.1 Reactivity

Carefully review all information provided in sections 10.2 to 10.6.

### 10.2 Chemical stability

Stable under recommended conditions of storage.

### 10.3 Possibility of hazardous reactions

Polymerization is not expected to occur.

### 10.4 Conditions to avoid

Avoid heat, sparks, open flames and other ignition sources.

### 10.5 Incompatible materials

Incompatible with oxidising agents (e.g. hypochlorites) and acids (e.g. nitric acid).

### 10.6 Hazardous decomposition products

May evolve carbon oxides and hydrocarbons when heated to decomposition.

---

## 11. TOXICOLOGICAL INFORMATION

---

**PRODUCT NAME XANTHAN GUM (P)****11.1 Information on toxicological effects**

<b>Acute toxicity</b>	This product is expected to be of low toxicity. Under normal conditions of use, adverse health effects are not anticipated.
<b>Skin</b>	Not classified as a skin irritant. Contact may result in mild irritation.
<b>Eye</b>	Not classified as an eye irritant. Contact may cause discomfort, lacrimation and redness.
<b>Sensitization</b>	This product is not known to be a skin or respiratory sensitiser.
<b>Mutagenicity</b>	No evidence of mutagenic effects.
<b>Carcinogenicity</b>	No evidence of carcinogenic effects.
<b>Reproductive</b>	No evidence of reproductive effects.
<b>STOT – single exposure</b>	No known effects from this product.
<b>STOT – repeated exposure</b>	No known effects from this product.
<b>Aspiration</b>	This product does not present an aspiration hazard.

---

**12. ECOLOGICAL INFORMATION**

---

**12.1 Toxicity**

No information provided.

**12.2 Persistence and degradability**

No information provided.

**12.3 Bioaccumulative potential**

No information provided.

**12.4 Mobility in soil**

No information provided.

**12.5 Other adverse effects**

No information provided.

---

**13. DISPOSAL CONSIDERATIONS**

---

**13.1 Waste treatment methods**

<b>Waste disposal</b>	Ensure product is covered with moist soil to prevent dust generation and dispose of to approved Council landfill. Contact the manufacturer/supplier for additional information (if required).
<b>Legislation</b>	Dispose of in accordance with relevant local legislation.

---

**14. TRANSPORT INFORMATION**

---

**NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA**

	<b>LAND TRANSPORT (ADG)</b>	<b>SEA TRANSPORT (IMDG / IMO)</b>	<b>AIR TRANSPORT (IATA / ICAO)</b>
<b>14.1 UN Number</b>	None Allocated	None Allocated	None Allocated
<b>14.2 Proper Shipping Name</b>	None Allocated	None Allocated	None Allocated
<b>14.3 Transport hazard class</b>	None Allocated	None Allocated	None Allocated
<b>14.4 Packing Group</b>	None Allocated	None Allocated	None Allocated

**14.5 Environmental hazards** No information provided

**14.6 Special precautions for user**

**Hazchem code** None Allocated

---

**15. REGULATORY INFORMATION**

---

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

<b>Poison schedule</b>	A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).
<b>Classifications</b>	Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.  The classifications and phrases listed below are based on the Approved Criteria for Classifying Hazardous Substances [NOHSC: 1008(2004)].
<b>Hazard codes</b>	None allocated.
<b>Risk phrases</b>	None allocated.
<b>Safety phrases</b>	None allocated.
<b>Inventory listing(s)</b>	<b>AUSTRALIA: AICS (Australian Inventory of Chemical Substances)</b> All components are listed on AICS, or are exempt.

---

**16. OTHER INFORMATION**

---

**Additional information**      RESPIRATORS: In general the use of respirators should be limited and engineering controls employed to avoid exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.

**PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:**

The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

**HEALTH EFFECTS FROM EXPOSURE:**

It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a ChemAlert report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

<b>Abbreviations</b>	ACGIH	American Conference of Governmental Industrial Hygienists
	CAS #	Chemical Abstract Service number - used to uniquely identify chemical compounds
	CNS	Central Nervous System
	EC No.	EC No - European Community Number
	EMS	Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods)
	GHS	Globally Harmonized System
	GTEPG	Group Text Emergency Procedure Guide
	IARC	International Agency for Research on Cancer
	LC50	Lethal Concentration, 50% / Median Lethal Concentration
	LD50	Lethal Dose, 50% / Median Lethal Dose
	mg/m <sup>3</sup>	Milligrams per Cubic Metre
	OEL	Occupational Exposure Limit
	pH	relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
	ppm	Parts Per Million
	STEL	Short-Term Exposure Limit
	STOT-RE	Specific target organ toxicity (repeated exposure)
	STOT-SE	Specific target organ toxicity (single exposure)
	SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons
	SWA	Safe Work Australia
	TLV	Threshold Limit Value
	TWA	Time Weighted Average

**PRODUCT NAME XANTHAN GUM (P)****Revision history**

Revision	Description
1.3	Added Synonym.
1.2	Standard SDS Review
1.1	Standard SDS Review
1.0	Initial SDS creation

**Report status**

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

**Prepared by**

Risk Management Technologies  
5 Ventnor Ave, West Perth  
Western Australia 6005  
Phone: +61 8 9322 1711  
Fax: +61 8 9322 1794  
Email: info@rmt.com.au  
Web: www.rmt.com.au.

**Revision:** 1.3

**SDS date:** 10 February 2015

**[ End of SDS ]**

---

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

---

### 1.1 Product identifier

**Product name** POLYDRILL  
**Synonym(s)** POLY DRILL

### 1.2 Uses and uses advised against

**Use(s)** ADDITIVE • DRILLING FLUID ADDITIVE

### 1.3 Details of the supplier of the product

**Supplier name** NEWPARK DRILLING FLUIDS (AUSTRALIA) LTD  
**Address** 11 Alacrity Place, Henderson, WA, 6166, AUSTRALIA  
**Telephone** +61 8 9410 8200  
**Fax** +61 8 9410 8299  
**Website** [www.newpark.com](http://www.newpark.com)

### 1.4 Emergency telephone number(s)

**Emergency** 1800 127 406 (Australia); +64 3 3530199 (International)

---

## 2. HAZARDS IDENTIFICATION

---

### 2.1 Classification of the substance or mixture

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO AUSTRALIAN WHS REGULATIONS

### 2.2 Label elements

No signal word, pictograms, hazard or precautionary statements have been allocated.

### 2.3 Other hazards

No information provided.

---

## 3. COMPOSITION/ INFORMATION ON INGREDIENTS

---

### 3.1 Substances / Mixtures

Ingredient	CAS Number	EC Number	Content
SULPHONATED ORGANIC POLYMER	-	-	100%

---

## 4. FIRST AID MEASURES

---

### 4.1 Description of first aid measures

**Eye** If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.

**Inhalation** If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.

**Skin** If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.

**Ingestion** For advice, contact a Poison Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting. Ingestion is considered unlikely due to product form.

**First aid facilities** Eye wash facilities and safety shower should be available.

**4.2 Most important symptoms and effects, both acute and delayed**

Adverse effects not expected from this product under normal conditions of use.

**4.3 Immediate medical attention and special treatment needed**

Treat symptomatically.

---

**5. FIRE FIGHTING MEASURES**

---

**5.1 Extinguishing media**

Dry agent, carbon dioxide, foam or water fog. Prevent contamination of drains and waterways.

**5.2 Special hazards arising from the substance or mixture**

Combustible. May evolve toxic gases (carbon oxides, hydrocarbons) when heated to decomposition. Finely divided dust may form explosive mixtures with air.

**5.3 Advice for firefighters**

Evacuate area and contact emergency services. Toxic gases may be evolved in a fire situation. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

**5.4 Hazchem code**

None allocated.

---

**6. ACCIDENTAL RELEASE MEASURES**

---

**6.1 Personal precautions, protective equipment and emergency procedures**

Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. Clear area of all unprotected personnel. Contact emergency services where appropriate.

**6.2 Environmental precautions**

Prevent product from entering drains and waterways.

**6.3 Methods of cleaning up**

Contain spillage, then collect and place in suitable containers for reuse or disposal. Avoid generating dust.

**6.4 Reference to other sections**

See Sections 8 and 13 for exposure controls and disposal.

---

**7. HANDLING AND STORAGE**

---

**7.1 Precautions for safe handling**

Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

**7.2 Conditions for safe storage, including any incompatibilities**

Store in a cool, dry, well ventilated area, removed from incompatible substances and foodstuffs. Ensure containers are adequately labelled and tightly closed when not in use.

**7.3 Specific end use(s)**

No information provided.

---

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

---

**8.1 Control parameters**

**Exposure standards**

No exposure standards have been entered for this product.

**Biological limits**

No biological limit values have been entered for this product.

**8.2 Exposure controls**

**Engineering controls** Avoid inhalation. Use in well ventilated areas.



PPE

- Eye / Face Wear dust-proof goggles.
- Hands Wear PVC or rubber gloves.
- Body When using large quantities or where heavy contamination is likely, wear coveralls.
- Respiratory Where an inhalation risk exists, wear a Class P1 (Particulate) respirator.



---

## 9. PHYSICAL AND CHEMICAL PROPERTIES

---

### 9.1 Information on basic physical and chemical properties

Appearance	RED BROWN POWDER
Odour	CHARACTERISTIC ODOUR
Flammability	COMBUSTIBLE
Flash point	NOT RELEVANT
Boiling point	> 370°C
Melting point	NOT AVAILABLE
Evaporation rate	NOT AVAILABLE
pH	7 to 9 (150 g/L)
Vapour density	NOT AVAILABLE
Specific gravity	1.8
Solubility (water)	320 g/L
Vapour pressure	NOT AVAILABLE
Upper explosion limit	NOT RELEVANT
Lower explosion limit	NOT RELEVANT
Partition coefficient	NOT AVAILABLE
Autoignition temperature	NOT AVAILABLE
Decomposition temperature	NOT AVAILABLE
Viscosity	NOT AVAILABLE
Explosive properties	NOT AVAILABLE
Oxidising properties	NOT AVAILABLE
Odour threshold	NOT AVAILABLE

---

## 10. STABILITY AND REACTIVITY

---

### 10.1 Reactivity

Carefully review all information provided in sections 10.2 to 10.6.

### 10.2 Chemical stability

Stable under recommended conditions of storage.

### 10.3 Possibility of hazardous reactions

Polymerization is not expected to occur.

### 10.4 Conditions to avoid

Avoid heat, sparks, open flames and other ignition sources.

### 10.5 Incompatible materials

Incompatible with oxidising agents (e.g. hypochlorites) and acids (e.g. nitric acid).

### 10.6 Hazardous decomposition products

May evolve carbon oxides and hydrocarbons when heated to decomposition.

---

## 11. TOXICOLOGICAL INFORMATION

---

### 11.1 Information on toxicological effects

Acute toxicity Information available for the product:

**PRODUCT NAME POLYDRILL**

This product is expected to be of low toxicity. Under normal conditions of use, adverse health effects are not anticipated.

**Information available for the ingredient(s):**

Ingredient	Oral Toxicity (LD50)	Dermal Toxicity (LD50)	Inhalation Toxicity (LC50)
SULPHONATED ORGANIC POLYMER	> 5000 mg/kg (rat)	--	--

<b>Skin</b>	Not classified as a skin irritant. Contact may result in mild irritation.
<b>Eye</b>	Not classified as an eye irritant. Contact may cause discomfort, lacrimation and redness.
<b>Sensitization</b>	This product is not known to be a skin or respiratory sensitiser.
<b>Mutagenicity</b>	No evidence of mutagenic effects.
<b>Carcinogenicity</b>	No evidence of carcinogenic effects.
<b>Reproductive</b>	No evidence of reproductive effects.
<b>STOT – single exposure</b>	No known effects from this product.
<b>STOT – repeated exposure</b>	No known effects from this product.
<b>Aspiration</b>	This product does not present an aspiration hazard.

**12. ECOLOGICAL INFORMATION****12.1 Toxicity**

No information provided.

**12.2 Persistence and degradability**

This product is not readily biodegradable.

**12.3 Bioaccumulative potential**

No information provided.

**12.4 Mobility in soil**

No information provided.

**12.5 Other adverse effects**

No information provided.

**13. DISPOSAL CONSIDERATIONS****13.1 Waste treatment methods**

**Waste disposal** Ensure product is covered with moist soil to prevent dust generation and dispose of to approved Council landfill. Contact the manufacturer/supplier for additional information (if required).

**Legislation** Dispose of in accordance with relevant local legislation.

**14. TRANSPORT INFORMATION****NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA**

	LAND TRANSPORT (ADG)	SEA TRANSPORT (IMDG / IMO)	AIR TRANSPORT (IATA / ICAO)
<b>14.1 UN Number</b>	None Allocated	None Allocated	None Allocated
<b>14.2 Proper Shipping Name</b>	None Allocated	None Allocated	None Allocated
<b>14.3 Transport hazard class</b>	None Allocated	None Allocated	None Allocated
<b>14.4 Packing Group</b>	None Allocated	None Allocated	None Allocated

**14.5 Environmental hazards** No information provided

**14.6 Special precautions for user**

**Hazchem code** None Allocated

## 15. REGULATORY INFORMATION

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

<b>Poison schedule</b>	A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).
<b>Classifications</b>	Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.  The classifications and phrases listed below are based on the Approved Criteria for Classifying Hazardous Substances [NOHSC: 1008(2004)].
<b>Hazard codes</b>	None allocated.
<b>Risk phrases</b>	None allocated.
<b>Safety phrases</b>	None allocated.
<b>Inventory listing(s)</b>	<b>AUSTRALIA: AICS (Australian Inventory of Chemical Substances)</b> All components are listed on AICS, or are exempt.

## 16. OTHER INFORMATION

**Additional information** RESPIRATORS: In general the use of respirators should be limited and engineering controls employed to avoid exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.

#### PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:

The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

#### HEALTH EFFECTS FROM EXPOSURE:

It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a ChemAlert report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

<b>Abbreviations</b>	ACGIH	American Conference of Governmental Industrial Hygienists
	CAS #	Chemical Abstract Service number - used to uniquely identify chemical compounds
	CNS	Central Nervous System
	EC No.	EC No - European Community Number
	EMS	Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods)
	GHS	Globally Harmonized System
	GTEPG	Group Text Emergency Procedure Guide
	IARC	International Agency for Research on Cancer
	LC50	Lethal Concentration, 50% / Median Lethal Concentration
	LD50	Lethal Dose, 50% / Median Lethal Dose
	mg/m <sup>3</sup>	Milligrams per Cubic Metre
	OEL	Occupational Exposure Limit
	pH	relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
	ppm	Parts Per Million
	STEL	Short-Term Exposure Limit
	STOT-RE	Specific target organ toxicity (repeated exposure)
	STOT-SE	Specific target organ toxicity (single exposure)
	SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons
	SWA	Safe Work Australia
	TLV	Threshold Limit Value
	TWA	Time Weighted Average

**PRODUCT NAME POLYDRILL**

**Report status**

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

**Prepared by**

Risk Management Technologies  
5 Ventnor Ave, West Perth  
Western Australia 6005  
Phone: +61 8 9322 1711  
Fax: +61 8 9322 1794  
Email: [info@rmt.com.au](mailto:info@rmt.com.au)  
Web: [www.rmt.com.au](http://www.rmt.com.au).

**[ End of SDS ]**

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

### 1.1 Product identifier

**Product name** POTASSIUM CHLORIDE  
**Synonym(s)** KCL • MURIATE OF POTASH • POTASH • SYLVITE

### 1.2 Uses and uses advised against

**Use(s)** DRILLING FLUID ADDITIVE • FERTILISER • INHIBITOR

### 1.3 Details of the supplier of the product

**Supplier name** NEWPARK DRILLING FLUIDS (AUSTRALIA) LTD  
**Address** 11 Alacrity Place, Henderson, WA, 6166, AUSTRALIA  
**Telephone** +61 8 9410 8200  
**Fax** +61 8 9410 8299  
**Website** [www.newpark.com](http://www.newpark.com)

### 1.4 Emergency telephone number(s)

**Emergency** 1800 127 406 (Australia); +64 3 3530199 (International)

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO AUSTRALIAN WHS REGULATIONS

### 2.2 Label elements

No signal word, pictograms, hazard or precautionary statements have been allocated.

### 2.3 Other hazards

No information provided.

## 3. COMPOSITION/ INFORMATION ON INGREDIENTS

### 3.1 Substances / Mixtures

Ingredient	CAS Number	EC Number	Content
POTASSIUM CHLORIDE	7447-40-7	231-211-8	>97%

## 4. FIRST AID MEASURES

### 4.1 Description of first aid measures

**Eye** If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.

**Inhalation** If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.

**Skin** If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.

**Ingestion** For advice, contact a Poison Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting.

**First aid facilities** No information provided.

**PRODUCT NAME POTASSIUM CHLORIDE**

**4.2 Most important symptoms and effects, both acute and delayed**

Adverse effects not expected from this product under normal conditions of use.

**4.3 Immediate medical attention and special treatment needed**

Treat symptomatically.

---

**5. FIRE FIGHTING MEASURES**

---

**5.1 Extinguishing media**

Use an extinguishing agent suitable for the surrounding fire.

**5.2 Special hazards arising from the substance or mixture**

Non flammable. May evolve toxic gases (potassium oxides, chlorides) when heated to decomposition.

**5.3 Advice for firefighters**

Evacuate area and contact emergency services. Toxic gases may be evolved in a fire situation. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

**5.4 Hazchem code**

None allocated.

---

**6. ACCIDENTAL RELEASE MEASURES**

---

**6.1 Personal precautions, protective equipment and emergency procedures**

Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS.

**6.2 Environmental precautions**

Prevent product from entering drains and waterways.

**6.3 Methods of cleaning up**

Contain spillage, then collect and place in suitable containers for disposal. Avoid generating dust.

**6.4 Reference to other sections**

See Sections 8 and 13 for exposure controls and disposal.

---

**7. HANDLING AND STORAGE**

---

**7.1 Precautions for safe handling**

Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

**7.2 Conditions for safe storage, including any incompatibilities**

Store in a cool, dry, well ventilated area, removed from incompatible substances and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use.

**7.3 Specific end use(s)**

No information provided.

---

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

---

**8.1 Control parameters**

**Exposure standards**

No exposure standards have been entered for this product.

**Biological limits**

No biological limit values have been entered for this product.

**8.2 Exposure controls**

**Engineering controls**

Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical extraction ventilation is recommended.

**PRODUCT NAME POTASSIUM CHLORIDE**

**PPE**

<b>Eye / Face</b>	At high dust levels, wear dust-proof goggles.
<b>Hands</b>	With prolonged use, wear PVC or rubber or cotton gloves.
<b>Body</b>	With prolonged use, wear coveralls.
<b>Respiratory</b>	At high dust levels, wear a Class P1 (Particulate) respirator.

---

**9. PHYSICAL AND CHEMICAL PROPERTIES**

---

**9.1 Information on basic physical and chemical properties**

<b>Appearance</b>	WHITE SOLID
<b>Odour</b>	ODOURLESS
<b>Flammability</b>	NON FLAMMABLE
<b>Flash point</b>	NOT RELEVANT
<b>Boiling point</b>	1413°C
<b>Melting point</b>	773°C
<b>Evaporation rate</b>	NOT AVAILABLE
<b>pH</b>	NOT AVAILABLE
<b>Vapour density</b>	NOT AVAILABLE
<b>Specific gravity</b>	2.0
<b>Solubility (water)</b>	340 g/L @ 20°C
<b>Vapour pressure</b>	NOT AVAILABLE
<b>Upper explosion limit</b>	NOT RELEVANT
<b>Lower explosion limit</b>	NOT RELEVANT
<b>Partition coefficient</b>	NOT AVAILABLE
<b>Autoignition temperature</b>	NOT AVAILABLE
<b>Decomposition temperature</b>	NOT AVAILABLE
<b>Viscosity</b>	NOT AVAILABLE
<b>Explosive properties</b>	NOT AVAILABLE
<b>Oxidising properties</b>	NOT AVAILABLE
<b>Odour threshold</b>	NOT AVAILABLE

**9.2 Other information**

<b>% Volatiles</b>	NOT AVAILABLE
--------------------	---------------

---

**10. STABILITY AND REACTIVITY**

---

**10.1 Reactivity**

Carefully review all information provided in sections 10.2 to 10.6.

**10.2 Chemical stability**

Stable under recommended conditions of storage.

**10.3 Possibility of hazardous reactions**

Polymerization will not occur.

**10.4 Conditions to avoid**

Avoid heat, sparks, open flames and other ignition sources.

**10.5 Incompatible materials**

Incompatible (potentially explosive) with oxidising agents (e.g. hypochlorites).

**10.6 Hazardous decomposition products**

May evolve toxic gases (potassium oxides, chlorides) when heated to decomposition.

---

**11. TOXICOLOGICAL INFORMATION**

---

**11.1 Information on toxicological effects**

<b>Acute toxicity</b>	May be harmful if swallowed. Oral Toxicity: An oral LD50 in rats of 2600 mg/kg was reported for potassium chloride. Additional toxicity data for potassium chloride: LD50 (Intraperitoneal): 620 mg/kg (mouse) LD50 (Intravenous): 117 mg/kg (mouse) LDLo (Ingestion): 20 mg/kg (man)
-----------------------	--

**PRODUCT NAME POTASSIUM CHLORIDE**

LDLo (Intraperitoneal): 900 mg/kg (guinea pig)

LDLo (Intravenous): 77 mg/kg (guinea pig)

LDLo (Subcutaneous): 2120 mg/kg (frog)

TDLo (Ingestion): 60 mg/kg/days (woman)

<b>Skin</b>	Not classified as a skin irritant. Contact may result in mild irritation and rash.
<b>Eye</b>	Not classified as an eye irritant. Contact may cause mild irritation and lacrimation.
<b>Sensitization</b>	This product is not known to be a skin or respiratory sensitiser.
<b>Mutagenicity</b>	No evidence of mutagenic effects.
<b>Carcinogenicity</b>	No evidence of carcinogenic effects.
<b>Reproductive</b>	No evidence of reproductive effects.
<b>STOT – single exposure</b>	Acute potassium poisoning via ingestion is rare as a large single dose usually induces vomiting, and potassium is rapidly excreted by the body, however this product does have the potential to cause cardiovascular disorders.
<b>STOT – repeated exposure</b>	Not classified as causing organ effects from repeated exposure.
<b>Aspiration</b>	Not relevant.

---

**12. ECOLOGICAL INFORMATION**

---

**12.1 Toxicity**

In short-term acute toxicity tests with fish, daphnia and algae the following results were found (lowest test result values): Ictalurus punctulatus 48h-LC50 = 720 mg/l; Daphnia magna: 48h-LC50 = 177 mg/l; Nitzschia linearis: 120 h-EC50 = 1337 mg/l. A chronic reproductive test with the invertebrate Daphnia magna gave a LOEC of 101 mg/l. All the studies compiled on the acute and chronic aquatic toxicity were > 100 mg/L. Thus it is concluded that KCl is not hazardous to freshwater organisms. Taking into considerations the background concentrations of KCl in seawater (380 mg/l K+ and 19,000 mg/l Cl-), it is concluded that there is no reason for further investigations of KCl on marine species. The low concern for the environment is supported by the absence of a bioaccumulation potential for the substance.

**12.2 Persistence and degradability**

Biodegradability does not pertain to inorganic substances.

**12.3 Bioaccumulative potential**

Does not bioaccumulate.

**12.4 Mobility in soil**

No impact if small amount is released to the soil.

**12.5 Other adverse effects**

No information provided.

---

**13. DISPOSAL CONSIDERATIONS**

---

**13.1 Waste treatment methods**

**Waste disposal** Collect and place in sealable containers and dispose of to an approved landfill site. Contact the manufacturer/supplier for additional information (if required).

**Legislation** Dispose of in accordance with relevant local legislation.

---

**14. TRANSPORT INFORMATION**

---

**NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA**

	<b>LAND TRANSPORT (ADG)</b>	<b>SEA TRANSPORT (IMDG / IMO)</b>	<b>AIR TRANSPORT (IATA / ICAO)</b>
<b>14.1 UN Number</b>	None Allocated	None Allocated	None Allocated
<b>14.2 Proper Shipping Name</b>	None Allocated	None Allocated	None Allocated
<b>14.3 Transport hazard class</b>	None Allocated	None Allocated	None Allocated
<b>14.4 Packing Group</b>	None Allocated	None Allocated	None Allocated

**14.5 Environmental hazards** No information provided



**14.6 Special precautions for user**

Hazchem code                None Allocated

---

**15. REGULATORY INFORMATION**

---

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**Poison schedule**            A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**Classifications**            Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

   The classifications and phrases listed below are based on the Approved Criteria for Classifying Hazardous Substances [NOHSC: 1008(2004)].

**Hazard codes**                None allocated.

**Risk phrases**                None allocated.

**Safety phrases**              None allocated.

**Inventory listing(s)**        **AUSTRALIA: AICS (Australian Inventory of Chemical Substances)**  
All components are listed on AICS, or are exempt.

---

**16. OTHER INFORMATION**

---

**Additional information**        **RESPIRATORS:** In general the use of respirators should be limited and engineering controls employed to avoid exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.

**PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:**  
The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

**HEALTH EFFECTS FROM EXPOSURE:**  
It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a ChemAlert report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

**PRODUCT NAME POTASSIUM CHLORIDE**

<b>Abbreviations</b>	ACGIH	American Conference of Governmental Industrial Hygienists
	CAS #	Chemical Abstract Service number - used to uniquely identify chemical compounds
	CNS	Central Nervous System
	EC No.	EC No - European Community Number
	EMS	Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods)
	GHS	Globally Harmonized System
	GTEPG	Group Text Emergency Procedure Guide
	IARC	International Agency for Research on Cancer
	LC50	Lethal Concentration, 50% / Median Lethal Concentration
	LD50	Lethal Dose, 50% / Median Lethal Dose
	mg/m <sup>3</sup>	Milligrams per Cubic Metre
	OEL	Occupational Exposure Limit
	pH	relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
	ppm	Parts Per Million
	STEL	Short-Term Exposure Limit
	STOT-RE	Specific target organ toxicity (repeated exposure)
	STOT-SE	Specific target organ toxicity (single exposure)
	SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons
	SWA	Safe Work Australia
	TLV	Threshold Limit Value
	TWA	Time Weighted Average

**Report status** This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

**Prepared by** Risk Management Technologies  
5 Ventnor Ave, West Perth  
Western Australia 6005  
Phone: +61 8 9322 1711  
Fax: +61 8 9322 1794  
Email: info@rmt.com.au  
Web: www.rmt.com.au.

**[ End of SDS ]**

---

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

---

### 1.1 Product identifier

**Product name** QUICKSEAL (F,M,C)  
**Synonym(s)** QUICKSEAL

### 1.2 Uses and uses advised against

**Use(s)** DRILLING FLUID ADDITIVE

### 1.3 Details of the supplier of the product

**Supplier name** NEWPARK DRILLING FLUIDS (AUSTRALIA) LTD  
**Address** 11 Alacrity Place, Henderson, WA, 6166, AUSTRALIA  
**Telephone** +61 8 9410 8200  
**Fax** +61 8 9410 8299  
**Website** [www.newpark.com](http://www.newpark.com)

### 1.4 Emergency telephone number(s)

**Emergency** 1800 127 406 (Australia); +64 3 3530199 (International)

---

## 2. HAZARDS IDENTIFICATION

---

### 2.1 Classification of the substance or mixture

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

### 2.2 Label elements

No signal word, pictograms, hazard or precautionary statements have been allocated.

### 2.3 Other hazards

No information provided.

---

## 3. COMPOSITION/ INFORMATION ON INGREDIENTS

---

### 3.1 Substances / Mixtures

Ingredient	CAS Number	EC Number	Content
CELLULOSE	9004-34-6	232-674-9	100%

---

## 4. FIRST AID MEASURES

---

### 4.1 Description of first aid measures

**Eye** If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.

**Inhalation** If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.

**Skin** If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water.

**Ingestion** For advice, contact a Poison Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting.

**First aid facilities** No information provided.

### 4.2 Most important symptoms and effects, both acute and delayed

Adverse effects not expected from this product under normal conditions of use.

**4.3 Immediate medical attention and special treatment needed**

Treat symptomatically.

---

**5. FIRE FIGHTING MEASURES**

---

**5.1 Extinguishing media**

Dry agent, carbon dioxide, foam or water fog. Prevent contamination of drains and waterways.

**5.2 Special hazards arising from the substance or mixture**

Combustible. May evolve carbon oxides and hydrocarbons when heated to decomposition. Dust may form explosive mixtures with air.

**5.3 Advice for firefighters**

Evacuate area and contact emergency services. Toxic gases may be evolved in a fire situation. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Difficult to extinguish once burning.

**5.4 Hazchem code**

None allocated.

---

**6. ACCIDENTAL RELEASE MEASURES**

---

**6.1 Personal precautions, protective equipment and emergency procedures**

Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS.

**6.2 Environmental precautions**

Prevent product from entering drains and waterways.

**6.3 Methods of cleaning up**

Moisten with water to prevent a dust hazard and place in sealable containers for disposal.

**6.4 Reference to other sections**

See Sections 8 and 13 for exposure controls and disposal.

---

**7. HANDLING AND STORAGE**

---

**7.1 Precautions for safe handling**

Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

**7.2 Conditions for safe storage, including any incompatibilities**

Store in a cool, dry, well ventilated area, removed from incompatible substances, heat or ignition sources and foodstuffs. Ensure containers are labelled, protected from light, freezing or physical damage and tightly sealed when not in use. Keep out of reach of children.

**7.3 Specific end use(s)**

No information provided.

---

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

---

**8.1 Control parameters**

**Exposure standards**

Ingredient	Reference	TWA		STEL	
		ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>
Cellulose (paper fibre) (a)	SWA (AUS)	--	10	--	--

**Biological limits** No Biological Limit Value allocated.

**8.2 Exposure controls**

**Engineering controls** Avoid inhalation. Use in well ventilated areas.

**PRODUCT NAME QUICKSEAL (F,M,C)**

**PPE**

<b>Eye / Face</b>	Wear dust-proof goggles.
<b>Hands</b>	Wear PVC or rubber gloves.
<b>Body</b>	When using large quantities or where heavy contamination is likely, wear coveralls.
<b>Respiratory</b>	Where an inhalation risk exists, wear a Class P1 (Particulate) respirator.



---

**9. PHYSICAL AND CHEMICAL PROPERTIES**

---

**9.1 Information on basic physical and chemical properties**

<b>Appearance</b>	YELLOW TO BROWN SOLID
<b>Odour</b>	SLIGHT ODOUR
<b>Flammability</b>	COMBUSTIBLE
<b>Flash point</b>	NOT AVAILABLE
<b>Boiling point</b>	NOT RELEVANT
<b>Melting point</b>	NOT AVAILABLE
<b>Evaporation rate</b>	NOT AVAILABLE
<b>pH</b>	7 to 8
<b>Vapour density</b>	NOT AVAILABLE
<b>Specific gravity</b>	0.9 - 1.2
<b>Solubility (water)</b>	INSOLUBLE
<b>Vapour pressure</b>	NOT AVAILABLE
<b>Upper explosion limit</b>	NOT RELEVANT
<b>Lower explosion limit</b>	NOT RELEVANT
<b>Partition coefficient</b>	NOT AVAILABLE
<b>Autoignition temperature</b>	NOT AVAILABLE
<b>Decomposition temperature</b>	NOT AVAILABLE
<b>Viscosity</b>	NOT AVAILABLE
<b>Explosive properties</b>	NOT AVAILABLE
<b>Oxidising properties</b>	NOT AVAILABLE
<b>Odour threshold</b>	NOT AVAILABLE

**9.2 Other information**

<b>% Volatiles</b>	NOT AVAILABLE
--------------------	---------------

---

**10. STABILITY AND REACTIVITY**

---

**10.1 Reactivity**

Carefully review all information provided in sections 10.2 to 10.6.

**10.2 Chemical stability**

Stable under recommended conditions of storage.

**10.3 Possibility of hazardous reactions**

Polymerization is not expected to occur.

**10.4 Conditions to avoid**

Avoid heat, sparks, open flames and other ignition sources.

**10.5 Incompatible materials**

Incompatible with calcium oxides, bleaching powder, perchlorates, perchloric acid, sodium chlorate, fluorine, nitric acid, sodium nitrate and sodium nitrite.

**10.6 Hazardous decomposition products**

May evolve carbon oxides and hydrocarbons when heated to decomposition.

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

<b>Acute toxicity</b>	This product is expected to be of low toxicity. Under normal conditions of use, adverse health effects are not anticipated. Acute Oral Toxicity: LD50 (oral) > 5000 mg/kg (rats). Acute Dermal Toxicity: LD50 (dermal) > 2000 mg/kg (rats). Acute Inhalation Toxicity: LC50 (Inhalation) = 5800 mg/m <sup>3</sup> /4hrs (rat).
<b>Skin</b>	Not classified as a skin irritant. Contact may result in mechanical irritation, redness and rash.
<b>Eye</b>	Not classified as an eye irritant. However, this product may cause mechanical eye irritation with redness and lacrimation.
<b>Sensitization</b>	This product is not known to be a skin or respiratory sensitiser.
<b>Mutagenicity</b>	No evidence of mutagenic effects.
<b>Carcinogenicity</b>	No evidence of carcinogenic effects.
<b>Reproductive</b>	No evidence of reproductive effects.
<b>STOT – single exposure</b>	Not classified as causing organ effects from single exposure.
<b>STOT – repeated exposure</b>	Not classified as causing organ effects from repeated exposure.
<b>Aspiration</b>	This product does not present an aspiration hazard.

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

Low toxicity to aquatic organisms.

### 12.2 Persistence and degradability

This product is readily biodegradable.

### 12.3 Bioaccumulative potential

This product is not expected to bioaccumulate.

### 12.4 Mobility in soil

No information provided.

### 12.5 Other adverse effects

No information provided.

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

**Waste disposal** Reuse where possible. No special precautions are normally required when handling this product.

**Legislation** Dispose of in accordance with relevant local legislation.

## 14. TRANSPORT INFORMATION

NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA

	LAND TRANSPORT (ADG)	SEA TRANSPORT (IMDG / IMO)	AIR TRANSPORT (IATA / ICAO)
<b>14.1 UN Number</b>	None Allocated	None Allocated	None Allocated
<b>14.2 Proper Shipping Name</b>	None Allocated	None Allocated	None Allocated
<b>14.3 Transport hazard class</b>	None Allocated	None Allocated	None Allocated
<b>14.4 Packing Group</b>	None Allocated	None Allocated	None Allocated

**14.5 Environmental hazards** No information provided

**14.6 Special precautions for user**

**PRODUCT NAME QUICKSEAL (F,M,C)**

Hazchem code None Allocated

---

**15. REGULATORY INFORMATION**

---

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

<b>Poison schedule</b>	A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).
<b>Classifications</b>	Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.  The classifications and phrases listed below are based on the Approved Criteria for Classifying Hazardous Substances [NOHSC: 1008(2004)].
<b>Hazard codes</b>	None allocated.
<b>Risk phrases</b>	None allocated.
<b>Safety phrases</b>	None allocated.
<b>Inventory listing(s)</b>	<b>AUSTRALIA: AICS (Australian Inventory of Chemical Substances)</b> All components are listed on AICS, or are exempt.

---

**16. OTHER INFORMATION**

---

<b>Additional information</b>	<p><b>PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:</b> The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.</p> <p><b>HEALTH EFFECTS FROM EXPOSURE:</b> It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a ChemAlert report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.</p>																																										
<b>Abbreviations</b>	<table><tr><td>ACGIH</td><td>American Conference of Governmental Industrial Hygienists</td></tr><tr><td>CAS #</td><td>Chemical Abstract Service number - used to uniquely identify chemical compounds</td></tr><tr><td>CNS</td><td>Central Nervous System</td></tr><tr><td>EC No.</td><td>EC No - European Community Number</td></tr><tr><td>EMS</td><td>Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods)</td></tr><tr><td>GHS</td><td>Globally Harmonized System</td></tr><tr><td>GTEPG</td><td>Group Text Emergency Procedure Guide</td></tr><tr><td>IARC</td><td>International Agency for Research on Cancer</td></tr><tr><td>LC50</td><td>Lethal Concentration, 50% / Median Lethal Concentration</td></tr><tr><td>LD50</td><td>Lethal Dose, 50% / Median Lethal Dose</td></tr><tr><td>mg/m<sup>3</sup></td><td>Milligrams per Cubic Metre</td></tr><tr><td>OEL</td><td>Occupational Exposure Limit</td></tr><tr><td>pH</td><td>relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).</td></tr><tr><td>ppm</td><td>Parts Per Million</td></tr><tr><td>STEL</td><td>Short-Term Exposure Limit</td></tr><tr><td>STOT-RE</td><td>Specific target organ toxicity (repeated exposure)</td></tr><tr><td>STOT-SE</td><td>Specific target organ toxicity (single exposure)</td></tr><tr><td>SUSMP</td><td>Standard for the Uniform Scheduling of Medicines and Poisons</td></tr><tr><td>SWA</td><td>Safe Work Australia</td></tr><tr><td>TLV</td><td>Threshold Limit Value</td></tr><tr><td>TWA</td><td>Time Weighted Average</td></tr></table>	ACGIH	American Conference of Governmental Industrial Hygienists	CAS #	Chemical Abstract Service number - used to uniquely identify chemical compounds	CNS	Central Nervous System	EC No.	EC No - European Community Number	EMS	Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods)	GHS	Globally Harmonized System	GTEPG	Group Text Emergency Procedure Guide	IARC	International Agency for Research on Cancer	LC50	Lethal Concentration, 50% / Median Lethal Concentration	LD50	Lethal Dose, 50% / Median Lethal Dose	mg/m <sup>3</sup>	Milligrams per Cubic Metre	OEL	Occupational Exposure Limit	pH	relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).	ppm	Parts Per Million	STEL	Short-Term Exposure Limit	STOT-RE	Specific target organ toxicity (repeated exposure)	STOT-SE	Specific target organ toxicity (single exposure)	SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons	SWA	Safe Work Australia	TLV	Threshold Limit Value	TWA	Time Weighted Average
ACGIH	American Conference of Governmental Industrial Hygienists																																										
CAS #	Chemical Abstract Service number - used to uniquely identify chemical compounds																																										
CNS	Central Nervous System																																										
EC No.	EC No - European Community Number																																										
EMS	Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods)																																										
GHS	Globally Harmonized System																																										
GTEPG	Group Text Emergency Procedure Guide																																										
IARC	International Agency for Research on Cancer																																										
LC50	Lethal Concentration, 50% / Median Lethal Concentration																																										
LD50	Lethal Dose, 50% / Median Lethal Dose																																										
mg/m <sup>3</sup>	Milligrams per Cubic Metre																																										
OEL	Occupational Exposure Limit																																										
pH	relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).																																										
ppm	Parts Per Million																																										
STEL	Short-Term Exposure Limit																																										
STOT-RE	Specific target organ toxicity (repeated exposure)																																										
STOT-SE	Specific target organ toxicity (single exposure)																																										
SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons																																										
SWA	Safe Work Australia																																										
TLV	Threshold Limit Value																																										
TWA	Time Weighted Average																																										

**PRODUCT NAME QUICKSEAL (F,M,C)****Revision history**

Revision	Description
2.3	Standard SDS Review.
2.2	Standard SDS Review.
2.1	Provided Ingredient CAS No.
2.0	Converted to GHS.
1.0	Initial SDS creation

**Report status**

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

**Prepared by**

Risk Management Technologies  
5 Ventnor Ave, West Perth  
Western Australia 6005  
Phone: +61 8 9322 1711  
Fax: +61 8 9322 1794  
Email: info@rmt.com.au  
Web: www.rmt.com.au.

**Revision:** 2.3

**SDS date:** 13 February 2015

**[ End of SDS ]**



---

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

---

### 1.1 Product identifier

**Product name** SALT  
**Synonym(s)** FLOSSY SALT • HALITE • NaCl • SODIUM CHLORIDE

### 1.2 Uses and uses advised against

**Use(s)** CHLORIDE SOURCE • DRILLING FLUID ADDITIVE

### 1.3 Details of the supplier of the product

**Supplier name** NEWPARK DRILLING FLUIDS (AUSTRALIA) LTD  
**Address** 11 Alacrity Place, Henderson, WA, 6166, AUSTRALIA  
**Telephone** +61 8 9410 8200  
**Fax** +61 8 9410 8299  
**Website** [www.newpark.com](http://www.newpark.com)

### 1.4 Emergency telephone number(s)

**Emergency** 1800 127 406 (Australia); +64 3 3530199 (International)

---

## 2. HAZARDS IDENTIFICATION

---

### 2.1 Classification of the substance or mixture

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO AUSTRALIAN WHS REGULATIONS

### 2.2 Label elements

No signal word, pictograms, hazard or precautionary statements have been allocated.

### 2.3 Other hazards

No information provided.

---

## 3. COMPOSITION/ INFORMATION ON INGREDIENTS

---

### 3.1 Substances / Mixtures

Ingredient	CAS Number	EC Number	Content
SODIUM CHLORIDE	7647-14-5	231-598-3	>98%
INORGANIC SALT(S)	-	-	<0.8%
WATER	7732-18-5	231-791-2	<0.8%

---

## 4. FIRST AID MEASURES

---

### 4.1 Description of first aid measures

**Eye** If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.

**Inhalation** If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.

**Skin** If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.

**Ingestion** For advice, contact a Poison Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting.

**PRODUCT NAME SALT**

**First aid facilities** No information provided.

**4.2 Most important symptoms and effects, both acute and delayed**

Under normal conditions of use, adverse health effects are not anticipated. This product is generally considered to be of low toxicity.

**4.3 Immediate medical attention and special treatment needed**

Treat symptomatically.

---

**5. FIRE FIGHTING MEASURES**

---

**5.1 Extinguishing media**

Use an extinguishing agent suitable for the surrounding fire.

**5.2 Special hazards arising from the substance or mixture**

Non flammable. May evolve toxic gases if strongly heated.

**5.3 Advice for firefighters**

Treat as per requirements for surrounding fires. Evacuate area and contact emergency services. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

**5.4 Hazchem code**

None allocated.

---

**6. ACCIDENTAL RELEASE MEASURES**

---

**6.1 Personal precautions, protective equipment and emergency procedures**

Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. Clear area of all unprotected personnel. Contact emergency services where appropriate.

**6.2 Environmental precautions**

Prevent product from entering drains and waterways.

**6.3 Methods of cleaning up**

Contain spillage, then collect and place in suitable containers for reuse or disposal. Avoid generating dust.

**6.4 Reference to other sections**

See Sections 8 and 13 for exposure controls and disposal.

---

**7. HANDLING AND STORAGE**

---

**7.1 Precautions for safe handling**

Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

**7.2 Conditions for safe storage, including any incompatibilities**

Store in a cool, dry, well ventilated area, removed from incompatible substances, heat or ignition sources and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use. Check regularly for leaks or spills. Large storage areas should have appropriate fire protection systems.

**7.3 Specific end use(s)**

No information provided.

---

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

---

**8.1 Control parameters**

**Exposure standards**

No exposure standards have been entered for this product.

**Biological limits**

No biological limit values have been entered for this product.

**8.2 Exposure controls**

**Engineering controls** Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical extraction ventilation is recommended.

**PPE**

- Eye / Face** Wear dust-proof goggles.  
**Hands** Wear PVC or rubber gloves.  
**Body** When using large quantities or where heavy contamination is likely, wear coveralls.  
**Respiratory** Where an inhalation risk exists, wear a Class P1 (Particulate) respirator.



---

**9. PHYSICAL AND CHEMICAL PROPERTIES**

---

**9.1 Information on basic physical and chemical properties**

<b>Appearance</b>	TRANSLUCENT TO WHITE GRANULES OR POWDER
<b>Odour</b>	SLIGHT ODOUR
<b>Flammability</b>	NON FLAMMABLE
<b>Flash point</b>	NOT RELEVANT
<b>Boiling point</b>	1413°C
<b>Melting point</b>	801°C
<b>Evaporation rate</b>	NOT AVAILABLE
<b>pH</b>	7 (1% Solution)
<b>Vapour density</b>	NOT AVAILABLE
<b>Specific gravity</b>	2.163
<b>Solubility (water)</b>	357 g/L
<b>Vapour pressure</b>	NOT AVAILABLE
<b>Upper explosion limit</b>	NOT RELEVANT
<b>Lower explosion limit</b>	NOT RELEVANT
<b>Partition coefficient</b>	NOT AVAILABLE
<b>Autoignition temperature</b>	NOT AVAILABLE
<b>Decomposition temperature</b>	NOT AVAILABLE
<b>Viscosity</b>	NOT AVAILABLE
<b>Explosive properties</b>	NOT AVAILABLE
<b>Oxidising properties</b>	NOT AVAILABLE
<b>Odour threshold</b>	NOT AVAILABLE

**9.2 Other information**

<b>% Volatiles</b>	NOT AVAILABLE
--------------------	---------------

---

**10. STABILITY AND REACTIVITY**

---

**10.1 Reactivity**

Carefully review all information provided in sections 10.2 to 10.6.

**10.2 Chemical stability**

Stable under recommended conditions of storage.

**10.3 Possibility of hazardous reactions**

Polymerization is not expected to occur.

**10.4 Conditions to avoid**

Avoid heat, sparks, open flames and other ignition sources.

**10.5 Incompatible materials**

Incompatible with oxidising agents (e.g. hypochlorites), acids (e.g. nitric acid) and alkalis (e.g. sodium hydroxide).

**10.6 Hazardous decomposition products**

May evolve toxic gases when strongly heated.

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

<b>Acute toxicity</b>	This product is expected to be of low toxicity. Under normal conditions of use, adverse health effects are not anticipated. LC50 (Inhalation): > 42000 mg/m <sup>3</sup> /1 hour (rat) LD50 (Ingestion): 3000 mg/kg (rat) LD50 (Skin): > 10000 mg/kg (rabbit)
<b>Skin</b>	Not classified as a skin irritant. Contact may result in mild irritation and rash.
<b>Eye</b>	Not classified as an eye irritant. Contact may cause discomfort, lacrimation and redness.
<b>Sensitization</b>	This product is not known to be a skin or respiratory sensitiser.
<b>Mutagenicity</b>	No evidence of mutagenic effects.
<b>Carcinogenicity</b>	No evidence of carcinogenic effects.
<b>Reproductive</b>	No evidence of reproductive effects.
<b>STOT – single exposure</b>	Not classified as causing organ effects from single exposure.
<b>STOT – repeated exposure</b>	Not classified as causing organ effects from repeated exposure.
<b>Aspiration</b>	This product does not present an aspiration hazard.

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

LC50 (water flea) is 2122 mg/L/48 hours;  
LC50 (fathead minnow) is 6.57 g/L/96 hours.

### 12.2 Persistence and degradability

Biodegradability does not pertain to inorganic substances.

### 12.3 Bioaccumulative potential

Not expected to bioaccumulate.

### 12.4 Mobility in soil

No information provided.

### 12.5 Other adverse effects

This product is not anticipated to cause adverse effects to animal or plant life if released to the environment in small quantities.

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

<b>Waste disposal</b>	Ensure product is covered with moist soil to prevent dust generation and dispose of to approved Council landfill. Contact the manufacturer/supplier for additional information (if required).
<b>Legislation</b>	Dispose of in accordance with relevant local legislation.

## 14. TRANSPORT INFORMATION

### NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA

	LAND TRANSPORT (ADG)	SEA TRANSPORT (IMDG / IMO)	AIR TRANSPORT (IATA / ICAO)
<b>14.1 UN Number</b>	None Allocated	None Allocated	None Allocated
<b>14.2 Proper Shipping Name</b>	None Allocated	None Allocated	None Allocated
<b>14.3 Transport hazard class</b>	None Allocated	None Allocated	None Allocated
<b>14.4 Packing Group</b>	None Allocated	None Allocated	None Allocated

**14.5 Environmental hazards** No information provided

**14.6 Special precautions for user**

Hazchem code None Allocated

**15. REGULATORY INFORMATION**

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**Poison schedule** A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**Classifications** Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

The classifications and phrases listed below are based on the Approved Criteria for Classifying Hazardous Substances [NOHSC: 1008(2004)].

**Hazard codes** None allocated.

**Risk phrases** None allocated.

**Safety phrases** None allocated.

**Inventory listing(s)** **AUSTRALIA: AICS (Australian Inventory of Chemical Substances)**  
All components are listed on AICS, or are exempt.

**16. OTHER INFORMATION**

**Additional information** **PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:**  
The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

**HEALTH EFFECTS FROM EXPOSURE:**  
It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a ChemAlert report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

**Abbreviations**

ACGIH	American Conference of Governmental Industrial Hygienists
CAS #	Chemical Abstract Service number - used to uniquely identify chemical compounds
CNS	Central Nervous System
EC No.	EC No - European Community Number
EMS	Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods)
GHS	Globally Harmonized System
GTEPG	Group Text Emergency Procedure Guide
IARC	International Agency for Research on Cancer
LC50	Lethal Concentration, 50% / Median Lethal Concentration
LD50	Lethal Dose, 50% / Median Lethal Dose
mg/m <sup>3</sup>	Milligrams per Cubic Metre
OEL	Occupational Exposure Limit
pH	relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
ppm	Parts Per Million
STEL	Short-Term Exposure Limit
STOT-RE	Specific target organ toxicity (repeated exposure)
STOT-SE	Specific target organ toxicity (single exposure)
SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons
SWA	Safe Work Australia
TLV	Threshold Limit Value
TWA	Time Weighted Average

**PRODUCT NAME SALT**

**Report status**

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

**Prepared by**

Risk Management Technologies  
5 Ventnor Ave, West Perth  
Western Australia 6005  
Phone: +61 8 9322 1711  
Fax: +61 8 9322 1794  
Email: [info@rmt.com.au](mailto:info@rmt.com.au)  
Web: [www.rmt.com.au](http://www.rmt.com.au).

**[ End of SDS ]**

---

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

---

### 1.1 Product identifier

**Product name** SAND SEAL FINE  
**Synonym(s)** SAND SEAL

### 1.2 Uses and uses advised against

**Use(s)** DRILLING FLUID ADDITIVE

### 1.3 Details of the supplier of the product

**Supplier name** NEWPARK DRILLING FLUIDS (AUSTRALIA) LTD  
**Address** 11 Alacrity Place, Henderson, WA, 6166, AUSTRALIA  
**Telephone** +61 8 9410 8200  
**Fax** +61 8 9410 8299  
**Website** [www.newpark.com](http://www.newpark.com)

### 1.4 Emergency telephone number(s)

**Emergency** 1800 127 406 (Australia); +64 3 3530199 (International)

---

## 2. HAZARDS IDENTIFICATION

---

### 2.1 Classification of the substance or mixture

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

### 2.2 Label elements

No signal word, pictograms, hazard or precautionary statements have been allocated.

### 2.3 Other hazards

No information provided.

---

## 3. COMPOSITION/ INFORMATION ON INGREDIENTS

---

### 3.1 Substances / Mixtures

Ingredient	CAS Number	EC Number	Content
VEGETABLE MATERIALS	-	-	100%

---

## 4. FIRST AID MEASURES

---

### 4.1 Description of first aid measures

**Eye** If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.

**Inhalation** If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.

**Skin** If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.

**Ingestion** For advice, contact a Poison Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting. Ingestion is considered unlikely due to product form.

**First aid facilities** No information provided.

#### **4.2 Most important symptoms and effects, both acute and delayed**

Adverse effects not expected from this product under normal conditions of use.

#### **4.3 Immediate medical attention and special treatment needed**

Treat symptomatically.

---

## **5. FIRE FIGHTING MEASURES**

---

### **5.1 Extinguishing media**

Use an extinguishing agent suitable for the surrounding fire.

### **5.2 Special hazards arising from the substance or mixture**

Non flammable. May evolve toxic gases (carbon oxides, hydrocarbons) when heated to decomposition. Finely divided dust may form explosive mixtures with air.

### **5.3 Advice for firefighters**

Evacuate area and contact emergency services. Toxic gases may be evolved in a fire situation. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

### **5.4 Hazchem code**

None allocated.

---

## **6. ACCIDENTAL RELEASE MEASURES**

---

### **6.1 Personal precautions, protective equipment and emergency procedures**

Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. Clear area of all unprotected personnel. Contact emergency services where appropriate.

### **6.2 Environmental precautions**

Prevent product from entering drains and waterways.

### **6.3 Methods of cleaning up**

Contain spillage, then collect and place in suitable containers for reuse or disposal. Avoid generating dust.

### **6.4 Reference to other sections**

See Sections 8 and 13 for exposure controls and disposal.

---

## **7. HANDLING AND STORAGE**

---

### **7.1 Precautions for safe handling**

Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

### **7.2 Conditions for safe storage, including any incompatibilities**

Store in a cool, dry, well ventilated area, removed from incompatible substances, heat or ignition sources and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use. Check regularly for leaks or spills. Large storage areas should have appropriate ventilation systems.

### **7.3 Specific end use(s)**

No information provided.

---

## **8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

---

### **8.1 Control parameters**

#### **Exposure standards**

No exposure standards have been entered for this product.

#### **Biological limits**

No biological limit values have been entered for this product.



**8.2 Exposure controls**

**Engineering controls** Avoid inhalation. Use in well ventilated areas. Maintain dust levels below the recommended exposure standard.

**PPE**

- Eye / Face** Wear dust-proof goggles.
- Hands** Wear PVC or rubber gloves.
- Body** When using large quantities or where heavy contamination is likely, wear coveralls.
- Respiratory** Where an inhalation risk exists, wear a Class P1 (Particulate) respirator.



---

**9. PHYSICAL AND CHEMICAL PROPERTIES**

---

**9.1 Information on basic physical and chemical properties**

<b>Appearance</b>	TAN POWDER
<b>Odour</b>	MILD ODOUR
<b>Flammability</b>	NON FLAMMABLE
<b>Flash point</b>	NOT AVAILABLE
<b>Boiling point</b>	NOT AVAILABLE
<b>Melting point</b>	NOT AVAILABLE
<b>Evaporation rate</b>	NOT AVAILABLE
<b>pH</b>	6.3 (5% Suspension)
<b>Vapour density</b>	NOT AVAILABLE
<b>Specific gravity</b>	0.35
<b>Solubility (water)</b>	INSOLUBLE
<b>Vapour pressure</b>	1 mm Hg @ 20°C
<b>Upper explosion limit</b>	NOT AVAILABLE
<b>Lower explosion limit</b>	NOT AVAILABLE
<b>Partition coefficient</b>	NOT AVAILABLE
<b>Autoignition temperature</b>	NOT AVAILABLE
<b>Decomposition temperature</b>	NOT AVAILABLE
<b>Viscosity</b>	NOT AVAILABLE
<b>Explosive properties</b>	NOT AVAILABLE
<b>Oxidising properties</b>	NOT AVAILABLE
<b>Odour threshold</b>	NOT AVAILABLE

**9.2 Other information**

<b>% Volatiles</b>	NOT AVAILABLE
--------------------	---------------

---

**10. STABILITY AND REACTIVITY**

---

**10.1 Reactivity**

Carefully review all information provided in sections 10.2 to 10.6.

**10.2 Chemical stability**

Stable under recommended conditions of storage.

**10.3 Possibility of hazardous reactions**

Polymerization is not expected to occur.

**10.4 Conditions to avoid**

Avoid heat, sparks, open flames and other ignition sources.

**10.5 Incompatible materials**

Incompatible with oxidising agents (e.g. hypochlorites) and acids (e.g. nitric acid).

**10.6 Hazardous decomposition products**

May evolve carbon oxides and hydrocarbons when heated to decomposition.

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

<b>Acute toxicity</b>	This product is expected to be of low toxicity. Under normal conditions of use, adverse health effects are not anticipated.
<b>Skin</b>	Not classified as a skin irritant. Contact may result in mild irritation.
<b>Eye</b>	Not classified as an eye irritant. Contact may cause discomfort, lacrimation and redness.
<b>Sensitization</b>	This product is not known to be a skin or respiratory sensitiser.
<b>Mutagenicity</b>	No evidence of mutagenic effects.
<b>Carcinogenicity</b>	No evidence of carcinogenic effects.
<b>Reproductive</b>	No evidence of reproductive effects.
<b>STOT – single exposure</b>	No known effects from this product.
<b>STOT – repeated exposure</b>	No known effects from this product.
<b>Aspiration</b>	This product does not present an aspiration hazard.

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

No information provided.

### 12.2 Persistence and degradability

No information provided.

### 12.3 Bioaccumulative potential

No information provided.

### 12.4 Mobility in soil

No information provided.

### 12.5 Other adverse effects

No information provided.

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

<b>Waste disposal</b>	Collect and place in sealable containers and dispose of to an approved landfill site. Contact the manufacturer/supplier for additional information (if required).
<b>Legislation</b>	Dispose of in accordance with relevant local legislation.

## 14. TRANSPORT INFORMATION

NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA

	LAND TRANSPORT (ADG)	SEA TRANSPORT (IMDG / IMO)	AIR TRANSPORT (IATA / ICAO)
<b>14.1 UN Number</b>	None Allocated	None Allocated	None Allocated
<b>14.2 Proper Shipping Name</b>	None Allocated	None Allocated	None Allocated
<b>14.3 Transport hazard class</b>	None Allocated	None Allocated	None Allocated
<b>14.4 Packing Group</b>	None Allocated	None Allocated	None Allocated

**14.5 Environmental hazards** No information provided

### 14.6 Special precautions for user

**Hazchem code** None Allocated

## 15. REGULATORY INFORMATION

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

<b>Poison schedule</b>	A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).
<b>Classifications</b>	Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.  The classifications and phrases listed below are based on the Approved Criteria for Classifying Hazardous Substances [NOHSC: 1008(2004)].
<b>Hazard codes</b>	None allocated.
<b>Risk phrases</b>	None allocated.
<b>Safety phrases</b>	None allocated.
<b>Inventory listing(s)</b>	<b>AUSTRALIA: AICS (Australian Inventory of Chemical Substances)</b> All components are listed on AICS, or are exempt.

## 16. OTHER INFORMATION

**Additional information**      RESPIRATORS: In general the use of respirators should be limited and engineering controls employed to avoid exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.

#### PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:

The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

#### HEALTH EFFECTS FROM EXPOSURE:

It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a ChemAlert report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

<b>Abbreviations</b>	ACGIH	American Conference of Governmental Industrial Hygienists
	CAS #	Chemical Abstract Service number - used to uniquely identify chemical compounds
	CNS	Central Nervous System
	EC No.	EC No - European Community Number
	GHS	Globally Harmonized System
	IARC	International Agency for Research on Cancer
	LC50	Lethal Concentration, 50% / Median Lethal Concentration
	LD50	Lethal Dose, 50% / Median Lethal Dose
	mg/m <sup>3</sup>	Milligrams per Cubic Metre
	OEL	Occupational Exposure Limit
	pH	relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
	ppm	Parts Per Million
	STEL	Short-Term Exposure Limit
	STOT-RE	Specific target organ toxicity (repeated exposure)
	STOT-SE	Specific target organ toxicity (single exposure)
	SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons
	SWA	Safe Work Australia
	TLV	Threshold Limit Value
	TWA	Time Weighted Average

**PRODUCT NAME SAND SEAL FINE****Revision history**

Revision	Description
3.0	Converted to GHS.
2.0	Standard SDS Review
1.0	Initial SDS creation

**Report status**

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

**Prepared by**

Risk Management Technologies  
5 Ventnor Ave, West Perth  
Western Australia 6005  
Phone: +61 8 9322 1711  
Fax: +61 8 9322 1794  
Email: info@rmt.com.au  
Web: www.rmt.com.au.

**Revision:** 3

**SDS date:** 06 January 2015

**[ End of SDS ]**

---

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

---

### 1.1 Product identifier

**Product name** SAPP  
**Synonym(s)** DISODIUM DIHYDROGEN PYROPHOSPHATE • DISODIUM PYROPHOSPHATE

### 1.2 Uses and uses advised against

**Use(s)** ACIDIFIER • BUFFERING AGENT

### 1.3 Details of the supplier of the product

**Supplier name** NEWPARK DRILLING FLUIDS (AUSTRALIA) LTD  
**Address** 11 Alacrity Place, Henderson, WA, 6166, AUSTRALIA  
**Telephone** +61 8 9410 8200  
**Fax** +61 8 9410 8299  
**Website** [www.newpark.com](http://www.newpark.com)

### 1.4 Emergency telephone number(s)

**Emergency** 1800 127 406 (Australia); +64 3 3530199 (International)

---

## 2. HAZARDS IDENTIFICATION

---

### 2.1 Classification of the substance or mixture

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO AUSTRALIAN WHS REGULATIONS

### 2.2 Label elements

No signal word, pictograms, hazard or precautionary statements have been allocated.

### 2.3 Other hazards

No information provided.

---

## 3. COMPOSITION/ INFORMATION ON INGREDIENTS

---

### 3.1 Substances / Mixtures

Ingredient	CAS Number	EC Number	Content
DISODIUM PYROPHOSPHATE	7758-16-9	231-835-0	100%

---

## 4. FIRST AID MEASURES

---

### 4.1 Description of first aid measures

**Eye** If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.

**Inhalation** If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.

**Skin** If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water.

**Ingestion** For advice, contact a Poison Information Centre on 13 11 26 (Australia Wide) or a doctor (at once).

**First aid facilities** Eye wash facilities and safety shower should be available.

### 4.2 Most important symptoms and effects, both acute and delayed

See Section 11 for more detailed information on health effects and symptoms.

**4.3 Immediate medical attention and special treatment needed**

Treat symptomatically.

---

**5. FIRE FIGHTING MEASURES**

---

**5.1 Extinguishing media**

Use an extinguishing agent suitable for the surrounding fire.

**5.2 Special hazards arising from the substance or mixture**

Non flammable. May evolve toxic gases (phosphorus oxides) when heated to decomposition.

**5.3 Advice for firefighters**

Evacuate area and contact emergency services. Toxic gases may be evolved in a fire situation. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

**5.4 Hazchem code**

None allocated.

---

**6. ACCIDENTAL RELEASE MEASURES**

---

**6.1 Personal precautions, protective equipment and emergency procedures**

Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. Ventilate area where possible.

**6.2 Environmental precautions**

Prevent product from entering drains and waterways.

**6.3 Methods of cleaning up**

Contain spillage, then collect and place in suitable containers for disposal. Avoid generating dust.

**6.4 Reference to other sections**

See Sections 8 and 13 for exposure controls and disposal.

---

**7. HANDLING AND STORAGE**

---

**7.1 Precautions for safe handling**

Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

**7.2 Conditions for safe storage, including any incompatibilities**

Store in a cool, dry, well ventilated area, removed from incompatible substances and foodstuffs. Ensure containers are adequately labelled and tightly closed when not in use.

**7.3 Specific end use(s)**

No information provided.

---

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

---

**8.1 Control parameters**

**Exposure standards**

Ingredient	Reference	TWA		STEL	
		ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>
Nuisance dust	SWA (AUS)	--	10	--	--

**Biological limits**

No biological limit values have been entered for this product.

**8.2 Exposure controls**

**Engineering controls** Avoid inhalation. Use in well ventilated areas.

**PPE**

<b>Eye / Face</b>	Wear dust-proof goggles.
<b>Hands</b>	Wear PVC or rubber gloves.
<b>Body</b>	When using large quantities or where heavy contamination is likely, wear coveralls.
<b>Respiratory</b>	Where an inhalation risk exists, wear a Class P1 (Particulate) respirator.



---

**9. PHYSICAL AND CHEMICAL PROPERTIES**

---

**9.1 Information on basic physical and chemical properties**

<b>Appearance</b>	WHITE POWDER
<b>Odour</b>	SLIGHT ODOUR
<b>Flammability</b>	NON FLAMMABLE
<b>Flash point</b>	NOT RELEVANT
<b>Boiling point</b>	NOT AVAILABLE
<b>Melting point</b>	> 600°C
<b>Evaporation rate</b>	NOT AVAILABLE
<b>pH</b>	4 - 5 (10% Solution)
<b>Vapour density</b>	NOT AVAILABLE
<b>Specific gravity</b>	1.35 - 1.41
<b>Solubility (water)</b>	119 g/L
<b>Vapour pressure</b>	NOT AVAILABLE
<b>Upper explosion limit</b>	NOT RELEVANT
<b>Lower explosion limit</b>	NOT RELEVANT
<b>Partition coefficient</b>	NOT AVAILABLE
<b>Autoignition temperature</b>	NOT AVAILABLE
<b>Decomposition temperature</b>	NOT AVAILABLE
<b>Viscosity</b>	NOT AVAILABLE
<b>Explosive properties</b>	NOT AVAILABLE
<b>Oxidising properties</b>	NOT AVAILABLE
<b>Odour threshold</b>	NOT AVAILABLE

**9.2 Other information**

<b>% Volatiles</b>	NOT AVAILABLE
--------------------	---------------

---

**10. STABILITY AND REACTIVITY**

---

**10.1 Reactivity**

Carefully review all information provided in sections 10.2 to 10.6.

**10.2 Chemical stability**

Stable under recommended conditions of storage.

**10.3 Possibility of hazardous reactions**

Polymerization is not expected to occur.

**10.4 Conditions to avoid**

Avoid heat, sparks, open flames and other ignition sources.

**10.5 Incompatible materials**

Incompatible with oxidising agents (e.g. hypochlorites) and acids (e.g. nitric acid).

**10.6 Hazardous decomposition products**

May evolve toxic gases (phosphorus oxides) when heated to decomposition.

---

**11. TOXICOLOGICAL INFORMATION**

---

**11.1 Information on toxicological effects**

<b>Acute toxicity</b>	Low toxicity. Ingestion of large quantities may result in nausea, vomiting and gastrointestinal irritation. Ingestion of large quantities may also result in serious disturbances in calcium metabolism.  LD50 (Ingestion): 2650 mg/kg (mouse) LD50 (Intraperitoneal): 1 g/kg (mouse) LD50 (Intravenous): 59 mg/kg (mouse) LD50 (Subcutaneous): 480 mg/kg (mouse)
<b>Skin</b>	Low to moderate irritant. Prolonged or repeated contact may result in irritation and rash.
<b>Eye</b>	Low to moderate irritant. Contact may result in mild irritation, lacrimation and redness.
<b>Sensitization</b>	Not classified as causing skin or respiratory sensitisation.
<b>Mutagenicity</b>	This product is not classified as a mutagen.
<b>Carcinogenicity</b>	This product is not classified as a carcinogen.
<b>Reproductive</b>	This product is not classified as a reproductive toxin.
<b>STOT – single exposure</b>	Low irritant. Over exposure may result in irritation of the nose and throat, with coughing.
<b>STOT – repeated exposure</b>	Not classified as causing organ effects from repeated exposure.
<b>Aspiration</b>	This product does not present an aspiration hazard.

---

**12. ECOLOGICAL INFORMATION**

---

**12.1 Toxicity**

No information provided.

**12.2 Persistence and degradability**

Biodegradability does not pertain to inorganic substances.

**12.3 Bioaccumulative potential**

Does not bioaccumulate.

**12.4 Mobility in soil**

No information provided.

**12.5 Other adverse effects**

No information provided.

---

**13. DISPOSAL CONSIDERATIONS**

---

**13.1 Waste treatment methods**

<b>Waste disposal</b>	Dispose of to an approved landfill or waste processing site. Contact the manufacturer/supplier for additional information (if required).
<b>Legislation</b>	Dispose of in accordance with relevant local legislation.

---

**14. TRANSPORT INFORMATION**

---

NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA

	LAND TRANSPORT (ADG)	SEA TRANSPORT (IMDG / IMO)	AIR TRANSPORT (IATA / ICAO)
<b>14.1 UN Number</b>	None Allocated	None Allocated	None Allocated
<b>14.2 Proper Shipping Name</b>	None Allocated	None Allocated	None Allocated
<b>14.3 Transport hazard class</b>	None Allocated	None Allocated	None Allocated
<b>14.4 Packing Group</b>	None Allocated	None Allocated	None Allocated

**14.5 Environmental hazards** No information provided

**14.6 Special precautions for user**



Hazchem code None Allocated

## 15. REGULATORY INFORMATION

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

<b>Poison schedule</b>	A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).
<b>Classifications</b>	Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.  The classifications and phrases listed below are based on the Approved Criteria for Classifying Hazardous Substances [NOHSC: 1008(2004)].
<b>Hazard codes</b>	None allocated.
<b>Risk phrases</b>	None allocated.
<b>Safety phrases</b>	None allocated.
<b>Inventory listing(s)</b>	<b>AUSTRALIA: AICS (Australian Inventory of Chemical Substances)</b> All components are listed on AICS, or are exempt.

## 16. OTHER INFORMATION

<b>Additional information</b>	<p><b>PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:</b> The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.</p> <p><b>HEALTH EFFECTS FROM EXPOSURE:</b> It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a ChemAlert report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.</p>	
<b>Abbreviations</b>	ACGIH	American Conference of Governmental Industrial Hygienists
	CAS #	Chemical Abstract Service number - used to uniquely identify chemical compounds
	CNS	Central Nervous System
	EC No.	EC No - European Community Number
	EMS	Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods)
	GHS	Globally Harmonized System
	GTEPG	Group Text Emergency Procedure Guide
	IARC	International Agency for Research on Cancer
	LC50	Lethal Concentration, 50% / Median Lethal Concentration
	LD50	Lethal Dose, 50% / Median Lethal Dose
	mg/m <sup>3</sup>	Milligrams per Cubic Metre
	OEL	Occupational Exposure Limit
	pH	relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
	ppm	Parts Per Million
	STEL	Short-Term Exposure Limit
	STOT-RE	Specific target organ toxicity (repeated exposure)
	STOT-SE	Specific target organ toxicity (single exposure)
	SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons
	SWA	Safe Work Australia
	TLV	Threshold Limit Value
	TWA	Time Weighted Average

**PRODUCT NAME SAPP**

**Report status**

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

**Prepared by**

Risk Management Technologies  
5 Ventnor Ave, West Perth  
Western Australia 6005  
Phone: +61 8 9322 1711  
Fax: +61 8 9322 1794  
Email: [info@rmt.com.au](mailto:info@rmt.com.au)  
Web: [www.rmt.com.au](http://www.rmt.com.au).

**[ End of SDS ]**

This safety data sheet complies with the requirements of:  
Commission Regulation (EU) No 2015/830 of 28 May 2015

**Issue Date** 08-Sep-2017

**Revision Date** 11-Jul-2018

**Version** 1.1

### Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

#### 1.1. Product identifier

**Product Code** NDF00301  
*Product Name* DOLSAL

#### 1.2. Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** viscosifier  
**Uses advised against** No information available

#### 1.3. Details of the supplier of the safety data sheet

##### **Supplier**

Newpark Drilling Fluids  
Via Salaria 1313/C  
00138 ROMA (Italy)

For further information, please contact

**Contact Point** Telephone: +39 06 885611386 / +39 06 885611324 / + 39 06 8856111  
Fax: +39 06 8889363  
Website: www.newpark.com  
**E-mail address** laboratorio.roma@newpark.com

#### 1.4. Emergency telephone number

Emergency Telephone +39 06 885611386 / +39 06 885611324 / + 39 06 8856111

**Emergency Telephone - §45 - (EC)1272/2008**

Europe | 112

### Section 2: HAZARDS IDENTIFICATION

#### 2.1. Classification of the substance or mixture

*Regulation (EC) No 1272/2008*

This substance is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

#### 2.2. Label elements

This substance is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]  
EUH210 - Safety data sheet available on request

Contains Quartz

**2.3. Other hazards**

No information available

**Section 3: COMPOSITION/INFORMATION ON INGREDIENTS****3.1 Substances**

Chemical Name	EC No	CAS No	Weight-%	Classification according to Regulation (EC) No. 1272/2008 [CLP]	REACH Registration Number
Quartz	238-878-4	14808-60-7	<3	Not classified	Not available

Full text of H- and EUH-phrases: see section 16

**Section 4: FIRST AID MEASURES****4.1. Description of first aid measures**

<b>Inhalation</b>	Remove to fresh air.
<b>Skin contact</b>	Remove contaminated clothing and shoes. Brush off loose particles from skin. Wash skin with soap and water. Wash contaminated clothing before reuse.
<b>Eye contact</b>	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
<b>Ingestion</b>	Clean mouth with water and drink afterwards plenty of water.

**4.2. Most important symptoms and effects, both acute and delayed**

<b>Symptoms</b>	No information available.
-----------------	---------------------------

**4.3. Indication of any immediate medical attention and special treatment needed**

<b>Note to physicians</b>	Treat symptomatically.
---------------------------	------------------------

**Section 5: FIRE FIGHTING MEASURES****5.1. Extinguishing media****Suitable extinguishing media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

**Unsuitable extinguishing media**

No information available.

**5.2. Special hazards arising from the substance or mixture**

Thermal decomposition can lead to release of irritating and toxic gases and vapors.

<b>Hazardous combustion products</b>	Magnesium oxides.
--------------------------------------	-------------------

**5.3. Advice for firefighters**

Wear self-contained breathing apparatus and protective suit. Use personal protective equipment as required. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water. Keep upwind (and uphill) of fire.

## Section 6: ACCIDENTAL RELEASE MEASURES

### 6.1. Personal precautions, protective equipment and emergency procedures

#### Personal precautions

Ensure adequate ventilation, especially in confined areas. Avoid creating dust.

#### For emergency responders

Use personal protection recommended in Section 8.

### 6.2. Environmental precautions

See Section 12 for additional Ecological Information.

### 6.3. Methods and material for containment and cleaning up

#### Methods for containment

Prevent further leakage or spillage if safe to do so. Prevent dust cloud.

#### Methods for cleaning up

Use personal protective equipment as required. Avoid creating dust. Sweep up and shovel into suitable containers for disposal.

### 6.4. Reference to other sections

See section 8 for more information. See section 13 for more information.

## Section 7: HANDLING AND STORAGE

### 7.1. Precautions for safe handling

#### Advice on safe handling

Handle in accordance with good industrial hygiene and safety practice. Avoid generation of dust. Wash thoroughly after handling. Wash contaminated clothing before reuse.

#### General Hygiene Considerations

Handle in accordance with good industrial hygiene and safety practice.

### 7.2. Conditions for safe storage, including any incompatibilities

#### Storage Conditions

Keep container tightly closed in a dry and well-ventilated place.

### 7.3. Specific end use(s)

#### Risk Management Methods (RMM)

The information required is contained in this Material Safety Data Sheet.

## Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1. Control parameters

Chemical Name	European Union	United Kingdom	France	Spain	Germany
Quartz 14808-60-7	TWA 0.1 mg/m <sup>3</sup> respirable fraction	TWA: 0.1 mg/m <sup>3</sup>	TWA: 0.1 mg/m <sup>3</sup>	TWA: 0.05 mg/m <sup>3</sup>	-
Chemical Name	Italy	Portugal	Netherlands	Finland	Denmark
Quartz 14808-60-7	-	TWA: 0.025 mg/m <sup>3</sup>	TWA: 0.075 mg/m <sup>3</sup>	TWA: 0.05 mg/m <sup>3</sup>	TWA: 0.3 mg/m <sup>3</sup> TWA: 0.1 mg/m <sup>3</sup>
Chemical Name	Austria	Switzerland	Poland	Norway	Ireland
Quartz 14808-60-7	TWA: 0.15 mg/m <sup>3</sup>	TWA: 0.15 mg/m <sup>3</sup>	TWA: 2 mg/m <sup>3</sup> TWA: 0.3 mg/m <sup>3</sup> TWA: 4.0 mg/m <sup>3</sup> TWA: 1.0 mg/m <sup>3</sup>	TWA: 0.3 mg/m <sup>3</sup> TWA: 0.1 mg/m <sup>3</sup> STEL: 0.9 mg/m <sup>3</sup> STEL: 0.3 mg/m <sup>3</sup>	TWA: 0.1 mg/m <sup>3</sup>

**Derived No Effect Level (DNEL)** No information available.

**Predicted No Effect Concentration (PNEC)** No information available.

### 8.2. Exposure controls

**Engineering Controls** Ensure adequate ventilation, especially in confined areas.

#### **Personal protective equipment**

**Eye/face protection** Tight sealing safety goggles.  
**Skin and body protection** Suitable protective clothing.  
**Respiratory protection** In case of inadequate ventilation wear respiratory protection.

**Environmental exposure controls** Do not allow into any sewer, on the ground or into any body of water.

## **Section 9: PHYSICAL AND CHEMICAL PROPERTIES**

### 9.1. Information on basic physical and chemical properties

<b>Physical state</b>	Solid	<b>Odor</b>	Odorless
<b>Appearance</b>	powder	<b>Odor threshold</b>	No data available
<b>Color</b>	light brown		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
<b>pH</b>		Not applicable
<b>Melting point / freezing point</b>	1200 °C / 2192 °F	
<b>Boiling point / boiling range</b>		Not applicable
<b>Flash point</b>		Not applicable
<b>Evaporation rate</b>		No data available
<b>Flammability (solid, gas)</b>		No data available
<b>Flammability Limit in Air</b>		
<b>Upper flammability limit:</b>		No data available
<b>Lower flammability limit:</b>		No data available
<b>Vapor pressure</b>		No data available
<b>Vapor density</b>		No data available
<b>Specific Gravity</b>	1.9-2.4	
<b>Water solubility</b>	Insoluble in water	
<b>Solubility(ies)</b>		No information available
<b>Partition coefficient</b>		No data available
<b>Autoignition temperature</b>		Not applicable
<b>Decomposition temperature</b>		No data available
<b>Kinematic viscosity</b>		Not applicable
<b>Dynamic viscosity</b>		Not applicable
<b>Explosive properties</b>	Not an explosive	
<b>Oxidizing properties</b>	Not applicable	

### 9.2. Other information

<b>Softening point</b>	Not applicable
<b>Molecular weight</b>	No data available
<b>VOC Content (%)</b>	Not applicable
<b>Density</b>	No data available
<b>Bulk density</b>	No information available

## **Section 10: STABILITY AND REACTIVITY**

### 10.1. Reactivity

Not reactive under normal conditions.

### 10.2. Chemical stability

Stable under normal conditions.

Explosion data

Sensitivity to Mechanical Impact  
Sensitivity to Static Discharge

None.  
None.

**10.3. Possibility of hazardous reactions**

**Possibility of Hazardous Reactions**

None under normal processing.

**10.4. Conditions to avoid**

Extremes of temperature and direct sunlight. Incompatible materials. Dust formation.

**10.5. Incompatible materials**

Strong oxidizing agents.

**10.6. Hazardous decomposition products**

None under normal use conditions.

## Section 11: TOXICOLOGICAL INFORMATION

**11.1. Information on toxicological effects**

**Acute toxicity**

**Product Information**

Product does not present an acute toxicity hazard based on known or supplied information.

**Unknown acute toxicity**

**Unknown acute toxicity**

97 % of the mixture consists of ingredient(s) of unknown toxicity.

Acute oral toxicity

97 % of the mixture consists of ingredient(s) of unknown acute oral toxicity

Acute dermal toxicity

97 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity

Acute inhalation toxicity - gas

97 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

Acute inhalation toxicity - Vapor

97 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)

Acute inhalation toxicity - dust/mist

97 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

**The following values are calculated based on chapter 3.1 of the GHS document**

**ATEmix (oral)**

500.00 mg/kg

**Component Information**

**Skin corrosion/irritation**

No information available.

**Serious eye damage/eye irritation**

No information available.

**Sensitization**

None known.

**Germ cell mutagenicity**

None known.

**Carcinogenicity**

No information available.

**Reproductive toxicity**

None known.

**STOT - single exposure**

No information available.

**STOT - repeated exposure**

No information available.

**Target Organ Effects** Eyes, Lungs, Respiratory system.

**Aspiration hazard** Not applicable.

## Section 12: ECOLOGICAL INFORMATION

### 12.1. Toxicity

3 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

### 12.2. Persistence and degradability

No information available.

### 12.3. Bioaccumulative potential

No information available.

### 12.4. Mobility in soil

#### **Mobility in soil**

No information available.

### 12.5. Results of PBT and vPvB assessment

No information available.

### 12.6. Other adverse effects

No information available

## Section 13: DISPOSAL CONSIDERATIONS

### 13.1. Waste treatment methods

#### **Waste from residues/unused products**

Disposal should be in accordance with applicable regional, national and local laws and regulations.

#### **Contaminated packaging**

Improper disposal or reuse of this container may be dangerous and illegal.

## Section 14: TRANSPORT INFORMATION

### IMDG

<b>14.1 UN/ID no</b>	Not regulated
<b>14.2 Proper shipping name</b>	Not regulated
<b>14.3 Hazard Class</b>	Not regulated
<b>14.4 Packing Group</b>	Not regulated
<b>14.5 Marine pollutant</b>	Not applicable
<b>14.6 Special Provisions</b>	None
<b>14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</b>	No information available



**RID**

14.1 UN/ID no	Not regulated
14.2 Proper shipping name	Not regulated
14.3 Hazard Class	Not regulated
14.4 Packing Group	Not regulated
14.5 Environmental hazard	Not applicable
14.6 Special Provisions	None

**ADR**

14.1 UN/ID no	Not regulated
14.2 Proper shipping name	Not regulated
14.3 Hazard Class	Not regulated
14.4 Packing Group	Not regulated
14.5 Environmental hazard	Not applicable
14.6 Special Provisions	None

**IATA**

14.1 UN/ID no	Not regulated
14.2 Proper shipping name	Not regulated
14.3 Hazard Class	Not regulated
14.4 Packing Group	Not regulated
14.5 Environmental hazard	Not applicable
14.6 Special Provisions	None

**Section 15: REGULATORY INFORMATION****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****National regulations****France****Occupational Illnesses (R-463-3, France)**

Chemical Name	French RG number	Title
Quartz 14808-60-7	RG 25	-

**Germany**

**Water hazard class (WGK)** non-hazardous to water

**European Union**

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

**Authorizations and/or restrictions on use:**

This product does not contain substances subject to authorization (Regulation (EC) No. 1907/2006 (REACH), Annex XIV) This product does not contain substances subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

**Persistent Organic Pollutants**

Not applicable

**Ozone-depleting substances (ODS) regulation (EC) 1005/2009** Not applicable

**International Inventories**

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
ENCS	Complies

IECSC	Complies
KECL	Does not comply
PICCS	Complies
AICS	Complies
NZIoC	Complies

**Legend:**

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

NZIoC - New Zealand Inventory of Chemicals

**15.2. Chemical safety assessment**

No information available

**Section 16: OTHER INFORMATION****Key or legend to abbreviations and acronyms used in the safety data sheet****Legend**

SVHC: Substances of Very High Concern for Authorization:

**Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation

<b>Issue Date</b>	08-Sep-2017
-------------------	-------------

<b>Revision Date</b>	11-Jul-2018
----------------------	-------------

**Disclaimer**

According to Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006, as amended by Regulation (EU) No. 2015/830.

This document is provided as an information resource relating exclusively to the product or material described herein. The information contained herein may not be applicable to other products/ materials or processes and may not be valid when this product/material is used in combination with any other product/material or process. The information provided in this document is compiled by Newpark Drilling Fluids LLC or its representatives from various sources including manufacturers, suppliers and other third-party sources, and is based on the information available as of the indicated date of preparation. As the conditions under which this product could be used will vary and may not be within the control of Newpark Drilling Fluids LLC there is no guarantee that the precautions outlined above will be sufficient for all individuals or situations. The buyer assumes all responsibility for using and handling the product in accordance with federal, state, provincial, or local regulations. For the product/ material described in this document, NO WARRANTY IS MADE, EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE.

**End of Safety Data Sheet**

This safety data sheet complies with the requirements of:  
Commission Regulation (EU) No 2015/830 of 28 May 2015

Issue Date 06-Feb-2017

Revision Date 12-Jul-2018

Version 2.1

### Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

#### 1.1. Product identifier

**Product Code** NDF00151  
*Product Name* EvoTrol™ HT

**Pure substance/mixture** Substance

#### 1.2. Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** filtration control agent

**Uses advised against** No information available

#### 1.3. Details of the supplier of the safety data sheet

**Supplier**  
Newpark Drilling Fluids  
Via Salaria 1313/C  
00138 ROMA (Italy)

For further information, please contact

**Contact Point** Telephone: +39 06 885611386 / +39 06 885611324 / + 39 06 8856111  
Fax: +39 06 8889363  
Website: www.newpark.com  
**E-mail address** laboratorio.roma@newpark.com

#### 1.4. Emergency telephone number

Emergency Telephone +39 06 885611386 / +39 06 885611324 / + 39 06 8856111

**Emergency Telephone - §45 - (EC)1272/2008**

**Europe** 112

### Section 2: HAZARDS IDENTIFICATION

#### 2.1. Classification of the substance or mixture

*Regulation (EC) No 1272/2008*

This substance is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

#### 2.2. Label elements

This substance is classified as not hazardous according to regulation (EC) 1272/2008 [CLP]

#### 2.3. Other hazards

No information available

### Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

#### 3.1 Substances

Chemical Name	EC No	CAS No	Weight-%	Classification according to Regulation (EC) No. 1272/2008 [CLP]	REACH Registration Number
Synthetic copolymer	Not Listed	-	90 - 100%	Not classified	Not available

Full text of H- and EUH-phrases: see section 16

### Section 4: FIRST AID MEASURES

#### 4.1. Description of first aid measures

<b>Inhalation</b>	Remove to fresh air.
<b>Skin contact</b>	Remove contaminated clothing and shoes. Brush off loose particles from skin. Wash skin with soap and water. Wash contaminated clothing before reuse.
<b>Eye contact</b>	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
<b>Ingestion</b>	Clean mouth with water and drink afterwards plenty of water.

#### 4.2. Most important symptoms and effects, both acute and delayed

<b>Symptoms</b>	No information available.
-----------------	---------------------------

#### 4.3. Indication of any immediate medical attention and special treatment needed

<b>Note to physicians</b>	Treat symptomatically.
---------------------------	------------------------

### Section 5: FIRE FIGHTING MEASURES

#### 5.1. Extinguishing media

##### Suitable extinguishing media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

##### Unsuitable extinguishing media

No information available.

#### 5.2. Special hazards arising from the substance or mixture

Airborne dusts are potentially explosive. Avoid significant deposits of material, especially on horizontal surfaces, which may become airborne and form combustible dust clouds and may contribute to secondary explosions. Handling and processing operations should be conducted in accordance with 'best practices' (e.g. NFPA-654).

##### Hazardous combustion products

Carbon oxides. Oxides of sulfur.

#### 5.3. Advice for firefighters

Wear self-contained breathing apparatus and protective suit. Use personal protective equipment as required. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water. Keep upwind (and uphill) of fire.

## Section 6: ACCIDENTAL RELEASE MEASURES

### 6.1. Personal precautions, protective equipment and emergency procedures

#### **Personal precautions**

Ensure adequate ventilation, especially in confined areas. Avoid creating dust.

#### **For emergency responders**

Use personal protection recommended in Section 8.

### 6.2. Environmental precautions

See Section 12 for additional Ecological Information.

### 6.3. Methods and material for containment and cleaning up

**Methods for containment** Prevent further leakage or spillage if safe to do so. Prevent dust cloud.

**Methods for cleaning up** Use personal protective equipment as required. Avoid creating dust. Sweep up and shovel into suitable containers for disposal.

### 6.4. Reference to other sections

See section 8 for more information. See section 13 for more information.

## Section 7: HANDLING AND STORAGE

### 7.1. Precautions for safe handling

#### **Advice on safe handling**

Handle in accordance with good industrial hygiene and safety practice. Avoid generation of dust. Wash thoroughly after handling. Wash contaminated clothing before reuse.

#### **General Hygiene Considerations**

Handle in accordance with good industrial hygiene and safety practice.

### 7.2. Conditions for safe storage, including any incompatibilities

#### **Storage Conditions**

Keep container tightly closed in a dry and well-ventilated place.

### 7.3. Specific end use(s)

#### **Risk Management Methods (RMM)**

The information required is contained in this Material Safety Data Sheet.

## Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1. Control parameters

**Derived No Effect Level (DNEL)** No information available.

**Predicted No Effect Concentration (PNEC)** No information available.

### 8.2. Exposure controls

**Engineering Controls** Ensure adequate ventilation, especially in confined areas.

**Personal protective equipment**

<b>Eye/face protection</b>	Tight sealing safety goggles.
<b>Skin and body protection</b>	Suitable protective clothing.
<b>Respiratory protection</b>	In case of inadequate ventilation wear respiratory protection.

**Environmental exposure controls** Do not allow into any sewer, on the ground or into any body of water.

## Section 9: PHYSICAL AND CHEMICAL PROPERTIES

### 9.1. Information on basic physical and chemical properties

<b>Physical state</b>	Solid	<b>Odor</b>	Odorless
<b>Appearance</b>	powder	<b>Odor threshold</b>	No data available
<b>Color</b>	white		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
<b>pH</b>		No data available
<b>Melting point / freezing point</b>		Not applicable
<b>Boiling point / boiling range</b>		Not applicable
<b>Flash point</b>		Not applicable
<b>Evaporation rate</b>		No data available
<b>Flammability (solid, gas)</b>		No data available
<b>Flammability Limit in Air</b>		
<b>Upper flammability limit:</b>		No data available
<b>Lower flammability limit:</b>		No data available
<b>Vapor pressure</b>		No data available
<b>Vapor density</b>		No data available
<b>Specific Gravity</b>	1.44	
<b>Water solubility</b>	Soluble in water	
<b>Solubility(ies)</b>		No information available
<b>Partition coefficient</b>		No data available
<b>Autoignition temperature</b>		No data available
<b>Decomposition temperature</b>		No data available
<b>Kinematic viscosity</b>		Not applicable
<b>Dynamic viscosity</b>		Not applicable
<b>Explosive properties</b>	Not an explosive	
<b>Oxidizing properties</b>	Not applicable	

### 9.2. Other information

<b>Softening point</b>	Not applicable
<b>Molecular weight</b>	No data available
<b>VOC Content (%)</b>	Not applicable
<b>Density</b>	No data available
<b>Bulk density</b>	No information available

## Section 10: STABILITY AND REACTIVITY

### 10.1. Reactivity

Not reactive under normal conditions.

### 10.2. Chemical stability

Stable under normal conditions.

#### Explosion data

Sensitivity to Mechanical Impact	None.
Sensitivity to Static Discharge	None.

### 10.3. Possibility of hazardous reactions

#### **Possibility of Hazardous Reactions**

None under normal processing.

**10.4. Conditions to avoid**

Extremes of temperature and direct sunlight. Incompatible materials. Dust formation.

**10.5. Incompatible materials**

Strong oxidizing agents.

**10.6. Hazardous decomposition products**

None under normal use conditions.

**Section 11: TOXICOLOGICAL INFORMATION****11.1. Information on toxicological effects****Acute toxicity****Product Information**

Product does not present an acute toxicity hazard based on known or supplied information.

**Unknown acute toxicity****Unknown acute toxicity**

100 % of the mixture consists of ingredient(s) of unknown toxicity.

Acute oral toxicity

100 % of the mixture consists of ingredient(s) of unknown acute oral toxicity

Acute dermal toxicity

100 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity

Acute inhalation toxicity - gas

100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)

Acute inhalation toxicity - Vapor

100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)

Acute inhalation toxicity - dust/mist

100 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

**Skin corrosion/irritation**

No information available.

**Serious eye damage/eye irritation**

No information available.

**Sensitization**

None known.

**Germ cell mutagenicity**

None known.

**Carcinogenicity**

No information available.

**Reproductive toxicity**

None known.

**STOT - single exposure**

No information available.

**STOT - repeated exposure**

No information available.

**Aspiration hazard**

Not applicable.

**Section 12: ECOLOGICAL INFORMATION****12.1. Toxicity**

100 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

**12.2. Persistence and degradability**

No information available.

### 12.3. Bioaccumulative potential

No information available.

### 12.4. Mobility in soil

#### **Mobility in soil**

No information available.

### 12.5. Results of PBT and vPvB assessment

No information available.

### 12.6. Other adverse effects

No information available

## **Section 13: DISPOSAL CONSIDERATIONS**

### 13.1. Waste treatment methods

#### **Waste from residues/unused products**

Disposal should be in accordance with applicable regional, national and local laws and regulations.

#### **Contaminated packaging**

Improper disposal or reuse of this container may be dangerous and illegal.

## **Section 14: TRANSPORT INFORMATION**

### IMDG

14.1 UN/ID no	Not regulated
14.2 Proper shipping name	Not regulated
14.3 Hazard Class	Not regulated
14.4 Packing Group	Not regulated
14.5 Marine pollutant	Not applicable
14.6 Special Provisions	None
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	No information available

### RID

14.1 UN/ID no	Not regulated
14.2 Proper shipping name	Not regulated
14.3 Hazard Class	Not regulated
14.4 Packing Group	Not regulated
14.5 Environmental hazard	Not applicable
14.6 Special Provisions	None

### ADR

14.1 UN/ID no	Not regulated
14.2 Proper shipping name	Not regulated
14.3 Hazard Class	Not regulated
14.4 Packing Group	Not regulated
14.5 Environmental hazard	Not applicable
14.6 Special Provisions	None



**IATA**

<b>14.1 UN/ID no</b>	Not regulated
<b>14.2 Proper shipping name</b>	Not regulated
<b>14.3 Hazard Class</b>	Not regulated
<b>14.4 Packing Group</b>	Not regulated
<b>14.5 Environmental hazard</b>	Not applicable
<b>14.6 Special Provisions</b>	None

**Section 15: REGULATORY INFORMATION****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****National regulations****Germany**

**Water hazard class (WGK)** non-hazardous to water

**European Union**

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

**Authorizations and/or restrictions on use:**

This product does not contain substances subject to authorization (Regulation (EC) No. 1907/2006 (REACH), Annex XIV) This product does not contain substances subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

**Persistent Organic Pollutants**

Not applicable

**Ozone-depleting substances (ODS) regulation (EC) 1005/2009** Not applicable

**International Inventories**

<b>TSCA</b>	Complies
<b>DSL/NDSL</b>	Complies
<b>EINECS/ELINCS</b>	Complies
<b>ENCS</b>	Does not comply
<b>IECSC</b>	Complies
<b>KECL</b>	Does not comply
<b>PICCS</b>	Complies
<b>AICS</b>	Complies
<b>NZIoC</b>	Does not comply

**Legend:**

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory  
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List  
**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances  
**ENCS** - Japan Existing and New Chemical Substances  
**IECSC** - China Inventory of Existing Chemical Substances  
**KECL** - Korean Existing and Evaluated Chemical Substances  
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances  
**AICS** - Australian Inventory of Chemical Substances  
**NZIoC** - New Zealand Inventory of Chemicals

**15.2. Chemical safety assessment**

No information available

## Section 16: OTHER INFORMATION

### Key or legend to abbreviations and acronyms used in the safety data sheet

#### Legend

SVHC: Substances of Very High Concern for Authorization:

#### Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation

**Issue Date** 06-Feb-2017

**Revision Date** 12-Jul-2018

#### Disclaimer

According to Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006, as amended by Regulation (EU) No. 2015/830.

This document is provided as an information resource relating exclusively to the product or material described herein. The information contained herein may not be applicable to other products/ materials or processes and may not be valid when this product/material is used in combination with any other product/material or process. The information provided in this document is compiled by Newpark Drilling Fluids LLC or its representatives from various sources including manufacturers, suppliers and other third-party sources, and is based on the information available as of the indicated date of preparation. As the conditions under which this product could be used will vary and may not be within the control of Newpark Drilling Fluids LLC there is no guarantee that the precautions outlined above will be sufficient for all individuals or situations. The buyer assumes all responsibility for using and handling the product in accordance with federal, state, provincial, or local regulations. For the product/ material described in this document, NO WARRANTY IS MADE, EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE.

**End of Safety Data Sheet**



# SAFETY DATA SHEET

**NewCide™ 50**

**Issue Date** No data available

**Revision Date** 19-Feb-2019

**Version** 1  
EN

## Section 1: IDENTIFICATION: PRODUCT IDENTIFIER AND CHEMICAL IDENTITY

1

### Product identifier

**Product Name** NewCide™ 50

**Product Code** NDF00477

### Other means of identification

**UN Number** UN2810

### Recommended use of the chemical and restrictions on use

**Recommended Use** biocide

**Uses advised against** No information available

### Details of manufacturer or importer

#### Supplier

Newpark Drilling Fluids (Australia) LTD  
11 Alacrity Place  
Henderson, WA, 6166  
Australia

### For further information, please contact

**Contact Point** Telephone: +61 8 9410 8200  
Fax: +61 8 9410 8299  
Website: www.newpark.com

### Emergency telephone number

Emergency telephone number +(61)-290372994 (Australia); +(64)-98010034 (New Zealand)

## Section 2: HAZARD(S) IDENTIFICATION

### GHS - Classification

<b>Acute toxicity - Oral</b>	Category 4 - (H302)
<b>Acute toxicity - Inhalation (Dusts/Mists)</b>	Category 2 - (H330)
<b>Serious eye damage/eye irritation</b>	Category 2A - (H319)
<b>Skin sensitization</b>	Category 1 - (H317)
<b>Specific target organ toxicity (repeated exposure)</b>	Category 1 - (H372)

### Label elements

**Signal word**

Danger

**Hazard statements**

H302 - Harmful if swallowed

H317 - May cause an allergic skin reaction

H319 - Causes serious eye irritation

H330 - Fatal if inhaled

H372 - Causes damage to organs through prolonged or repeated exposure

**Precautionary Statements - Prevention**

Wash face, hands and any exposed skin thoroughly after handling

Do not eat, drink or smoke when using this product

Do not breathe dust/fume/gas/mist/vapors/spray

Use only outdoors or in a well-ventilated area

Wear respiratory protection

Wear protective gloves/protective clothing/eye protection/face protection

Contaminated work clothing should not be allowed out of the workplace

**Precautionary Statements - Response**

Get medical advice/attention if you feel unwell

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

If eye irritation persists: Get medical advice/attention

IF ON SKIN: Wash with plenty of soap and water

If skin irritation or rash occurs: Get medical advice/attention

Wash contaminated clothing before reuse

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

Immediately call a POISON CENTER or doctor/physician

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell

Rinse mouth

**Precautionary Statements - Storage**

Store in a well-ventilated place. Keep container tightly closed

Store locked up

**Precautionary Statements - Disposal**

Dispose of contents/container to an approved waste disposal plant

**Other hazards****General Hazards**

No information available

## Section 3: COMPOSITION AND INFORMATION ON INGREDIENTS, IN ACCORDANCE WITH SCHEDULE 8

**Substance**

Not applicable

**Mixture**

Chemical Name	CAS No	Weight-%
Hexahydro-1,3,5-tris(2-hydroxyethyl)-S-triazine	4719-04-4	20-50
Non-hazardous ingredients	Proprietary	Balance

## Section 4: FIRST AID MEASURES

### Description of first aid measures

<b>Emergency telephone number</b>	Poisons Information Center, Australia: 13 11 26 Poisons Information Center, New Zealand: 0800 764 766
<b>Inhalation</b>	Remove to fresh air. Get medical attention immediately if symptoms occur.
<b>Eye contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists. Do not rub affected area.
<b>Skin contact</b>	Wash skin with soap and water. May cause an allergic skin reaction. In the case of skin irritation or allergic reactions see a physician. Wash off immediately with plenty of water for at least 15 minutes.
<b>Ingestion</b>	Do not induce vomiting without medical advice. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person.
<b>Self-protection of the first aider</b>	Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8).

### Most important symptoms and effects, both acute and delayed

**Symptoms** Itching. Rashes. Hives. Burning sensation.

### Indication of any immediate medical attention and special treatment needed

**Note to physicians** May cause sensitization in susceptible persons. Treat symptomatically.

## Section 5: FIREFIGHTING MEASURES

### Suitable Extinguishing Media

**Suitable extinguishing media** Carbon dioxide (CO<sub>2</sub>). Water spray (fog).

**Unsuitable extinguishing media** Do not scatter spilled material with high pressure water streams.

### Specific hazards arising from the chemical

In the event of fire and/or explosion do not breathe fumes. May cause sensitization by inhalation and skin contact. Thermal decomposition can lead to release of irritating and toxic gases and vapors.

**Hazardous combustion products** Carbon dioxide (CO<sub>2</sub>). Nitrogen oxides (NO<sub>x</sub>).

### Special protective actions for fire-fighters

**Special protective equipment for fire-fighters** Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

**Hazchem code** Not Listed.

## Section 6: ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

**Personal precautions** Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

**For emergency responders** Use personal protection recommended in Section 8.

**Environmental precautions**

**Environmental precautions** See Section 12 for additional Ecological Information. Do not flush into surface water or sanitary sewer system. Prevent product from entering drains.

**Methods and material for containment and cleaning up**

**Methods for containment** Prevent further leakage or spillage if safe to do so.

**Methods for cleaning up** Pick up and transfer to properly labeled containers.

**Precautions to prevent secondary hazards**

**Prevention of secondary hazards** Clean contaminated objects and areas thoroughly observing environmental regulations.

**Section 7: HANDLING AND STORAGE, INCLUDING HOW THE CHEMICAL MAY BE SAFELY USED****Precautions for safe handling**

**Advice on safe handling** Wash contaminated clothing before reuse. Handle in accordance with good industrial hygiene and safety practice. Wash thoroughly after handling.

**General hygiene considerations** Do not eat, drink or smoke when using this product. Wash hands before breaks and after work.

**Conditions for safe storage, including any incompatibilities**

**Storage Conditions** Keep containers tightly closed in a dry, cool and well-ventilated place.

**Incompatible materials** Strong acids Strong oxidizing agents

**Section 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION****Control parameters**

**Exposure Limits** This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

**Biological occupational exposure limits** Not applicable

**Appropriate engineering controls**

**Engineering controls** Showers  
Eyewash stations  
Ventilation systems.

**Individual protection measures, such as personal protective equipment**

**Eye/face protection** Wear safety glasses with side shields (or goggles).

**Skin and body protection** Wear suitable protective clothing. Long sleeved clothing.

**Hand protection** Wear suitable gloves. Impervious gloves.

**Respiratory protection** When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

**Environmental exposure controls** Do not allow into any sewer, on the ground or into any body of water.

## Section 9: PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<b>Physical state</b>	Liquid	<b>Odor</b>	No information available.
<b>Appearance</b>	liquid	<b>Odor threshold</b>	No information available
<b>Color</b>	colorless to Pale yellow		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	10 - 12	
Melting point / freezing point		No information available
Boiling point / boiling range		No information available
Flash point	> 100 °C	
Evaporation rate		No information available
Flammability (solid, gas)		Not applicable
Flammability Limit in Air		No information available
Upper flammability limit:		No data available
Lower flammability limit:		No data available
Vapor pressure		No data available
Vapor density		No data available
Relative density	1.08-1.112	
Water solubility	Soluble in water	
Solubility(ies)		No information available
Partition coefficient		No information available
Autoignition temperature		No information available
Decomposition temperature		No information available
Kinematic viscosity		No data available
Dynamic viscosity		No data available

### Other Information

Softening point	No information available
Molecular weight	No information available
VOC Content (%)	No information available
Density	No information available
Bulk density	No information available
Particle Size	No information available
Particle Size Distribution	No information available

## Section 10: STABILITY AND REACTIVITY

### Reactivity

**Reactivity** Stable under normal conditions.

### Chemical stability

**Stability** Stable under normal conditions.

### Explosion data

**Sensitivity to Mechanical Impact** None.

**Sensitivity to Static Discharge** None.

### Possibility of Hazardous Reactions

**Possibility of hazardous reactions** None under normal processing.

### Conditions to avoid

**Conditions to avoid** None known based on information supplied.

**Incompatible materials**

**Incompatible materials** Strong acids. Strong oxidizing agents.

**Hazardous Decomposition Products**

**Hazardous Decomposition Products** None known based on information supplied.

**Section 11: TOXICOLOGICAL INFORMATION****Acute toxicity****Information on likely routes of exposure****Product Information**

**Inhalation** Specific test data for the substance or mixture is not available.

**Eye contact** Specific test data for the substance or mixture is not available.

**Skin contact** Specific test data for the substance or mixture is not available.

**Ingestion** Specific test data for the substance or mixture is not available.

**Symptoms** No information available.

**Numerical measures of toxicity - Product Information**

The following values are calculated based on chapter 3.1 of the GHS document

**ATEmix (oral)** 1,908.00 mg/kg  
**ATEmix (dermal)** 5,005.00 mg/kg  
**ATEmix (inhalation-dust/mist)** 0.13 mg/l

**Unknown acute toxicity** 40 % of the mixture consists of ingredient(s) of unknown toxicity  
 0 % of the mixture consists of ingredient(s) of unknown acute oral toxicity  
 0 % of the mixture consists of ingredient(s) of unknown acute dermal toxicity  
 40 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas)  
 40 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor)  
 0 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (dust/mist)

**Component Information**

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Hexahydro-1,3,5-tris(2-hydroxyethyl)-S-triazine	= 763 mg/kg ( Rat )	> 2 g/kg ( Rat )	-

See section 16 for terms and abbreviations

**Delayed and immediate effects as well as chronic effects from short and long-term exposure**

**Skin corrosion/irritation** No information available.

**Serious eye damage/eye irritation** Irritating to eyes.

**Respiratory or skin sensitization** May cause an allergic skin reaction.

**Germ cell mutagenicity** None known.

**Carcinogenicity** None known.

**Reproductive toxicity** None known.



<b>STOT - single exposure</b>	None known.
<b>STOT - repeated exposure</b>	None known.
<b>Aspiration hazard</b>	None known.

## Section 12: ECOLOGICAL INFORMATION

### Ecotoxicity

**Ecotoxicity** The environmental impact of this product has not been fully investigated.

**Unknown aquatic toxicity** 40 % of the mixture consists of component(s) of unknown hazards to the aquatic environment.

Chemical Name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Hexahydro-1,3,5-tris(2-hydroxyethyl)-S-triazine	-	-	EC50 = 28.9 mg/L 15 min	-

### Persistence and degradability

**Persistence and degradability** Readily biodegradable.

### Bioaccumulative potential

**Bioaccumulation** Not likely to bioaccumulate.

### Mobility

**Mobility in soil** No information available.

**Mobility** No information available.

### Other adverse effects

**Other adverse effects** No information available.

### Endocrine Disruptor Information

Chemical Name	EU - Endocrine Disruptors Candidate List	EU - Endocrine Disruptors - Evaluated Substances	Endocrine disrupting potential
Hexahydro-1,3,5-tris(2-hydroxyethyl)-S-triazine	Group III Chemical	-	-

## Section 13: DISPOSAL CONSIDERATIONS

### Waste treatment methods

**Waste from residues/unused products** Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

**Contaminated packaging** Do not reuse empty containers.

## Section 14: TRANSPORT INFORMATION

**ADG**

<b>UN Number</b>	UN2810
<b>Proper shipping name</b>	Toxic liquid, organic, n.o.s. ( Contains Triazines )
<b>Hazard Class</b>	6.1
<b>Packing Group</b>	II

**IATA**

<b>UN/ID no</b>	UN2810
<b>Proper shipping name</b>	Toxic liquid, organic, n.o.s. ( Contains Triazines )
<b>Hazard Class</b>	6.1
<b>Packing Group</b>	II

**IMDG**

<b>UN/ID no</b>	UN2810
<b>Proper shipping name</b>	Toxic liquid, organic, n.o.s. ( Contains Triazines )
<b>Hazard Class</b>	6.1
<b>Packing Group</b>	II

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

No information available

**Section 15: REGULATORY INFORMATION****Regulatory information****National regulations****Australia**

See section 8 for national exposure control parameters

**Standard for Uniform Scheduling of Medicines and Poisons (SUSMP)**

No poisons schedule number allocated

**Major hazard (accident/incident planning) regulation**

Verify that license requirements are met

**Hazardous chemical**

Materials that meet the criteria for Toxic in table 15.3

<u>Threshold quantity (T)</u>
200

**International Inventories**

<b>TSCA</b>	Complies
<b>DSL/NDSL</b>	Complies
<b>EINECS/ELINCS</b>	Complies
<b>ENCS</b>	Complies
<b>IECSC</b>	Complies
<b>KECL</b>	Complies
<b>PICCS</b>	Complies
<b>AICS</b>	Complies
<b>NZIoC</b>	Complies

**Legend:****TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances**ENCS** - Japan Existing and New Chemical Substances**IECSC** - China Inventory of Existing Chemical Substances**KECL** - Korean Existing and Evaluated Chemical Substances**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

**AICS** - Australian Inventory of Chemical Substances  
**NZIoC** - New Zealand Inventory of Chemicals

### International Regulations

**Ozone-depleting substances (ODS)** Not applicable

**Persistent Organic Pollutants** Not applicable

**Export Notification requirements** Not applicable

## **Section 16: ANY OTHER RELEVANT INFORMATION**

**Revision Date** 19-Feb-2019

### **Revision Note**

No information available.

### **Key or legend to abbreviations and acronyms used in the safety data sheet**

#### **Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation
C	Carcinogen		

### **Disclaimer**

This document is provided as an information resource relating exclusively to the product or material described herein. The information contained herein may not be applicable to other products/ materials or processes and may not be valid when this product/material is used in combination with any other product/material or process. The information provided in this document is compiled by Newpark Drilling Fluids LLC or its representatives from various sources including manufacturers, suppliers and other third-party sources, and is based on the information available as of the indicated date of preparation. As the conditions under which this product could be used will vary and may not be within the control of Newpark Drilling Fluids LLC there is no guarantee that the precautions outlined above will be sufficient for all individuals or situations. The buyer assumes all responsibility for using and handling the product in accordance with federal, state, provincial, or local regulations. For the product/ material described in this document, **NO WARRANTY IS MADE, EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OTHERWISE.**

**End of Safety Data Sheet**

---

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

---

### 1.1 Product identifier

**Product name** SODA ASH  
**Synonym(s)** SODA ASH DENSE • SODIUM CARBONATE

### 1.2 Uses and uses advised against

**Use(s)** DRILLING AID

### 1.3 Details of the supplier of the product

**Supplier name** NEWPARK DRILLING FLUIDS (AUSTRALIA) LTD  
**Address** 11 Alacrity Place, Henderson, WA, 6166, AUSTRALIA  
**Telephone** +61 8 9410 8200  
**Fax** +61 8 9410 8299  
**Website** [www.newpark.com](http://www.newpark.com)

### 1.4 Emergency telephone number(s)

**Emergency** 1800 127 406 (Australia); +64 3 3530199 (International)

---

## 2. HAZARDS IDENTIFICATION

---

### 2.1 Classification of the substance or mixture

CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

**GHS classification(s)** Serious Eye Damage / Eye Irritation: Category 2A

### 2.2 Label elements

**Signal word** WARNING

**Pictogram(s)**



### Hazard statement(s)

H319 Causes serious eye irritation.

### Prevention statement(s)

P264 Wash thoroughly after handling.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.

### Response statement(s)

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P337 + P313 If eye irritation persists: Get medical advice/attention.

### Storage statement(s)

None allocated.

### Disposal statement(s)

None allocated.

### 2.3 Other hazards

No information provided.

---

### 3. COMPOSITION/ INFORMATION ON INGREDIENTS

---

#### 3.1 Substances / Mixtures

Ingredient	CAS Number	EC Number	Content
SODIUM CARBONATE	497-19-8	207-838-8	>97%

---

### 4. FIRST AID MEASURES

---

#### 4.1 Description of first aid measures

<b>Eye</b>	If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.
<b>Inhalation</b>	If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.
<b>Skin</b>	If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.
<b>Ingestion</b>	For advice, contact a Poison Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting.
<b>First aid facilities</b>	Eye wash facilities should be available.

#### 4.2 Most important symptoms and effects, both acute and delayed

Irritating to the eyes and skin.

#### 4.3 Immediate medical attention and special treatment needed

Treat symptomatically.

---

### 5. FIRE FIGHTING MEASURES

---

#### 5.1 Extinguishing media

Use an extinguishing agent suitable for the surrounding fire.

#### 5.2 Special hazards arising from the substance or mixture

Non flammable. May evolve toxic gases if strongly heated.

#### 5.3 Advice for firefighters

Treat as per requirements for surrounding fires. Evacuate area and contact emergency services. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

#### 5.4 Hazchem code

None allocated.

---

### 6. ACCIDENTAL RELEASE MEASURES

---

#### 6.1 Personal precautions, protective equipment and emergency procedures

Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. Ventilate area where possible.

#### 6.2 Environmental precautions

Prevent product from entering drains and waterways.

#### 6.3 Methods of cleaning up

Contain spillage, then collect and place in suitable containers for disposal. Avoid generating dust.

#### 6.4 Reference to other sections

See Sections 8 and 13 for exposure controls and disposal.

---

### 7. HANDLING AND STORAGE

---

#### 7.1 Precautions for safe handling

Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

**PRODUCT NAME SODA ASH****7.2 Conditions for safe storage, including any incompatibilities**

Store in a cool, dry, well ventilated area, removed from incompatible substances and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use. Check regularly for leaks or spills.

**7.3 Specific end use(s)**

No information provided.

---

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

---

**8.1 Control parameters****Exposure standards**

Ingredient	Reference	TWA		STEL	
		ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>
Sodium Carbonate (total dust)	SWA (AUS)	--	10	--	--

**Biological limits**

No biological limit values have been entered for this product.

**8.2 Exposure controls**

**Engineering controls** Avoid inhalation. Use in well ventilated areas.

**PPE**

- Eye / Face** Wear dust-proof goggles.  
**Hands** Wear PVC or rubber gloves.  
**Body** When using large quantities or where heavy contamination is likely, wear coveralls.  
**Respiratory** Where an inhalation risk exists, wear a Class P1 (Particulate) respirator.



---

**9. PHYSICAL AND CHEMICAL PROPERTIES**

---

**9.1 Information on basic physical and chemical properties**

Appearance	WHITE POWDER
Odour	ODOURLESS
Flammability	NON FLAMMABLE
Flash point	NOT RELEVANT
Boiling point	NOT AVAILABLE
Melting point	854°C
Evaporation rate	NOT AVAILABLE
pH	NOT AVAILABLE
Vapour density	NOT AVAILABLE
Specific gravity	2.533
Solubility (water)	170 g/L
Vapour pressure	NOT AVAILABLE
Upper explosion limit	NOT RELEVANT
Lower explosion limit	NOT RELEVANT
Partition coefficient	NOT AVAILABLE
Autoignition temperature	NOT AVAILABLE
Decomposition temperature	NOT AVAILABLE
Viscosity	NOT AVAILABLE
Explosive properties	NOT AVAILABLE
Oxidising properties	NOT AVAILABLE
Odour threshold	NOT AVAILABLE

**9.2 Other information**

% Volatiles	NOT AVAILABLE
-------------	---------------

---

## 10. STABILITY AND REACTIVITY

---

### 10.1 Reactivity

Carefully review all information provided in sections 10.2 to 10.6.

### 10.2 Chemical stability

Stable under recommended conditions of storage.

### 10.3 Possibility of hazardous reactions

Polymerization is not expected to occur.

### 10.4 Conditions to avoid

Avoid heat, sparks, open flames and other ignition sources.

### 10.5 Incompatible materials

Incompatible with oxidising agents (e.g. hypochlorites) and acids (e.g. nitric acid).

### 10.6 Hazardous decomposition products

May evolve toxic gases if heated to decomposition.

---

## 11. TOXICOLOGICAL INFORMATION

---

### 11.1 Information on toxicological effects

<b>Acute toxicity</b>	No known toxicological effects from this product. Based on available data, the classification criteria are not met. Acute Oral Toxicity: 4090 mg/kg (rat). Acute Inhalation Toxicity: 800 mg/m <sup>3</sup> /2 hours (guinea pig).
<b>Skin</b>	Contact may result in irritation, redness, rash and dermatitis.
<b>Eye</b>	Irritating to the eyes. Contact may result in irritation, lacrimation, pain and redness. May result in burns with prolonged contact.
<b>Sensitization</b>	This product is not known to be a skin or respiratory sensitiser.
<b>Mutagenicity</b>	This product is not classified as a mutagen.
<b>Carcinogenicity</b>	This product is not classified as a carcinogen.
<b>Reproductive</b>	This product is not classified as a reproductive toxin.
<b>STOT – single exposure</b>	Not classified as causing organ effects from single exposure. However, over exposure may result in irritation of the nose and throat, with coughing.
<b>STOT – repeated exposure</b>	Not classified as causing organ effects from repeated exposure.
<b>Aspiration</b>	Not relevant.

---

## 12. ECOLOGICAL INFORMATION

---

### 12.1 Toxicity

No information provided.

### 12.2 Persistence and degradability

No information provided.

### 12.3 Bioaccumulative potential

No information provided.

### 12.4 Mobility in soil

No information provided.

### 12.5 Other adverse effects

No information provided.

---

## 13. DISPOSAL CONSIDERATIONS

---

**13.1 Waste treatment methods**

**Waste disposal** Collect without generating dust. Place in clean, sealed containers and dispose of to an approved landfill site. Contact the manufacturer/supplier for additional information (if required).

**Legislation** Dispose of in accordance with relevant local legislation.

**14. TRANSPORT INFORMATION**

**NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA**

	<b>LAND TRANSPORT (ADG)</b>	<b>SEA TRANSPORT (IMDG / IMO)</b>	<b>AIR TRANSPORT (IATA / ICAO)</b>
<b>14.1 UN Number</b>	None Allocated	None Allocated	None Allocated
<b>14.2 Proper Shipping Name</b>	None Allocated	None Allocated	None Allocated
<b>14.3 Transport hazard class</b>	None Allocated	None Allocated	None Allocated
<b>14.4 Packing Group</b>	None Allocated	None Allocated	None Allocated

**14.5 Environmental hazards** No information provided

**14.6 Special precautions for user**

**Hazchem code** None Allocated

**15. REGULATORY INFORMATION**

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**Poison schedule** A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**Classifications** Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

The classifications and phrases listed below are based on the Approved Criteria for Classifying Hazardous Substances [NOHSC: 1008(2004)].

**Hazard codes** Xi Irritant

**Risk phrases** R36 Irritating to eyes.

**Safety phrases** S22 Do not breathe dust.  
S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice

**Inventory listing(s)** **AUSTRALIA: AICS (Australian Inventory of Chemical Substances)**  
All components are listed on AICS, or are exempt.

**16. OTHER INFORMATION**

**Additional information** **PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:**  
The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

**HEALTH EFFECTS FROM EXPOSURE:**  
It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a ChemAlert report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.



**PRODUCT NAME SODA ASH****Abbreviations**

ACGIH	American Conference of Governmental Industrial Hygienists
CAS #	Chemical Abstract Service number - used to uniquely identify chemical compounds
CNS	Central Nervous System
EC No.	EC No - European Community Number
GHS	Globally Harmonized System
IARC	International Agency for Research on Cancer
LC50	Lethal Concentration, 50% / Median Lethal Concentration
LD50	Lethal Dose, 50% / Median Lethal Dose
mg/m <sup>3</sup>	Milligrams per Cubic Metre
OEL	Occupational Exposure Limit
pH	relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
ppm	Parts Per Million
STEL	Short-Term Exposure Limit
STOT-RE	Specific target organ toxicity (repeated exposure)
STOT-SE	Specific target organ toxicity (single exposure)
SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons
SWA	Safe Work Australia
TLV	Threshold Limit Value
TWA	Time Weighted Average

**Revision history**

Revision	Description
2.0	Converted to GHS.
1.0	Initial SDS creation

**Report status**

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

**Prepared by**

Risk Management Technologies  
5 Ventnor Ave, West Perth  
Western Australia 6005  
Phone: +61 8 9322 1711  
Fax: +61 8 9322 1794  
Email: info@rmt.com.au  
Web: www.rmt.com.au.

**Revision:** 2  
**SDS date:** 29 January 2015

**[ End of SDS ]**

## SAFETY DATA SHEET

### 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

#### 1.1 Product identifier

**Product name** SODIUM BICARBONATE  
**Synonym(s)** BAKING SODA • BICARBONATE OF SODA • CARBONIC ACID, MONOSODIUM SALT • MONOSODIUM CARBONATE • SODIUM ACID CARBONATE • SODIUM HYDROGEN CARBONATE

#### 1.2 Uses and uses advised against

**Use(s)** PH CONTROL

#### 1.3 Details of the supplier of the product

**Supplier name** NEWPARK DRILLING FLUIDS (AUSTRALIA) LTD  
**Address** 11 Alacrity Place, Henderson, WA, 6166, AUSTRALIA  
**Telephone** +61 8 9410 8200  
**Fax** +61 8 9410 8299  
**Website** [www.newpark.com](http://www.newpark.com)

#### 1.4 Emergency telephone number(s)

**Emergency** 1800 127 406 (Australia); +64 3 3530199 (International)

### 2. HAZARDS IDENTIFICATION

#### 2.1 Classification of the substance or mixture

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

#### 2.2 Label elements

No signal word, pictograms, hazard or precautionary statements have been allocated.

#### 2.3 Other hazards

No information provided.

### 3. COMPOSITION/ INFORMATION ON INGREDIENTS

#### 3.1 Substances / Mixtures

Ingredient	CAS Number	EC Number	Content
SODIUM BICARBONATE	144-55-8	205-633-8	>99%

### 4. FIRST AID MEASURES

#### 4.1 Description of first aid measures

**Eye** If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.

**Inhalation** If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.

**Skin** If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water.

**Ingestion** For advice, contact a Poison Information Centre on 13 11 26 (Australia Wide) or a doctor (at once).

**First aid facilities** Eye wash facilities should be available. Eye wash facilities and safety shower are recommended.

#### 4.2 Most important symptoms and effects, both acute and delayed

No adverse health effects expected if the product is handled in accordance with the SDS and the product label.

**4.3 Immediate medical attention and special treatment needed**

Treat symptomatically.

---

**5. FIRE FIGHTING MEASURES**

---

**5.1 Extinguishing media**

Use an extinguishing agent suitable for the surrounding fire.

**5.2 Special hazards arising from the substance or mixture**

Non flammable. May evolve carbon oxides and hydrocarbons when heated to decomposition.

**5.3 Advice for firefighters**

Treat as per requirements for surrounding fires. Evacuate area and contact emergency services. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

**5.4 Hazchem code**

None allocated.

---

**6. ACCIDENTAL RELEASE MEASURES**

---

**6.1 Personal precautions, protective equipment and emergency procedures**

Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS.

**6.2 Environmental precautions**

Prevent product from entering drains and waterways.

**6.3 Methods of cleaning up**

Contain spillage, then collect and place in suitable containers for disposal. Avoid generating dust.

**6.4 Reference to other sections**

See Sections 8 and 13 for exposure controls and disposal.

---

**7. HANDLING AND STORAGE**

---

**7.1 Precautions for safe handling**

Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

**7.2 Conditions for safe storage, including any incompatibilities**

Store in a cool, dry, well ventilated area, removed from incompatible substances and foodstuffs. Ensure packages are adequately labelled, protected from physical damage and sealed when not in use.

**7.3 Specific end use(s)**

No information provided.

---

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

---

**8.1 Control parameters**

**Exposure standards**

Ingredient	Reference	TWA		STEL	
		ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>
Sodium Bicarbonate (total dust)	SWA (AUS)	--	10	--	--

**Biological limits**

No biological limit values have been entered for this product.

**8.2 Exposure controls**

**Engineering controls** Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical extraction ventilation is recommended.

**PRODUCT NAME    SODIUM BICARBONATE**

**PPE**

<b>Eye / Face</b>	When using large quantities or where heavy contamination is likely, wear dust-proof goggles.
<b>Hands</b>	When using large quantities or where heavy contamination is likely, wear PVC or rubber gloves.
<b>Body</b>	Not required under normal conditions of use.
<b>Respiratory</b>	Where an inhalation risk exists, wear a Class P1 (Particulate) respirator.

---

**9. PHYSICAL AND CHEMICAL PROPERTIES**

---

**9.1 Information on basic physical and chemical properties**

<b>Appearance</b>	WHITE POWDER
<b>Odour</b>	ODOURLESS
<b>Flammability</b>	NON FLAMMABLE
<b>Flash point</b>	NOT RELEVANT
<b>Boiling point</b>	NOT AVAILABLE
<b>Melting point</b>	854°C
<b>Evaporation rate</b>	NOT AVAILABLE
<b>pH</b>	8 (1% Solution)
<b>Vapour density</b>	NOT AVAILABLE
<b>Specific gravity</b>	2.533
<b>Solubility (water)</b>	170 g/L @ 25°C
<b>Vapour pressure</b>	NOT AVAILABLE
<b>Upper explosion limit</b>	NOT RELEVANT
<b>Lower explosion limit</b>	NOT RELEVANT
<b>Partition coefficient</b>	NOT AVAILABLE
<b>Autoignition temperature</b>	NOT AVAILABLE
<b>Decomposition temperature</b>	NOT AVAILABLE
<b>Viscosity</b>	NOT AVAILABLE
<b>Explosive properties</b>	NOT AVAILABLE
<b>Oxidising properties</b>	NOT AVAILABLE
<b>Odour threshold</b>	NOT AVAILABLE

**9.2 Other information**

<b>% Volatiles</b>	NOT AVAILABLE
--------------------	---------------

---

**10. STABILITY AND REACTIVITY**

---

**10.1 Reactivity**

Carefully review all information provided in sections 10.2 to 10.6.

**10.2 Chemical stability**

Stable under recommended conditions of storage.

**10.3 Possibility of hazardous reactions**

Polymerization is not expected to occur.

**10.4 Conditions to avoid**

Avoid heat, sparks, open flames and other ignition sources.

**10.5 Incompatible materials**

Incompatible with acids (e.g. nitric acid).

**10.6 Hazardous decomposition products**

May evolve carbon oxides and hydrocarbons when heated to decomposition.

---

**11. TOXICOLOGICAL INFORMATION**

---

**11.1 Information on toxicological effects**

**Acute toxicity**      This product is expected to be of low toxicity. Under normal conditions of use, adverse health effects are not anticipated. Sodium bicarbonate can neutralise the gastric juices in the stomach. During neutralisation, carbon dioxide gas is evolved and may cause stretching of the stomach, and with very large doses possible damage or rupture.

**Skin**                      Not classified as a skin irritant. Prolonged or repeated contact may result in mild irritation.

**PRODUCT NAME SODIUM BICARBONATE**

<b>Eye</b>	Not classified as an eye irritant. Contact may result in mild irritation, lacrimation and redness.
<b>Sensitization</b>	This product is not known to be a skin or respiratory sensitiser.
<b>Mutagenicity</b>	This product is not classified as a mutagen.
<b>Carcinogenicity</b>	This product is not classified as a carcinogen.
<b>Reproductive</b>	This product is not classified as a reproductive toxin.
<b>STOT – single exposure</b>	Not classified as causing organ effects from single exposure.
<b>STOT – repeated exposure</b>	Not classified as causing organ effects from repeated exposure.
<b>Aspiration</b>	Not relevant.

---

**12. ECOLOGICAL INFORMATION**

---

**12.1 Toxicity**

No information provided.

**12.2 Persistence and degradability**

No information provided.

**12.3 Bioaccumulative potential**

No information provided.

**12.4 Mobility in soil**

No information provided.

**12.5 Other adverse effects**

This product is not anticipated to cause adverse effects to animal or plant life if released to the environment in small quantities. Not expected to bioaccumulate.

---

**13. DISPOSAL CONSIDERATIONS**

---

**13.1 Waste treatment methods**

**Waste disposal** Dispose of to an approved landfill or waste processing site. Contact the manufacturer/supplier for additional information (if required).

**Legislation** Dispose of in accordance with relevant local legislation.

---

**14. TRANSPORT INFORMATION**

---

**NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA**

	<b>LAND TRANSPORT (ADG)</b>	<b>SEA TRANSPORT (IMDG / IMO)</b>	<b>AIR TRANSPORT (IATA / ICAO)</b>
<b>14.1 UN Number</b>	None Allocated	None Allocated	None Allocated
<b>14.2 Proper Shipping Name</b>	None Allocated	None Allocated	None Allocated
<b>14.3 Transport hazard class</b>	None Allocated	None Allocated	None Allocated
<b>14.4 Packing Group</b>	None Allocated	None Allocated	None Allocated

**14.5 Environmental hazards** No information provided

**14.6 Special precautions for user**

**Hazchem code** None Allocated

---

**15. REGULATORY INFORMATION**

---

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**Poison schedule** A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**PRODUCT NAME SODIUM BICARBONATE**

<b>Classifications</b>	Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.  The classifications and phrases listed below are based on the Approved Criteria for Classifying Hazardous Substances [NOHSC: 1008(2004)].
<b>Hazard codes</b>	None allocated.
<b>Risk phrases</b>	None allocated.
<b>Safety phrases</b>	None allocated.
<b>Inventory listing(s)</b>	<b>AUSTRALIA: AICS (Australian Inventory of Chemical Substances)</b> All components are listed on AICS, or are exempt.

---

**16. OTHER INFORMATION**

---

**Additional information**      **PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:**  
The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

**HEALTH EFFECTS FROM EXPOSURE:**  
It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a ChemAlert report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

<b>Abbreviations</b>	ACGIH	American Conference of Governmental Industrial Hygienists
	CAS #	Chemical Abstract Service number - used to uniquely identify chemical compounds
	CNS	Central Nervous System
	EC No.	EC No - European Community Number
	GHS	Globally Harmonized System
	IARC	International Agency for Research on Cancer
	LC50	Lethal Concentration, 50% / Median Lethal Concentration
	LD50	Lethal Dose, 50% / Median Lethal Dose
	mg/m <sup>3</sup>	Milligrams per Cubic Metre
	OEL	Occupational Exposure Limit
	pH	relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
	ppm	Parts Per Million
	STEL	Short-Term Exposure Limit
	STOT-RE	Specific target organ toxicity (repeated exposure)
	STOT-SE	Specific target organ toxicity (single exposure)
	SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons
	SWA	Safe Work Australia
	TLV	Threshold Limit Value
	TWA	Time Weighted Average

**Revision history**

Revision	Description
2.0	Converted to GHS.
1.0	Initial SDS creation

**PRODUCT NAME SODIUM BICARBONATE**

**Report status**

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

**Prepared by**

Risk Management Technologies  
5 Ventnor Ave, West Perth  
Western Australia 6005  
Phone: +61 8 9322 1711  
Fax: +61 8 9322 1794  
Email: [info@rmt.com.au](mailto:info@rmt.com.au)  
Web: [www.rmt.com.au](http://www.rmt.com.au).

**Revision:** 2

**SDS date:** 06 January 2015

**[ End of SDS ]**

---

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

---

### 1.1 Product identifier

**Product name** SODIUM SULPHITE  
**Synonym(s)** SODIUM SULFITE

### 1.2 Uses and uses advised against

**Use(s)** ANTIOXIDANT • FOOD PRESERVATIVE • LABORATORY REAGENT • PAPER INDUSTRY • PHOTOGRAPHIC DEVELOPER • REDUCING AGENT • WATER TREATMENT

### 1.3 Details of the supplier of the product

**Supplier name** NEWPARK DRILLING FLUIDS (AUSTRALIA) LTD  
**Address** 11 Alacrity Place, Henderson, WA, 6166, AUSTRALIA  
**Telephone** +61 8 9410 8200  
**Fax** +61 8 9410 8299  
**Website** [www.newpark.com](http://www.newpark.com)

### 1.4 Emergency telephone number(s)

**Emergency** 1800 127 406 (Australia); +64 3 3530199 (International)

---

## 2. HAZARDS IDENTIFICATION

---

### 2.1 Classification of the substance or mixture

CLASSIFIED AS HAZARDOUS ACCORDING TO AUSTRALIAN WHS REGULATIONS

**GHS classification(s)** Acute Toxicity: Oral: Category 4  
Serious Eye Damage / Eye Irritation: Category 1

### 2.2 Label elements

**Signal word** DANGER

**Pictogram(s)**



**Hazard statement(s)**

H302 Harmful if swallowed.  
H318 Causes serious eye damage.  
AUH031 Contact with acids liberates toxic gas

**Prevention statement(s)**

P264 Wash thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.

**Response statement(s)**

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P310 Immediately call a POISON CENTER or doctor/physician.  
P330 Rinse mouth.

**Storage statement(s)**

None allocated.



**PRODUCT NAME SODIUM SULPHITE****Disposal statement(s)**

P501 Dispose of contents/container in accordance with relevant regulations.

**2.3 Other hazards**

No information provided.

---

**3. COMPOSITION/ INFORMATION ON INGREDIENTS**

---

**3.1 Substances / Mixtures**

Ingredient	CAS Number	EC Number	Content
SODIUM SULPHITE	7757-83-7	231-821-4	>97%
SODIUM SULPHATE	7757-82-6	231-820-9	<2.5%
SODIUM CARBONATE	497-19-8	207-838-8	<0.1%
WATER	7732-18-5	231-791-2	<0.1%

---

**4. FIRST AID MEASURES**

---

**4.1 Description of first aid measures**

<b>Eye</b>	If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.
<b>Inhalation</b>	If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.
<b>Skin</b>	If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.
<b>Ingestion</b>	For advice, contact a Poison Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). Urgent hospital treatment is likely to be needed. If swallowed, do not induce vomiting.
<b>First aid facilities</b>	Eye wash facilities and safety shower are recommended.

**4.2 Most important symptoms and effects, both acute and delayed**

See Section 11 for more detailed information on health effects and symptoms.

**4.3 Immediate medical attention and special treatment needed**

Treat symptomatically.

---

**5. FIRE FIGHTING MEASURES**

---

**5.1 Extinguishing media**

Use an extinguishing agent suitable for the surrounding fire.

**5.2 Special hazards arising from the substance or mixture**

Non flammable. May evolve toxic gases (sulphur oxides) when heated to decomposition.

**5.3 Advice for firefighters**

Evacuate area and contact emergency services. Toxic gases may be evolved in a fire situation. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire.

**5.4 Hazchem code**

None allocated.

---

**6. ACCIDENTAL RELEASE MEASURES**

---

**6.1 Personal precautions, protective equipment and emergency procedures**

Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. Clear area of all unprotected personnel. Contact emergency services where appropriate.

**6.2 Environmental precautions**

Prevent product from entering drains and waterways.

**6.3 Methods of cleaning up**

Contain spillage, then collect and place in suitable containers for reuse or disposal. Avoid generating dust.

**PRODUCT NAME SODIUM SULPHITE**

**6.4 Reference to other sections**

See Sections 8 and 13 for exposure controls and disposal.

---

**7. HANDLING AND STORAGE**

---

**7.1 Precautions for safe handling**

Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

**7.2 Conditions for safe storage, including any incompatibilities**

Store in a cool, dry, well ventilated area, removed from incompatible substances and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use. Check regularly for leaks or spills.

**7.3 Specific end use(s)**

No information provided.

---

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

---

**8.1 Control parameters**

**Exposure standards**

Ingredient	Reference	TWA		STEL	
		ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>
Sodium Carbonate (total dust)	SWA (AUS)	--	10	--	--

**Biological limits**

No biological limit values have been entered for this product.

**8.2 Exposure controls**

**Engineering controls** Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical extraction ventilation is recommended.

**PPE**

- Eye / Face** Wear dust-proof goggles.
- Hands** Wear PVC or rubber gloves.
- Body** When using large quantities or where heavy contamination is likely, wear coveralls.
- Respiratory** Where an inhalation risk exists, wear a Class P1 (Particulate) respirator. At high dust levels, wear a Full-face Class P3 (Particulate) respirator.



---

**9. PHYSICAL AND CHEMICAL PROPERTIES**

---

**9.1 Information on basic physical and chemical properties**

<b>Appearance</b>	WHITE CRYSTALLINE SOLID
<b>Odour</b>	ODOURLESS
<b>Flammability</b>	NON FLAMMABLE
<b>Flash point</b>	NOT RELEVANT
<b>Boiling point</b>	NOT AVAILABLE
<b>Melting point</b>	NOT AVAILABLE
<b>Evaporation rate</b>	NOT AVAILABLE
<b>pH</b>	9.0 to 10.5
<b>Vapour density</b>	NOT AVAILABLE
<b>Specific gravity</b>	2.6
<b>Solubility (water)</b>	SOLUBLE
<b>Vapour pressure</b>	NOT AVAILABLE
<b>Upper explosion limit</b>	NOT RELEVANT

**PRODUCT NAME SODIUM SULPHITE****9.1 Information on basic physical and chemical properties**

Lower explosion limit	NOT RELEVANT
Partition coefficient	NOT AVAILABLE
Autoignition temperature	NOT AVAILABLE
Decomposition temperature	NOT AVAILABLE
Viscosity	NOT AVAILABLE
Explosive properties	NOT AVAILABLE
Oxidising properties	NOT AVAILABLE
Odour threshold	NOT AVAILABLE

**10. STABILITY AND REACTIVITY****10.1 Reactivity**

Contact with acids liberates toxic gas.

**10.2 Chemical stability**

Stable under recommended conditions of storage.

**10.3 Possibility of hazardous reactions**

Polymerization is not expected to occur.

**10.4 Conditions to avoid**

Avoid heat, sparks, open flames and other ignition sources. Sensitive to air and moisture.

**10.5 Incompatible materials**

Incompatible with oxidising agents (e.g. hypochlorites) and acids (e.g. nitric acid).

**10.6 Hazardous decomposition products**

May evolve toxic gases (sulphur oxides) when heated to decomposition.

**11. TOXICOLOGICAL INFORMATION****11.1 Information on toxicological effects**

**Acute toxicity** Information available for the product:  
Harmful if swallowed.

Information available for the ingredient(s):

Ingredient	Oral Toxicity (LD50)	Dermal Toxicity (LD50)	Inhalation Toxicity (LC50)
SODIUM SULPHITE	820 mg/kg (mouse)	--	--
SODIUM SULPHATE	5989 mg/kg (mouse)	--	--
SODIUM CARBONATE	4090 mg/kg (rat)	> 2000 mg/kg (rabbit)	800 mg/m <sup>3</sup> /2 hours

**Additional ingredient toxicity value(s):****SODIUM SULPHITE (7757-83-7)**

LD50 (intraperitoneal)	950 mg/kg (mouse)
LD50 (intravenous)	175 mg/kg (mouse)
LDLo (intravenous)	400 mg/kg (cat)
LDLo (oral)	2825 mg/kg (rabbit)
LDLo (subcutaneous)	600 mg/kg (rabbit)

**SODIUM SULPHATE (7757-82-6)**

LD50 (intravenous)	1220 mg/kg (rabbit)
LDLo (intravenous)	1220 mg/kg (mouse)
TDLo (oral)	14 g/kg (mouse - 8-12 days pregnant)
TDLo (subcutaneous)	806 mg/kg/26 weeks intermittently (mouse)

**SODIUM CARBONATE (497-19-8)**

LD50 (intraperitoneal)	117 mg/kg (mouse)
LD50 (subcutaneous)	2210 mg/kg (mouse)

**Skin** Not classified as a skin irritant. Contact may result in mild irritation, redness, rash and dermatitis.

**Eye** Causes serious eye damage. Contact may result in irritation, lacrimation, pain and redness.

**PRODUCT NAME SODIUM SULPHITE**

<b>Sensitisation</b>	Not classified as causing skin or respiratory sensitisation. Some individuals are hypersensitive to sulphites, and may experience asthma like symptoms (wheezing and shortness of breath) immediately following exposure.
<b>Mutagenicity</b>	Not classified as a mutagen.
<b>Carcinogenicity</b>	Not classified as a carcinogen.
<b>Reproductive</b>	Not classified as a reproductive toxin.
<b>STOT – single exposure</b>	Over exposure may result in mucous membrane irritation of the respiratory tract, with coughing.
<b>STOT – repeated exposure</b>	Not classified as causing organ damage from repeated exposure.
<b>Aspiration</b>	Not classified as causing aspiration.

---

**12. ECOLOGICAL INFORMATION**

---

**12.1 Toxicity**

No information provided.

**12.2 Persistence and degradability**

Biodegradability does not pertain to inorganic substances.

**12.3 Bioaccumulative potential**

This product does not bioaccumulate.

**12.4 Mobility in soil**

No information provided.

**12.5 Other adverse effects**

No information provided.

---

**13. DISPOSAL CONSIDERATIONS**

---

**13.1 Waste treatment methods**

<b>Waste disposal</b>	Cover spill with soda ash or sodium bicarbonate. Mix and spray with water, may be effervescent. Wait until reaction is complete, scoop into a large beaker and cautiously add equal volume of sodium hypochlorite (reaction may be vigorous). Add more water, stir and allow to stand (~1hr). Dilute and neutralise. Absorb with sand/similar dispose of to an approved landfill site, or alternatively (for small amounts) flush to sewer with large excess of water.
<b>Legislation</b>	Dispose of in accordance with relevant local legislation.

---

**14. TRANSPORT INFORMATION**

---

**NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA**

	<b>LAND TRANSPORT (ADG)</b>	<b>SEA TRANSPORT (IMDG / IMO)</b>	<b>AIR TRANSPORT (IATA / ICAO)</b>
<b>14.1 UN Number</b>	None Allocated	None Allocated	None Allocated
<b>14.2 Proper Shipping Name</b>	None Allocated	None Allocated	None Allocated
<b>14.3 Transport Hazard Class</b>	None Allocated	None Allocated	None Allocated
<b>14.4 Packing Group</b>	None Allocated	None Allocated	None Allocated

**14.5 Environmental hazards** No information provided

**14.6 Special precautions for user**

**Hazchem code** None Allocated

---

**15. REGULATORY INFORMATION**

---

## PRODUCT NAME SODIUM SULPHITE

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

<b>Poison schedule</b>	A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).	
<b>Classifications</b>	Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.  The classifications and phrases listed below are based on the Approved Criteria for Classifying Hazardous Substances [NOHSC: 1008(2004)].	
<b>Hazard codes</b>	T	Toxic
	Xi	Irritant
	Xn	Harmful
<b>Risk phrases</b>	R22	Harmful if swallowed.
	R31	Contact with acids liberates toxic gas.
	R41	Risk of serious damage to eyes.
<b>Safety phrases</b>	S25	Avoid contact with eyes.
	S46	If swallowed, contact a doctor or Poisons Information Centre immediately and show container or label.
<b>Inventory listing(s)</b>	<b>AUSTRALIA: AICS (Australian Inventory of Chemical Substances)</b> All components are listed on AICS, or are exempt.	

---

## 16. OTHER INFORMATION

---

<b>Additional information</b>	<p><b>RESPIRATORS:</b> In general the use of respirators should be limited and engineering controls employed to avoid exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.</p> <p><b>WORKPLACE CONTROLS AND PRACTICES:</b> Unless a less toxic chemical can be substituted for a hazardous substance, <b>ENGINEERING CONTROLS</b> are the most effective way of reducing exposure. The best protection is to enclose operations and/or provide local exhaust ventilation at the site of chemical release. Isolating operations can also reduce exposure. Using respirators or protective equipment is less effective than the controls mentioned above, but is sometimes necessary.</p> <p><b>PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:</b> The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.</p> <p><b>HEALTH EFFECTS FROM EXPOSURE:</b> It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.</p>
-------------------------------	---

**PRODUCT NAME SODIUM SULPHITE****Abbreviations**

ACGIH	American Conference of Governmental Industrial Hygienists
CAS #	Chemical Abstract Service number - used to uniquely identify chemical compounds
CNS	Central Nervous System
EC No.	EC No - European Community Number
EMS	Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods)
GHS	Globally Harmonized System
GTEPG	Group Text Emergency Procedure Guide
IARC	International Agency for Research on Cancer
LC50	Lethal Concentration, 50% / Median Lethal Concentration
LD50	Lethal Dose, 50% / Median Lethal Dose
mg/m <sup>3</sup>	Milligrams per Cubic Metre
OEL	Occupational Exposure Limit
pH	relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
ppm	Parts Per Million
STEL	Short-Term Exposure Limit
STOT-RE	Specific target organ toxicity (repeated exposure)
STOT-SE	Specific target organ toxicity (single exposure)
SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons
SWA	Safe Work Australia
TLV	Threshold Limit Value
TWA	Time Weighted Average

**Report status**

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

**Prepared by**

Risk Management Technologies  
5 Ventnor Ave, West Perth  
Western Australia 6005  
Phone: +61 8 9322 1711  
Fax: +61 8 9322 1794  
Email: info@rmt.com.au  
Web: www.rmt.com.au.

**[ End of SDS ]**

---

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

---

### 1.1 Product identifier

**Product name** SPA  
**Synonym(s)** SODIUM POLYACRYLATE

### 1.2 Uses and uses advised against

**Use(s)** DRILLING FLUID ADDITIVE

### 1.3 Details of the supplier of the product

**Supplier name** NEWPARK DRILLING FLUIDS (AUSTRALIA) LTD  
**Address** 11 Alacrity Place, Henderson, WA, 6166, AUSTRALIA  
**Telephone** +61 8 9410 8200  
**Fax** +61 8 9410 8299  
**Website** [www.newpark.com](http://www.newpark.com)

### 1.4 Emergency telephone number(s)

**Emergency** 1800 127 406 (Australia); +64 3 3530199 (International)

---

## 2. HAZARDS IDENTIFICATION

---

### 2.1 Classification of the substance or mixture

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO AUSTRALIAN WHS REGULATIONS

### 2.2 Label elements

No signal word, pictograms, hazard or precautionary statements have been allocated.

### 2.3 Other hazards

No information provided.

---

## 3. COMPOSITION/ INFORMATION ON INGREDIENTS

---

### 3.1 Substances / Mixtures

Ingredient	CAS Number	EC Number	Content
ACRYLATE - ACRYLAMIDE COPOLYMER	-	-	100%

---

## 4. FIRST AID MEASURES

---

### 4.1 Description of first aid measures

**Eye** If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.

**Inhalation** If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.

**Skin** If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water.

**Ingestion** For advice, contact a Poison Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting.

**First aid facilities** Eye wash facilities and safety shower should be available.

### 4.2 Most important symptoms and effects, both acute and delayed

See Section 11 for more detailed information on health effects and symptoms.

**4.3 Immediate medical attention and special treatment needed**

Treat symptomatically.

---

**5. FIRE FIGHTING MEASURES**

---

**5.1 Extinguishing media**

Use an extinguishing agent suitable for the surrounding fire.

**5.2 Special hazards arising from the substance or mixture**

Non flammable. May evolve toxic gases (carbon/ nitrogen oxides, amines, ammonia, hydrocarbons) when heated to decomposition. As with many solids, any dust that is generated may be explosive if mixed with air in critical proportions and in the presence of a source of ignition.

**5.3 Advice for firefighters**

Evacuate area and contact emergency services. Toxic gases may be evolved in a fire situation. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

**5.4 Hazchem code**

None allocated.

---

**6. ACCIDENTAL RELEASE MEASURES**

---

**6.1 Personal precautions, protective equipment and emergency procedures**

Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. Clear area of all unprotected personnel. Contact emergency services where appropriate.

**6.2 Environmental precautions**

Prevent product from entering drains and waterways.

**6.3 Methods of cleaning up**

Contain spillage, then collect and place in suitable containers for reuse or disposal. Avoid generating dust.

**6.4 Reference to other sections**

See Sections 8 and 13 for exposure controls and disposal.

---

**7. HANDLING AND STORAGE**

---

**7.1 Precautions for safe handling**

Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

**7.2 Conditions for safe storage, including any incompatibilities**

Store in a cool, dry, well ventilated area, removed from incompatible substances and foodstuffs. Ensure containers are adequately labelled and tightly closed when not in use.

**7.3 Specific end use(s)**

No information provided.

---

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

---

**8.1 Control parameters**

**Exposure standards**

Ingredient	Reference	TWA		STEL	
		ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>
Acrylamide	SWA (AUS)	--	0.03	--	--

**Biological limits** No Biological Limit Value allocated.



### 8.2 Exposure controls

**Engineering controls** Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical extraction ventilation is recommended.

### PPE

- Eye / Face** Wear dust-proof goggles.  
**Hands** Wear PVC or rubber gloves.  
**Body** When using large quantities or where heavy contamination is likely, wear coveralls.  
**Respiratory** Where an inhalation risk exists, wear a Class P1 (Particulate) respirator.



---

## 9. PHYSICAL AND CHEMICAL PROPERTIES

---

### 9.1 Information on basic physical and chemical properties

<b>Appearance</b>	CREAM GRANULAR SOLID
<b>Odour</b>	SLIGHT ODOUR
<b>Flammability</b>	NON FLAMMABLE
<b>Flash point</b>	NOT RELEVANT
<b>Boiling point</b>	NOT AVAILABLE
<b>Melting point</b>	NOT AVAILABLE
<b>Evaporation rate</b>	NOT AVAILABLE
<b>pH</b>	NOT AVAILABLE
<b>Vapour density</b>	NOT AVAILABLE
<b>Specific gravity</b>	0.8
<b>Solubility (water)</b>	10 g/L
<b>Vapour pressure</b>	NOT AVAILABLE
<b>Upper explosion limit</b>	NOT RELEVANT
<b>Lower explosion limit</b>	NOT RELEVANT
<b>Partition coefficient</b>	NOT AVAILABLE
<b>Autoignition temperature</b>	NOT AVAILABLE
<b>Decomposition temperature</b>	NOT AVAILABLE
<b>Viscosity</b>	NOT AVAILABLE
<b>Explosive properties</b>	NOT AVAILABLE
<b>Oxidising properties</b>	NOT AVAILABLE
<b>Odour threshold</b>	NOT AVAILABLE

### 9.2 Other information

<b>% Volatiles</b>	5 - 10 %
--------------------	----------

---

## 10. STABILITY AND REACTIVITY

---

### 10.1 Reactivity

Carefully review all information provided in sections 10.2 to 10.6.

### 10.2 Chemical stability

Stable under recommended conditions of storage.

### 10.3 Possibility of hazardous reactions

Polymerization is not expected to occur.

### 10.4 Conditions to avoid

Avoid heat, sparks, open flames and other ignition sources.

### 10.5 Incompatible materials

Incompatible with oxidising agents (e.g. hypochlorites) and acids (e.g. nitric acid).

### 10.6 Hazardous decomposition products

May evolve toxic gases (carbon/ nitrogen oxides, amines, ammonia, hydrocarbons) when heated to decomposition.

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

<b>Acute toxicity</b>	<b>Information available for the product:</b> This product is expected to be of low toxicity. Based on available data, the classification criteria are not met.
<b>Skin</b>	Not classified as a skin irritant. Prolonged or repeated contact may result in mild irritation, rash and dermatitis.
<b>Eye</b>	Not classified as an eye irritant. Contact may result in mild irritation, lacrimation and redness.
<b>Sensitization</b>	This product is not known to be a skin or respiratory sensitiser.
<b>Mutagenicity</b>	Insufficient data available to classify as a mutagen.
<b>Carcinogenicity</b>	Insufficient data available to classify as a carcinogen. This product may contain trace amounts of residual acrylamide, which is classified as a probable human carcinogen (IARC Group 2A). However, due to the very low levels present, adverse health effects are not anticipated with normal use.
<b>Reproductive</b>	Insufficient data available to classify as a reproductive toxin.
<b>STOT – single exposure</b>	Not classified as causing organ effects from single exposure.
<b>STOT – repeated exposure</b>	Not classified as causing organ effects from repeated exposure.
<b>Aspiration</b>	This product is not classified as causing aspiration.

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

(10000 ppm test concentration) (EPA-821-R-02-012) Mysidopsis Bahia = 48HR LC50 = 16.2 mg/L. Menidia Beryllina = 48hr LC50 = 34.2 mg/L. Scophthalmus Maximus = 96hr LC50 > 1000 mg/L. Skeletonemia Costatum = 72hr EC50 = 393 mg/L [NOEC = 118 mg/L] Acartia Tonsa = 48hr EC50 = 393 mg/L [NOEC = 112 mg/L] Corophium Volutator = 10 day LC50 = 9338 mg/Kg [NOEC = 1000 mg/Kg]

### 12.2 Persistence and degradability

No information provided.

### 12.3 Bioaccumulative potential

No information provided.

### 12.4 Mobility in soil

No information provided.

### 12.5 Other adverse effects

No information provided.

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

<b>Waste disposal</b>	Dispose of to an approved landfill or waste processing site. Contact the manufacturer/supplier for additional information (if required).
<b>Legislation</b>	Dispose of in accordance with relevant local legislation.

## 14. TRANSPORT INFORMATION

NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA

	LAND TRANSPORT (ADG)	SEA TRANSPORT (IMDG / IMO)	AIR TRANSPORT (IATA / ICAO)
<b>14.1 UN Number</b>	None Allocated	None Allocated	None Allocated
<b>14.2 Proper Shipping Name</b>	None Allocated	None Allocated	None Allocated
<b>14.3 Transport hazard class</b>	None Allocated	None Allocated	None Allocated
<b>14.4 Packing Group</b>	None Allocated	None Allocated	None Allocated

**14.5 Environmental hazards** No information provided

**14.6 Special precautions for user**

Hazchem code None Allocated

---

## 15. REGULATORY INFORMATION

---

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**Poison schedule** A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**Classifications** Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

The classifications and phrases listed below are based on the Approved Criteria for Classifying Hazardous Substances [NOHSC: 1008(2004)].

**Hazard codes** None allocated.

**Risk phrases** None allocated.

**Safety phrases** None allocated.

**Inventory listing(s)** **AUSTRALIA: AICS (Australian Inventory of Chemical Substances)**  
All components are listed on AICS, or are exempt.

---

## 16. OTHER INFORMATION

---

**Additional information** ACRYLIC - ACRYLAMIDE RESINS: These resins are generally of low toxicity. Toxicity increases with presence of significant concentrations of acrylic - acrylamide monomers. These monomers have been linked with the development of skin sensitisation.

RESPIRATORS: In general the use of respirators should be limited and engineering controls employed to avoid exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:  
The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

HEALTH EFFECTS FROM EXPOSURE:  
It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a ChemAlert report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

**Abbreviations**

ACGIH	American Conference of Governmental Industrial Hygienists
CAS #	Chemical Abstract Service number - used to uniquely identify chemical compounds
CNS	Central Nervous System
EC No.	EC No - European Community Number
EMS	Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods)
GHS	Globally Harmonized System
GTEPG	Group Text Emergency Procedure Guide
IARC	International Agency for Research on Cancer
LC50	Lethal Concentration, 50% / Median Lethal Concentration
LD50	Lethal Dose, 50% / Median Lethal Dose
mg/m <sup>3</sup>	Milligrams per Cubic Metre
OEL	Occupational Exposure Limit
pH	relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
ppm	Parts Per Million
STEL	Short-Term Exposure Limit
STOT-RE	Specific target organ toxicity (repeated exposure)
STOT-SE	Specific target organ toxicity (single exposure)
SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons
SWA	Safe Work Australia
TLV	Threshold Limit Value
TWA	Time Weighted Average

**Report status**

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

**Prepared by**

Risk Management Technologies  
5 Ventnor Ave, West Perth  
Western Australia 6005  
Phone: +61 8 9322 1711  
Fax: +61 8 9322 1794  
Email: info@rmt.com.au  
Web: www.rmt.com.au.

**[ End of SDS ]**

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

### 1.1 Product identifier

**Product name** STRATA-VANGUARD  
**Synonym(s)** STRATA VANGUARD

### 1.2 Uses and uses advised against

**Use(s)** DRILLING FLUID ADDITIVE

### 1.3 Details of the supplier of the product

**Supplier name** NEWPARK DRILLING FLUIDS (AUSTRALIA) LTD  
**Address** 11 Alacrity Place, Henderson, WA, 6166, AUSTRALIA  
**Telephone** +61 8 9410 8200  
**Fax** +61 8 9410 8299  
**Website** [www.newpark.com](http://www.newpark.com)

### 1.4 Emergency telephone number(s)

**Emergency** 1800 127 406 (Australia); +64 3 3530199 (International)

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

NOT CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

### 2.2 Label elements

No signal word, pictograms, hazard or precautionary statements have been allocated.

### 2.3 Other hazards

No information provided.

## 3. COMPOSITION/ INFORMATION ON INGREDIENTS

### 3.1 Substances / Mixtures

Ingredient	CAS Number	EC Number	Content
CRISTOBALITE	14464-46-1	238-455-4	<5%
QUARTZ (CRYSTALLINE SILICA)	14808-60-7	238-878-4	<2%
2-PROPENENITRILE-1,3-BUTADIENE RUBBER	9003-18-3	618-357-1	<50%
NATURAL RUBBER	9006-04-6	232-689-0	<50%
POLYISOPRENE	9003-31-0	618-362-9	<50%
SBR ELASTOMERS	9003-55-8	618-370-2	<50%
CELLULOSE	9004-34-6	232-674-9	<30%
DIATOMACEOUS EARTH, FLUX CALCINED	68855-54-9	272-489-0	<15%
FULLERS EARTH	8031-18-3	617-052-0	<10%
LIMESTONE (CALCIUM CARBONATE)	1317-65-3	215-279-6	<10%
POLYETHYLENE	9002-88-4	618-339-3	<3%
MAGNESIUM OXIDE	1309-48-4	215-171-9	<1%

---

## 4. FIRST AID MEASURES

---

### 4.1 Description of first aid measures

<b>Eye</b>	If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.
<b>Inhalation</b>	If inhaled, remove from contaminated area. Apply artificial respiration if not breathing.
<b>Skin</b>	If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.
<b>Ingestion</b>	For advice, contact a Poison Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting.
<b>First aid facilities</b>	No information provided.

### 4.2 Most important symptoms and effects, both acute and delayed

See Section 11 for more detailed information on health effects and symptoms.

### 4.3 Immediate medical attention and special treatment needed

Treat symptomatically.

---

## 5. FIRE FIGHTING MEASURES

---

### 5.1 Extinguishing media

Use an extinguishing agent suitable for the surrounding fire.

### 5.2 Special hazards arising from the substance or mixture

Non flammable. May evolve toxic gases if strongly heated.

### 5.3 Advice for firefighters

No fire or explosion hazard exists.

### 5.4 Hazchem code

None allocated.

---

## 6. ACCIDENTAL RELEASE MEASURES

---

### 6.1 Personal precautions, protective equipment and emergency procedures

Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. Clear area of all unprotected personnel. Contact emergency services where appropriate.

### 6.2 Environmental precautions

Prevent product from entering drains and waterways.

### 6.3 Methods of cleaning up

Contain spillage, then collect and place in suitable containers for reuse or disposal. Avoid generating dust.

### 6.4 Reference to other sections

See Sections 8 and 13 for exposure controls and disposal.

---

## 7. HANDLING AND STORAGE

---

### 7.1 Precautions for safe handling

Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

### 7.2 Conditions for safe storage, including any incompatibilities

Store in a cool, dry, well ventilated area, removed from incompatible substances and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use.

### 7.3 Specific end use(s)

No information provided.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters

#### Exposure standards

Ingredient	Reference	TWA		STEL	
		ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>
Calcium carbonate (Limestone, Marble, Whiting)	SWA (AUS)	--	10	--	--
Cellulose (paper fibre) (a)	SWA (AUS)	--	10	--	--
Cristobalite	SWA (AUS)	--	0.1	--	--
Magnesium oxide (fume)	SWA (AUS)	--	10	--	--
Quartz (respirable dust)	SWA (AUS)	--	0.1	--	--

#### Biological limits

No biological limit values have been entered for this product.

### 8.2 Exposure controls

**Engineering controls** Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical extraction ventilation is recommended. Maintain dust levels below the recommended exposure standard.

#### PPE

- Eye / Face** Wear dust-proof goggles.
- Hands** Wear PVC or rubber gloves.
- Body** When using large quantities or where heavy contamination is likely, wear coveralls.
- Respiratory** Where an inhalation risk exists, wear a Class P1 (Particulate) respirator. At high dust levels, wear a Powered Air Purifying Respirator (PAPR) with Class P3 (Particulate) filter or a Full-face Class P3 (Particulate) respirator.



## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

<b>Appearance</b>	TAN COLOURED POWDER
<b>Odour</b>	MILD ODOUR
<b>Flammability</b>	NON FLAMMABLE
<b>Flash point</b>	NOT AVAILABLE
<b>Boiling point</b>	NOT AVAILABLE
<b>Melting point</b>	NOT AVAILABLE
<b>Evaporation rate</b>	NOT AVAILABLE
<b>pH</b>	6.3 (5% Suspension)
<b>Vapour density</b>	NOT AVAILABLE
<b>Specific gravity</b>	2.1
<b>Solubility (water)</b>	INSOLUBLE
<b>Vapour pressure</b>	1 mm Hg @ 20°C
<b>Upper explosion limit</b>	NOT AVAILABLE
<b>Lower explosion limit</b>	NOT AVAILABLE
<b>Partition coefficient</b>	NOT AVAILABLE
<b>Autoignition temperature</b>	NOT AVAILABLE
<b>Decomposition temperature</b>	NOT AVAILABLE
<b>Viscosity</b>	NOT AVAILABLE
<b>Explosive properties</b>	NOT AVAILABLE
<b>Oxidising properties</b>	NOT AVAILABLE
<b>Odour threshold</b>	NOT AVAILABLE

### 9.2 Other information

<b>% Volatiles</b>	NOT AVAILABLE
--------------------	---------------

---

## 10. STABILITY AND REACTIVITY

---

### 10.1 Reactivity

Carefully review all information provided in sections 10.2 to 10.6.

### 10.2 Chemical stability

Stable under recommended conditions of storage.

### 10.3 Possibility of hazardous reactions

Polymerization is not expected to occur.

### 10.4 Conditions to avoid

Avoid contact with incompatible substances.

### 10.5 Incompatible materials

Incompatible with acids (e.g. nitric acid). Also incompatible with oxygen difluoride, chlorine and trifluoride.

### 10.6 Hazardous decomposition products

May evolve toxic gases if heated to decomposition.

---

## 11. TOXICOLOGICAL INFORMATION

---

### 11.1 Information on toxicological effects

<b>Acute toxicity</b>	No known toxicological effects from this product. Based on available data, the classification criteria are not met.
<b>Skin</b>	Not classified as a skin irritant. Contact may result in mechanical irritation.
<b>Eye</b>	Not classified as an eye irritant. Contact may result in mechanical irritation.
<b>Sensitization</b>	This product is not known to be a skin or respiratory sensitiser.
<b>Mutagenicity</b>	No evidence of mutagenic effects.
<b>Carcinogenicity</b>	Crystalline silica is classified as carcinogenic to humans (IARC Group 1). However, there is insufficient respirable silica in this product to be classified as a carcinogen.
<b>Reproductive</b>	No evidence of reproductive effects.
<b>STOT – single exposure</b>	No known effects from this product.
<b>STOT – repeated exposure</b>	Adverse health effects associated with silica, such as the development of silicosis (lung fibrosis), is not anticipated unless chronic (i.e. prolonged and repeated) exposure to silica quartz dust occurs.
<b>Aspiration</b>	This product does not present an aspiration hazard.

---

## 12. ECOLOGICAL INFORMATION

---

### 12.1 Toxicity

This product is not anticipated to cause adverse effects to animal or plant life if released to the environment in small quantities.

### 12.2 Persistence and degradability

Not applicable.

### 12.3 Bioaccumulative potential

This product is not expected to bioaccumulate.

### 12.4 Mobility in soil

This product has low mobility in soil.

### 12.5 Other adverse effects

No information provided.

---

## 13. DISPOSAL CONSIDERATIONS

---

### 13.1 Waste treatment methods

**Waste disposal** Ensure product is covered with moist soil to prevent dust generation and dispose of to approved Council landfill. Contact the manufacturer/supplier for additional information (if required).



Legislation Dispose of in accordance with relevant local legislation.

## 14. TRANSPORT INFORMATION

### NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA

	LAND TRANSPORT (ADG)	SEA TRANSPORT (IMDG / IMO)	AIR TRANSPORT (IATA / ICAO)
14.1 UN Number	None Allocated	None Allocated	None Allocated
14.2 Proper Shipping Name	None Allocated	None Allocated	None Allocated
14.3 Transport hazard class	None Allocated	None Allocated	None Allocated
14.4 Packing Group	None Allocated	None Allocated	None Allocated

14.5 Environmental hazards No information provided

### 14.6 Special precautions for user

Hazchem code None Allocated

## 15. REGULATORY INFORMATION

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

**Poison schedule** A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**Classifications** Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

The classifications and phrases listed below are based on the Approved Criteria for Classifying Hazardous Substances [NOHSC: 1008(2004)].

**Hazard codes** None allocated.

**Risk phrases** None allocated.

**Safety phrases** None allocated.

**Inventory listing(s)** **AUSTRALIA: AICS (Australian Inventory of Chemical Substances)**  
All components are listed on AICS, or are exempt.

## 16. OTHER INFORMATION

**Additional information** RESPIRATORS: In general the use of respirators should be limited and engineering controls employed to avoid exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.

### PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:

The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

### HEALTH EFFECTS FROM EXPOSURE:

It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a ChemAlert report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

**PRODUCT NAME STRATA-VANGUARD****Abbreviations**

ACGIH	American Conference of Governmental Industrial Hygienists
CAS #	Chemical Abstract Service number - used to uniquely identify chemical compounds
CNS	Central Nervous System
EC No.	EC No - European Community Number
GHS	Globally Harmonized System
IARC	International Agency for Research on Cancer
LC50	Lethal Concentration, 50% / Median Lethal Concentration
LD50	Lethal Dose, 50% / Median Lethal Dose
mg/m <sup>3</sup>	Milligrams per Cubic Metre
OEL	Occupational Exposure Limit
pH	relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
ppm	Parts Per Million
STEL	Short-Term Exposure Limit
STOT-RE	Specific target organ toxicity (repeated exposure)
STOT-SE	Specific target organ toxicity (single exposure)
SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons
SWA	Safe Work Australia
TLV	Threshold Limit Value
TWA	Time Weighted Average

**Revision history**

Revision	Description
2.0	Converted to GHS.
1.3	Standard SDS Review.
1.0	Initial SDS creation

**Report status**

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

**Prepared by**

Risk Management Technologies  
5 Ventnor Ave, West Perth  
Western Australia 6005  
Phone: +61 8 9322 1711  
Fax: +61 8 9322 1794  
Email: info@rmt.com.au  
Web: www.rmt.com.au.

**Revision:** 2  
**SDS date:** 06 January 2015

**[ End of SDS ]**

---

## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

---

### 1.1 Product identifier

**Product name** TRIETHANOLAMINE  
**Synonym(s)** RHEOCHEM TRIETHANOLAMINE

### 1.2 Uses and uses advised against

**Use(s)** CHEMICAL INTERMEDIATE • LABORATORY REAGENT • SOLVENT

### 1.3 Details of the supplier of the product

**Supplier name** NEWPARK DRILLING FLUIDS (AUSTRALIA) LTD  
**Address** 11 Alacrity Place, Henderson, WA, 6166, AUSTRALIA  
**Telephone** +61 8 9410 8200  
**Fax** +61 8 9410 8299  
**Website** [www.newpark.com](http://www.newpark.com)

### 1.4 Emergency telephone number(s)

**Emergency** 1800 127 406 (Australia); +64 3 3530199 (International)

---

## 2. HAZARDS IDENTIFICATION

---

### 2.1 Classification of the substance or mixture

CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

**GHS classification** Serious Eye Damage / Eye Irritation: Category 1  
Specific Target Organ Systemic Toxicity (Repeated Exposure): Category 2

### 2.2 Label elements

**Signal word** DANGER

**Pictograms**



### Hazard statement(s)

H318 Causes serious eye damage.  
H373 May cause damage to organs through prolonged or repeated exposure.

### Prevention statement(s)

P260 Do not breathe dust/fume/gas/mist/vapours/spray.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.

### Response statement(s)

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P310 Immediately call a POISON CENTRE or doctor/physician.  
P314 Get medical advice/attention if you feel unwell.

### Storage statement(s)

None allocated.

### Disposal statement(s)

P501 Dispose of contents/container in accordance with relevant regulations.

**2.3 Other hazards**

No information provided.

**3. COMPOSITION/ INFORMATION ON INGREDIENTS**

**3.1 Substances / Mixtures**

Ingredient	Identification	Classification		Content
		GHS	Risk	
TRIETHANOLAMINE	CAS: 102-71-6 EC: 203-049-8	Not Available	Not Available	>60%
DIETHANOLAMINE	CAS: 111-42-2 EC: 203-868-0	Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 STOT RE 2, H373	Xn;R22, Xi;R38, Xi;R41, Xn;R48/22	10 to <30%
ETHANOLAMINE	CAS: 141-43-5 EC: 205-483-3	Acute Tox. 4, H302 Acute Tox. 4, H312 Skin Corr. 1B, H314 Acute Tox. 4, H332	Xn;R20/21/22, C;R34	<10%

**4. FIRST AID MEASURES**

**4.1 Description of first aid measures**

<b>Eye</b>	If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes.
<b>Inhalation</b>	If inhaled, remove from contaminated area. To protect rescuer, use a Type A (Organic vapour) respirator or an Air-line respirator (in poorly ventilated areas). Apply artificial respiration if not breathing.
<b>Skin</b>	If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor.
<b>Ingestion</b>	For advice, contact a Poison Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting. Rinse mouth out with water and give plenty of water to drink.
<b>First aid facilities</b>	No information provided.

**4.2 Most important symptoms and effects, both acute and delayed**

Over exposure may result in irritation to the eyes, nose and respiratory system. May cause allergic contact dermatitis.

**4.3 Immediate medical attention and special treatment needed**

Treat symptomatically.

**5. FIRE FIGHTING MEASURES**

**5.1 Extinguishing media**

Dry agent, carbon dioxide, foam or water fog. Prevent contamination of drains or waterways.

**5.2 Special hazards arising from the substance or mixture**

Combustible. May evolve toxic gases (carbon/ nitrogen oxides, amines, ammonia, hydrocarbons) when heated to decomposition.

**5.3 Advice for firefighters**

Evacuate area and contact emergency services. Toxic gases may be evolved in a fire situation. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

**5.4 Hazchem code**

None allocated.

**6. ACCIDENTAL RELEASE MEASURES**

**6.1 Personal precautions, protective equipment and emergency procedures**

Wear Personal Protective Equipment (PPE) as detailed in Section 8. Clear area of all unprotected personnel. Ventilate area where possible. Contact emergency services where appropriate.

## PRODUCT NAME TRIETHANOLAMINE

### 6.2 Environmental precautions

Prevent product from entering drains and waterways.

### 6.3 Methods of cleaning up

Contain spillage, then cover/absorb spill with non-combustible absorbent material (vermiculite, sand, or similar), collect and place in suitable containers for disposal.

### 6.4 Reference to other sections

See Sections 8 and 13 for exposure controls and disposal.

---

## 7. HANDLING AND STORAGE

---

### 7.1 Precautions for safe handling

Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

### 7.2 Conditions for safe storage, including any incompatibilities

Store in a cool, dry, well ventilated area, removed from incompatible substances, heat or ignition sources and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use. Check regularly for leaks or spills. Store as a Class C2 Combustible Liquid (AS1940).

### 7.3 Specific end use(s)

No information provided.

---

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

---

### 8.1 Control parameters

#### Exposure standards

Ingredient	Reference	TWA		STEL	
		ppm	mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>
Diethanolamine (h)	SWA (AUS)	3	13	--	--
Ethanolamine	SWA (AUS)	3	7.5	6	15
Triethanolamine	SWA (AUS)	--	5	--	--

### Biological limits

No biological limit values have been entered for this product.

### 8.2 Exposure controls

**Engineering controls** Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical extraction ventilation is recommended. Maintain vapour levels below the recommended exposure standard.

### PPE

<b>Eye / Face</b>	Wear splash-proof goggles.
<b>Hands</b>	Wear PVC or rubber gloves.
<b>Body</b>	Wear coveralls.
<b>Respiratory</b>	Where an inhalation risk exists, wear a Type A (Organic vapour) respirator. If spraying, wear a Type A-Class P1 (Organic gases/vapours and Particulate) respirator.



---

## 9. PHYSICAL AND CHEMICAL PROPERTIES

---

### 9.1 Information on basic physical and chemical properties

<b>Appearance</b>	CLEAR LIQUID
<b>Odour</b>	MILD AMMONIACAL ODOUR
<b>Flammability</b>	CLASS C2 COMBUSTIBLE
<b>Flash point</b>	190°C

**9.1 Information on basic physical and chemical properties**

<b>Boiling point</b>	335°C
<b>Melting point</b>	12°C
<b>Evaporation rate</b>	< 0.01 (n-Butyl acetate = 1)
<b>pH</b>	10.5 (1 % Solution)
<b>Vapour density</b>	4.80 (Air = 1)
<b>Specific gravity</b>	1.12
<b>Solubility (water)</b>	SOLUBLE
<b>Vapour pressure</b>	< 1 kPa @ 20°C
<b>Upper explosion limit</b>	NOT AVAILABLE
<b>Lower explosion limit</b>	NOT AVAILABLE
<b>Partition coefficient</b>	NOT AVAILABLE
<b>Autoignition temperature</b>	375°C
<b>Decomposition temperature</b>	NOT AVAILABLE
<b>Viscosity</b>	450 cP @ 25°C
<b>Explosive properties</b>	NOT AVAILABLE
<b>Oxidising properties</b>	NOT AVAILABLE
<b>Odour threshold</b>	NOT AVAILABLE

**9.2 Other information**

<b>% Volatiles</b>	NOT AVAILABLE
--------------------	---------------

**10. STABILITY AND REACTIVITY**

**10.1 Reactivity**

Carefully review all information provided in sections 10.2 to 10.6.

**10.2 Chemical stability**

Stable under recommended conditions of storage.

**10.3 Possibility of hazardous reactions**

Hazardous polymerization is not expected to occur.

**10.4 Conditions to avoid**

Avoid heat, sparks, open flames and other ignition sources.

**10.5 Incompatible materials**

Incompatible with oxidising agents (eg. hypochlorites), acids (eg. nitric acid), nitrites, heat and ignition sources. Also incompatible with organic anhydrides, isocyanates, vinyl acetate, acrylates, substituted allyls, alkylene oxides, epichlorohydrin, aldehydes, copper, brass and aluminium.

**10.6 Hazardous decomposition products**

May evolve toxic gases (carbon/ nitrogen oxides, amines, ammonia, hydrocarbons) when heated to decomposition.

**11. TOXICOLOGICAL INFORMATION**

**11.1 Information on toxicological effects**

<b>Acute toxicity</b>	May be harmful if swallowed, in contact with skin, and/or if inhaled. LD50 (oral) = 2200 mg/kg (rabbit).
<b>Skin</b>	Contact may result in mild irritation, redness, pain and rash.
<b>Eye</b>	Contact may result in irritation, lacrimation, pain and redness. May result in burns with prolonged contact.
<b>Sensitization</b>	Triethanolamine has been reported to cause allergic contact dermatitis in humans. It is not known to cause respiratory sensitisation.
<b>Mutagenicity</b>	Insufficient data available to classify as a mutagen.
<b>Carcinogenicity</b>	Triethanolamine and diethanolamine are not classifiable as to carcinogenicity to humans (IARC Group 3).
<b>Reproductive</b>	Insufficient data available to classify as a reproductive toxin.
<b>STOT – single exposure</b>	Over exposure may result in irritation of the nose and throat, with coughing. High level exposure may result in breathing difficulties.
<b>STOT – repeated exposure</b>	Diethanolamine may cause damage to organs (liver) through prolonged and repeated exposure.
<b>Aspiration</b>	This product is not expected to present an aspiration hazard.

## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

No information provided.

### 12.2 Persistence and degradability

The substance is expected to be readily biodegradable according to the AS 4351 Part 2 test method.

### 12.3 Bioaccumulative potential

No information provided.

### 12.4 Mobility in soil

No information provided.

### 12.5 Other adverse effects

In soil and water, triethanolamine will biodegrade fairly rapidly following acclimation (half-life in the order of days to weeks). In soil, residual triethanolamine may leach to groundwater. LC50 (shrimp): > 100 ppm.

## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

**Waste disposal** Reduce with sodium thiosulphate/ bisulphite (not strong reducing agent), acidify with 3M sulphuric acid. Scoop into a container of water and neutralise with soda ash. Absorb with sand or similar and dispose of to approved landfill site. Contact the manufacturer for additional information.

**Legislation** Dispose of in accordance with relevant local legislation.

## 14. TRANSPORT INFORMATION

NOT CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE, IMDG OR IATA

	LAND TRANSPORT (ADG)	SEA TRANSPORT (IMDG / IMO)	AIR TRANSPORT (IATA / ICAO)
14.1 UN Number	None Allocated	None Allocated	None Allocated
14.2 Proper Shipping Name	None Allocated	None Allocated	None Allocated
14.3 Transport hazard class	None Allocated	None Allocated	None Allocated
14.4 Packing Group	None Allocated	None Allocated	None Allocated

14.5 Environmental hazards No information provided

### 14.6 Special precautions for user

Hazchem code None Allocated

## 15. REGULATORY INFORMATION

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

**Poison schedule** Classified as a Schedule 5 (S5) Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP).

**Classifications** Safework Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals.

The classifications and phrases listed below are based on the Approved Criteria for Classifying Hazardous Substances [NOHSC: 1008(2004)].

**Hazard codes** Xi Irritant  
Xn Harmful

**Risk phrases** R41 Risk of serious damage to eyes.  
R48/22 Harmful: danger of serious damage to health by prolonged exposure if swallowed.

**Safety phrases** S25 Avoid contact with eyes.  
S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice  
S39 Wear eye/face protection.

**PRODUCT NAME TRIETHANOLAMINE**

**Inventory listing(s)** **AUSTRALIA: AICS (Australian Inventory of Chemical Substances)**  
All components are listed on AICS, or are exempt.

---

**16. OTHER INFORMATION**

---

**Additional information**

**RESPIRATORS:** In general the use of respirators should be limited and engineering controls employed to avoid exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.

**PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:**

The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

**HEALTH EFFECTS FROM EXPOSURE:**

It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a ChemAlert report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

**Abbreviations**

ACGIH	American Conference of Governmental Industrial Hygienists
CAS #	Chemical Abstract Service number - used to uniquely identify chemical compounds
CNS	Central Nervous System
EC No.	EC No - European Community Number
GHS	Globally Harmonized System
IARC	International Agency for Research on Cancer
LC50	Lethal Concentration, 50% / Median Lethal Concentration
LD50	Lethal Dose, 50% / Median Lethal Dose
mg/m <sup>3</sup>	Milligrams per Cubic Metre
OEL	Occupational Exposure Limit
PEL	Permissible Exposure Limit
pH	relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline).
ppm	Parts Per Million
REACH	Regulation on Registration, Evaluation, Authorisation and Restriction of Chemicals
STEL	Short-Term Exposure Limit
STOT-RE	Specific target organ toxicity (repeated exposure)
STOT-SE	Specific target organ toxicity (single exposure)
SUSMP	Standard for the Uniform Scheduling of Medicines and Poisons
SWA	Safe Work Australia
TLV	Threshold Limit Value
TWA	Time Weighted Average

**Revision history**

Revision	Description
2.0	Converted to GHS.
1.0	Initial SDS creation



**PRODUCT NAME TRIETHANOLAMINE**

**Report status**

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

**Prepared by**

Risk Management Technologies  
5 Ventnor Ave, West Perth  
Western Australia 6005  
Phone: +61 8 9322 1711  
Fax: +61 8 9322 1794  
Email: info@rmt.com.au  
Web: www.rmt.com.au.

**Revision: 2**

**SDS date: 25 July 2014**

**[ End of SDS ]**

## SAFETY DATA SHEET

### BARITE

Revision Date: 08-Jan-2019

Revision Number: 53

#### 1. Product Identifier & Identity for the Chemical

**Statement of Hazardous Nature** Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

##### 1.1. Product Identifier

**Product Name** BARITE

##### Other means of Identification

**Synonyms** None  
**Hazardous Material Number:** HM000105

##### Recommended use of the chemical and restrictions on use

**Recommended Use** Weight Additive  
**Uses advised against** No information available

##### Supplier's name, address and phone number

**Manufacturer/Supplier** Halliburton Australia Pty. Ltd.  
15 Marriott Road, Jandakot, WA 6164  
Australia  
ACN Number: 009 000 775  
Telephone Number: + 61 1 800 686 951  
Fax Number: 61 (08) 9455 5300  
**E-mail Address** fdunexchem@halliburton.com

##### Emergency phone number

+ 61 1 800 686 951  
Global Incident Response Access Code: 334305  
Contract Number: 14012

##### Australian Poisons Information Centre

24 Hour Service: - 13 11 26  
Police or Fire Brigade: - 000 (exchange): - 1100

#### 2. Hazard Identification

**Statement of Hazardous Nature** Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

##### Classification of the hazardous chemical

Carcinogenicity	Category 1A - H350
Specific Target Organ Toxicity - (Repeated Exposure)	Category 2 - H373

##### Label elements, including precautionary statements

##### Hazard Pictograms



**Signal Word** DANGER

**Hazard Statements:** H373 - May cause damage to organs through prolonged or repeated exposure if inhaled  
H350i - May cause cancer by inhalation

**Precautionary Statements**

**Prevention** P201 - Obtain special instructions before use  
P202 - Do not handle until all safety precautions have been read and understood  
P260 - Do not breathe dust/fume/gas/mist/vapors/spray  
P281 - Use personal protective equipment as required

**Response** P314 - Get medical attention/advice if you feel unwell  
P308 + P313 - IF exposed or concerned: Get medical advice/attention

**Storage** P405 - Store locked up

**Disposal** P501 - Dispose of contents/container in accordance with local/regional/national/international regulations

**Contains Substances** Crystalline silica, quartz

**CAS Number** 14808-60-7

**Other hazards which do not result in classification**  
This substance is not considered to be persistent, bioaccumulating nor toxic (PBT).  
This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

For the full text of the H-phrases mentioned in this Section, see Section 16

**3. Composition/information on Ingredients**

Substances	CAS Number	PERCENT (w/w)	GHS Classification - Australia
Crystalline silica, quartz	14808-60-7	1 - 5%	Carc. 1A (H350) STOT RE 1 (H372)

**4. First aid measures**

**Description of necessary first aid measures**

**Inhalation** If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

**Eyes** In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.

**Skin** Wash with soap and water. Get medical attention if irritation persists.

**Ingestion** Do NOT induce vomiting. Give nothing by mouth. Obtain immediate medical attention.

**Symptoms caused by exposure**  
Breathing crystalline silica can cause lung disease, including silicosis and lung cancer. Crystalline silica has also been associated with scleroderma and kidney disease.

**Medical Attention and Special Treatment**

**Notes to Physician** Treat symptomatically

**5. Fire Fighting Measures**

**Suitable extinguishing equipment**

**Suitable Extinguishing Media**

All standard fire fighting media

**Extinguishing media which must not be used for safety reasons**

None known.

**Specific hazards arising from the chemical**

**Special exposure hazards in a fire**

None anticipated

**Special protective equipment and precautions for fire fighters**

**Special protective equipment for firefighters**

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

**6. Accidental release measures**

**6.1. Personal precautions, protective equipment and emergency procedures**

Use appropriate protective equipment. Avoid creating and breathing dust.

**6.2. Environmental precautions**

Prevent from entering sewers, waterways, or low areas.

**6.3. Methods and material for containment and cleaning up**

Collect using dustless method and hold for appropriate disposal. Consider possible toxic or fire hazards associated with contaminating substances and use appropriate methods for collection, storage and disposal.

**7. Handling and storage**

**7.1. Precautions for safe handling**

**Handling Precautions**

This product contains quartz, cristobalite, and/or tridymite which may become airborne without a visible cloud. Avoid breathing dust. Avoid creating dusty conditions. Use only with adequate ventilation to keep exposure below recommended exposure limits. Wear a NIOSH certified, European Standard En 149, or equivalent respirator when using this product. Material is slippery when wet.

**Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice.

**7.2. Conditions for safe storage, including any incompatibilities**

**Storage Information**

Store in a well ventilated area. Keep container closed when not in use. Store locked up. Store in a cool, dry location. Use good housekeeping in storage and work areas to prevent accumulation of dust. Close container when not in use. Do not reuse empty container.

**Other Guidelines**

No information available

**8. Exposure Controls/Personal Protection**

**Control parameters - exposure standards, biological monitoring**

**Exposure Limits**

Substances	CAS Number	Australia NOHSC	ACGIH TLV-TWA
Crystalline silica, quartz	14808-60-7	TWA: 0.1 mg/m <sup>3</sup>	TWA: 0.025 mg/m <sup>3</sup>

**Appropriate engineering controls**

**Engineering Controls**

Use approved industrial ventilation and local exhaust as required to maintain exposures below applicable exposure limits.

**Personal protective equipment (PPE)**

<b>Personal Protective Equipment</b>	If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.
<b>Respiratory Protection</b>	Wear a NIOSH certified, European Standard EN 149 (FFP2/FFP3), AS/NZS 1715, or equivalent respirator when using this product.
<b>Hand Protection</b>	Normal work gloves.
<b>Skin Protection</b>	Wear clothing appropriate for the work environment. Dusty clothing should be laundered before reuse. Use precautionary measures to avoid creating dust when removing or laundering clothing.
<b>Eye Protection</b>	Wear safety glasses or goggles to protect against exposure.
<b>Other Precautions</b>	None known.
<b>Environmental Exposure Controls</b>	No information available

<b>9. Physical and Chemical Properties</b>
--

**9.1. Information on basic physical and chemical properties**

<b>Physical State:</b>	Solid	<b>Color</b>	Pink to tan to gray
<b>Odor:</b>	Odorless	<b>Odor Threshold:</b>	No information available

<u>Property</u>	<u>Values</u>
Remarks/ - Method	
<b>pH:</b>	No data available
<b>Freezing Point / Range</b>	No data available
<b>Melting Point / Range</b>	No data available
<b>Pour Point / Range</b>	No data available
<b>Boiling Point / Range</b>	No data available
<b>Flash Point</b>	No data available
<b>Evaporation rate</b>	No data available
<b>Vapor Pressure</b>	No data available
<b>Vapor Density</b>	No data available
<b>Specific Gravity</b>	4.23
<b>Water Solubility</b>	Insoluble in water
<b>Solubility in other solvents</b>	No data available
<b>Partition coefficient: n-octanol/water</b>	No data available
<b>Autoignition Temperature</b>	No data available
<b>Decomposition Temperature</b>	No data available
<b>Viscosity</b>	No data available
<b>Explosive Properties</b>	No information available
<b>Oxidizing Properties</b>	No information available

**9.2. Other information**

<b>Molecular Weight</b>	233.4
<b>VOC Content (%)</b>	No data available

<b>10. Stability and Reactivity</b>
-------------------------------------

**10.1. Reactivity**

Not expected to be reactive.

**10.2. Chemical stability**

Stable

**10.3. Possibility of hazardous reactions**

Will Not Occur

**10.4. Conditions to avoid**

None anticipated

**10.5. Incompatible materials**

None known.

**10.6. Hazardous decomposition products**

Amorphous silica may transform at elevated temperatures to tridymite (870 C) or cristobalite (1470 C).

## 11. Toxicological Information

### Information on routes of exposure

**Principle Route of Exposure** Eye or skin contact, inhalation.

### Symptoms related to exposure

#### **Most Important Symptoms/Effects**

Breathing crystalline silica can cause lung disease, including silicosis and lung cancer. Crystalline silica has also been associated with scleroderma and kidney disease.

### Toxicology data for the components

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Crystalline silica, quartz	14808-60-7	> 15000 mg/kg (human)	No data available	No data available

### Immediate, delayed and chronic health effects from exposure

#### **Inhalation**

Breathing silica dust may cause irritation of the nose, throat, and respiratory passages. Breathing silica dust may not cause noticeable injury or illness even though permanent lung damage may be occurring. Inhalation of dust may also have serious chronic health effects (See "Chronic Effects/Carcinogenicity" subsection below).

#### **Eye Contact**

May cause mechanical irritation to eye.

#### **Skin Contact**

None known.

#### **Ingestion**

None known.

#### **Chronic Effects/Carcinogenicity**

**Silicosis:** Excessive inhalation of respirable crystalline silica dust may cause a progressive, disabling, and sometimes-fatal lung disease called silicosis. Symptoms include cough, shortness of breath, wheezing, non-specific chest illness, and reduced pulmonary function. This disease is exacerbated by smoking. Individuals with silicosis are predisposed to develop tuberculosis.

**Cancer Status:** The International Agency for Research on Cancer (IARC) has determined that crystalline silica inhaled in the form of quartz or cristobalite from occupational sources can cause lung cancer in humans (Group 1 - carcinogenic to humans) and has determined that there is sufficient evidence in experimental animals for the carcinogenicity of tridymite (Group 2A - possible carcinogen to humans). Refer to IARC Monograph 68, Silica, Some Silicates and Organic Fibres (June 1997) in conjunction with the use of these minerals. The National Toxicology Program classifies respirable crystalline silica as "Known to be a human carcinogen". Refer to the 9th Report on Carcinogens (2000). The American Conference of Governmental Industrial Hygienists (ACGIH) classifies crystalline silica, quartz, as a suspected human carcinogen (A2).

### Exposure Levels

No data available

### Interactive effects

Individuals with respiratory disease, including but not limited to asthma and bronchitis, or subject to eye irritation, should not be exposed to quartz dust.

### Data limitations

No data available

Substances	CAS Number	Skin corrosion/irritation
Crystalline silica, quartz	14808-60-7	Non-irritating to the skin

Substances	CAS Number	Serious eye damage/irritation
------------	------------	-------------------------------

Crystalline silica, quartz	14808-60-7	Non-irritating to the eye No information available
<b>Substances</b>	<b>CAS Number</b>	<b>Skin Sensitization</b>
Crystalline silica, quartz	14808-60-7	No information available.
<b>Substances</b>	<b>CAS Number</b>	<b>Respiratory Sensitization</b>
Crystalline silica, quartz	14808-60-7	No information available
<b>Substances</b>	<b>CAS Number</b>	<b>Mutagenic Effects</b>
Crystalline silica, quartz	14808-60-7	Not regarded as mutagenic.
<b>Substances</b>	<b>CAS Number</b>	<b>Carcinogenic Effects</b>
Crystalline silica, quartz	14808-60-7	Contains crystalline silica which may cause silicosis, a delayed and progressive lung disease. The IARC and NTP have determined there is sufficient evidence in humans of the carcinogenicity of crystalline silica with repeated respiratory exposure.
<b>Substances</b>	<b>CAS Number</b>	<b>Reproductive toxicity</b>
Crystalline silica, quartz	14808-60-7	No information available
<b>Substances</b>	<b>CAS Number</b>	<b>STOT - single exposure</b>
Crystalline silica, quartz	14808-60-7	No significant toxicity observed in animal studies at concentration requiring classification.
<b>Substances</b>	<b>CAS Number</b>	<b>STOT - repeated exposure</b>
Crystalline silica, quartz	14808-60-7	Causes damage to organs through prolonged or repeated exposure if inhaled: (Lungs)
<b>Substances</b>	<b>CAS Number</b>	<b>Aspiration hazard</b>
Crystalline silica, quartz	14808-60-7	Not applicable

## 12. Ecological Information

### Ecotoxicity

#### Substance Ecotoxicity Data

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Crystalline silica, quartz	14808-60-7	EC50(72 h)=440 mg/L (Pseudokirchneriella subcapitata)	LL0(96 h)=10000 mg/L (Danio rerio)	No information available	LL50(24 h)>10000 mg/L (Daphnia magna)

#### 12.2. Persistence and degradability

The methods for determining biodegradability are not applicable to inorganic substances.

Substances	CAS Number	Persistence and Degradability
Crystalline silica, quartz	14808-60-7	The methods for determining biodegradability are not applicable to inorganic substances.

#### 12.3. Bioaccumulative potential

Does not bioaccumulate.

Substances	CAS Number	Bioaccumulation
Crystalline silica, quartz	14808-60-7	No information available

#### 12.4. Mobility in soil

Substances	CAS Number	Mobility
Crystalline silica, quartz	14808-60-7	No information available

#### 12.6. Other adverse effects

##### Endocrine Disruptor Information

This product does not contain any known or suspected endocrine disruptors

## 13. Disposal Considerations

**Safe handling and disposal methods**

Follow all applicable community, national or regional regulations regarding waste management methods.

**Disposal of any contaminated packaging**

Follow all applicable national or local regulations. Contaminated packaging may be disposed of by: rendering packaging incapable of containing any substance, or treating packaging to remove residual contents, or treating packaging to make sure the residual contents are no longer hazardous, or by disposing of packaging into commercial waste collection.

**Environmental regulations**

Not applicable

## 14. Transport Information

**Transportation Information****Australia ADG**

UN Number	Not restricted
UN proper shipping name:	Not restricted
Transport Hazard Class(es):	Not applicable
Packing Group:	Not applicable
Environmental Hazards:	Not applicable

**IMDG/IMO**

UN Number	Not restricted
UN proper shipping name:	Not restricted
Transport Hazard Class(es):	Not applicable
Packing Group:	Not applicable
Environmental Hazards:	Not applicable

**IATA/ICAO**

UN Number	Not restricted
UN proper shipping name:	Not restricted
Transport Hazard Class(es):	Not applicable
Packing Group:	Not applicable
Environmental Hazards:	Not applicable

**Special precautions during transport**

None

**HazChem Code**

None Allocated

## 15. Regulatory Information

**Safety, health and environmental regulations specific for the product****International Inventories**

<b>Australian AICS Inventory</b>	All components are listed on the AICS or are subject to a relevant exemption, permit, or assessment certificate.
<b>New Zealand Inventory of Chemicals</b>	All components are listed on the NZIoC or are subject to a relevant exemption, permit, or assessment certificate.
<b>US TSCA Inventory</b>	All components listed on inventory or are exempt.
<b>Canadian Domestic Substances List (DSL)</b>	All components listed on inventory or are exempt.

**Poisons Schedule number**

None Allocated

**International Agreements**

<b>Montreal Protocol - Ozone Depleting Substances:</b>	Does not apply.
<b>Stockholm Convention - Persistent Organic Pollutants:</b>	Does not apply



**Rotterdam Convention - Prior Informed Consent:**  
**Basel Convention - Hazardous Waste:**

Does not apply.  
Does not apply.

## 16. Other information

### Date of preparation or review

**Revision Date:** 08-Jan-2019

### **Revision Note**

SDS sections updated:  
2

### **Full text of H-Statements referred to under sections 2 and 3**

H350 - May cause cancer by inhalation

H372 - Causes damage to organs through prolonged or repeated exposure

H373 - May cause damage to organs through prolonged or repeated exposure if inhaled

### **Additional information**

For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Safety Data Sheet for this or other Halliburton products, contact Chemical Stewardship at 1-580-251-4335.

### **Key abbreviations or acronyms used**

bw – body weight

CAS – Chemical Abstracts Service

EC50 – Effective Concentration 50%

LC50 – Lethal Concentration 50%

LD50 – Lethal Dose 50%

LL50 – Lethal Loading 50%

mg/kg – milligram/kilogram

mg/L – milligram/liter

NOEC – No Observed Effect Concentration

OEL – Occupational Exposure Limit

PBT – Persistent Bioaccumulative and Toxic

ppm – parts per million

STEL – Short Term Exposure Limit

TWA – Time-Weighted Average

vPvB – very Persistent and very Bioaccumulative

h - hour

mg/m<sup>3</sup> - milligram/cubic meter

mm - millimeter

mmHg - millimeter mercury

w/w - weight/weight

d - day

### **Key literature references and sources for data**

[www.ChemADVISOR.com/](http://www.ChemADVISOR.com/)

NZ CCID

### **Disclaimer Statement**

This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.

**End of Safety Data Sheet**

## SAFETY DATA SHEET

### BENTONITE

Revision Date: 15-Mar-2016

Revision Number: 38

#### 1. Product Identifier & Identity for the Chemical

**Statement of Hazardous Nature** Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

##### 1.1. Product Identifier

**Product Name** BENTONITE

##### Other means of Identification

**Synonyms** None  
**Product Code:** HM000126

##### Recommended use of the chemical and restrictions on use

**Recommended Use** Weight Additive  
**Uses advised against** No information available

##### Supplier's name, address and phone number

**Manufacturer/Supplier** Halliburton Australia Pty. Ltd.  
15 Marriott Road  
Jandakot  
WA 6164  
Australia

ACN Number: 009 000 775  
Telephone Number: + 61 1 800 686 951  
Fax Number: 61 (08) 9455 5300  
fdunexchem@halliburton.com

##### **E-mail Address**

##### Emergency phone number

+ 61 1 800 686 951

##### **Australian Poisons Information Centre**

24 Hour Service: - 13 11 26  
Police or Fire Brigade: - 000 (exchange): - 1100

#### 2. Hazard Identification

**Statement of Hazardous Nature** Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

##### Classification of the hazardous chemical

Carcinogenicity	Category 2 - H351
Specific Target Organ Toxicity - (Repeated Exposure)	Category 2 - H373

##### Label elements, including precautionary statements

##### **Hazard pictograms**



<b>Signal Word</b>	Warning
<b>Hazard Statements</b>	H351 - Suspected of causing cancer H373 - May cause damage to organs through prolonged or repeated exposure
<b>Precautionary Statements</b>	
<b>Prevention</b>	P201 - Obtain special instructions before use P202 - Do not handle until all safety precautions have been read and understood P260 - Do not breathe dust/fume/gas/mist/vapors/spray P281 - Use personal protective equipment as required
<b>Response</b>	P308 + P313 - IF exposed or concerned: Get medical advice/attention P314 - Get medical attention/advice if you feel unwell
<b>Storage</b>	P405 - Store locked up
<b>Disposal</b>	P501 - Dispose of contents/container in accordance with local/regional/national/international regulations

**Contains****Substances**

	<b>CAS Number</b>
Crystalline silica, quartz	14808-60-7
Crystalline silica, cristobalite	14464-46-1
Crystalline silica, tridymite	15468-32-3

**Other hazards which do not result in classification**

This substance is not considered to be persistent, bioaccumulating nor toxic (PBT).  
This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

*For the full text of the H-phrases mentioned in this Section, see Section 16*

### 3. Composition/information on Ingredients

Substances	CAS Number	PERCENT (w/w)	GHS Classification - Australia
Crystalline silica, quartz	14808-60-7	1 - 5%	Carc. 2 (H351) STOT RE 1 (H372)
Crystalline silica, cristobalite	14464-46-1	0.1 - 1%	Carc. 2 (H351) STOT RE 1 (H372)
Crystalline silica, tridymite	15468-32-3	0.1 - 1%	Carc. 2 (H351) STOT RE 1 (H372)

### 4. First aid measures

**Description of necessary first aid measures**

<b>Inhalation</b>	If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.
<b>Eyes</b>	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.
<b>Skin</b>	Wash with soap and water. Get medical attention if irritation persists.
<b>Ingestion</b>	Under normal conditions, first aid procedures are not required.

**Symptoms caused by exposure**

Breathing crystalline silica can cause lung disease, including silicosis and lung cancer. Crystalline silica has also been associated with scleroderma and kidney disease. Potential carcinogen. Prolonged or repeated exposure may cause damage to organs.

**Medical Attention and Special Treatment**

**Notes to Physician** Treat symptomatically

## 5. Fire Fighting Measures

**Suitable extinguishing equipment****Suitable Extinguishing Media**

All standard fire fighting media

**Extinguishing media which must not be used for safety reasons**

None known.

**Specific hazards arising from the chemical****Special exposure hazards in a fire**

None anticipated

**Special protective equipment and precautions for fire fighters****Special protective equipment for firefighters**

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

## 6. Accidental release measures

**6.1. Personal precautions, protective equipment and emergency procedures**

Use appropriate protective equipment. Avoid creating and breathing dust.

**6.2. Environmental precautions**

None known.

**6.3. Methods and material for containment and cleaning up**

Collect using dustless method and hold for appropriate disposal. Consider possible toxic or fire hazards associated with contaminating substances and use appropriate methods for collection, storage and disposal.

## 7. Handling and storage

**7.1. Precautions for safe handling****Handling Precautions**

This product contains quartz, cristobalite, and/or tridymite which may become airborne without a visible cloud. Avoid breathing dust. Avoid creating dusty conditions. Use only with adequate ventilation to keep exposure below recommended exposure limits. Wear a NIOSH certified, European Standard En 149, or equivalent respirator when using this product. Material is slippery when wet.

**Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice.

**7.2. Conditions for safe storage, including any incompatibilities****Storage Information**

Use good housekeeping in storage and work areas to prevent accumulation of dust. Close container when not in use. Do not reuse empty container.

**Other Guidelines**

No information available

## 8. Exposure Controls/Personal Protection

**Control parameters - exposure standards, biological monitoring****Exposure Limits**

Substances	CAS Number	Australia NOHSC	ACGIH TLV-TWA
Crystalline silica, quartz	14808-60-7	TWA: 0.1 mg/m <sup>3</sup>	TWA: 0.025 mg/m <sup>3</sup>
Crystalline silica, cristobalite	14464-46-1	TWA: 0.1 mg/m <sup>3</sup>	TWA: 0.025 mg/m <sup>3</sup>
Crystalline silica, tridymite	15468-32-3	TWA: 0.1 mg/m <sup>3</sup>	TWA: 0.05 mg/m <sup>3</sup>

**Appropriate engineering controls****Engineering Controls**

Use approved industrial ventilation and local exhaust as required to maintain exposures below applicable exposure limits.

**Personal protective equipment (PPE)****Personal Protective Equipment**

If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.

**Respiratory Protection**

Wear a NIOSH certified, European Standard EN 149 (FFP2/FFP3), AS/NZS 1715, or equivalent respirator when using this product.

**Hand Protection**

Normal work gloves.

**Skin Protection**

Wear clothing appropriate for the work environment. Dusty clothing should be laundered before reuse. Use precautionary measures to avoid creating dust when removing or laundering clothing.

**Eye Protection**

Wear safety glasses or goggles to protect against exposure.

**Other Precautions**

None known.

**Environmental Exposure Controls**

No information available

## 9. Physical and Chemical Properties

**9.1. Information on basic physical and chemical properties**

**Physical State:** Solid

**Color:** Various

**Odor:** Odorless

**Odor Threshold:** No information available

PropertyValues

Remarks/ - Method

**pH:**

9.9

**Freezing Point / Range**

No data available

**Melting Point / Range**

No data available

**Boiling Point / Range**

No data available

**Flash Point**

No data available

**Evaporation rate**

No data available

**Vapor Pressure**

No data available

**Vapor Density**

No data available

**Specific Gravity**

2.65

**Water Solubility**

Insoluble in water

**Solubility in other solvents**

No data available

**Partition coefficient: n-octanol/water**

No data available

**Autoignition Temperature**

No data available

**Decomposition Temperature**

No data available

**Viscosity**

No data available

**Explosive Properties**

No information available

**Oxidizing Properties**

No information available

**9.2. Other information**

**VOC Content (%)**

No data available

## 10. Stability and Reactivity

**10.1. Reactivity**

Not expected to be reactive.

**10.2. Chemical stability**

Stable

**10.3. Possibility of hazardous reactions**

Will Not Occur

**10.4. Conditions to avoid**

None anticipated

**10.5. Incompatible materials**

Hydrofluoric acid.

**10.6. Hazardous decomposition products**

Amorphous silica may transform at elevated temperatures to tridymite (870 C) or cristobalite (1470 C).

**11. Toxicological Information****Information on routes of exposure****Principle Route of Exposure** Eye or skin contact, inhalation.**Symptoms related to exposure****Most Important Symptoms/Effects**

Breathing crystalline silica can cause lung disease, including silicosis and lung cancer. Crystalline silica has also been associated with scleroderma and kidney disease. Potential carcinogen. Prolonged or repeated exposure may cause damage to organs.

**Numerical measures of toxicity****Toxicology data for the components**

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Crystalline silica, quartz	14808-60-7	> 15000 mg/kg (human)	No information available	No data available
Crystalline silica, cristobalite	14464-46-1	>15,000 mg/kg (Human)	No data available	No data available
Crystalline silica, tridymite	15468-32-3	>15,000 mg/kg (Human)	No data available	No data available

**Immediate, delayed and chronic health effects from exposure****Inhalation**

Inhaled crystalline silica in the form of quartz or cristobalite from occupational sources is carcinogenic to humans (IARC, Group 1). There is sufficient evidence in experimental animals for the carcinogenicity of tridymite (IARC, Group 2A).

Breathing silica dust may cause irritation of the nose, throat, and respiratory passages. Breathing silica dust may not cause noticeable injury or illness even though permanent lung damage may be occurring. Inhalation of dust may also have serious chronic health effects (See "Chronic Effects/Carcinogenicity" subsection below).

**Eye Contact**

May cause mechanical irritation to eye.

**Skin Contact**

None known.

**Ingestion**

None known.

**Chronic Effects/Carcinogenicity**

**Silicosis:** Excessive inhalation of respirable crystalline silica dust may cause a progressive, disabling, and sometimes-fatal lung disease called silicosis. Symptoms include cough, shortness of breath, wheezing, non-specific chest illness, and reduced pulmonary function. This disease is exacerbated by smoking. Individuals with silicosis are predisposed to develop tuberculosis.

**Cancer Status:** The International Agency for Research on Cancer (IARC) has determined that crystalline silica inhaled in the form of quartz or cristobalite from occupational sources can cause lung cancer in humans (Group 1 - carcinogenic to humans) and has determined that there is sufficient evidence in experimental animals for the carcinogenicity of tridymite (Group 2A - possible carcinogen to humans). Refer to IARC Monograph 68, Silica, Some Silicates and Organic Fibres (June 1997) in conjunction with the use of these minerals. The National Toxicology Program classifies respirable crystalline silica as "Known to be a human carcinogen". Refer to the 9th Report on Carcinogens (2000). The American

Conference of Governmental Industrial Hygienists (ACGIH) classifies crystalline silica, quartz, as a suspected human carcinogen (A2). There is some evidence that breathing respirable crystalline silica or the disease silicosis is associated with an increased incidence of significant disease endpoints such as scleroderma (an immune system disorder manifested by scarring of the lungs, skin, and other internal organs) and kidney disease.

**Exposure Levels**

No data available

**Interactive effects**

Individuals with respiratory disease, including but not limited to asthma and bronchitis, or subject to eye irritation, should not be exposed to quartz dust.

**Data limitations**

No data available

Substances	CAS Number	Skin corrosion/irritation
Crystalline silica, quartz	14808-60-7	Non-irritating to the skin
Crystalline silica, cristobalite	14464-46-1	Non-irritating to the skin
Crystalline silica, tridymite	15468-32-3	Non-irritating to the skin

Substances	CAS Number	Serious eye damage/irritation
Crystalline silica, quartz	14808-60-7	Mechanical irritation of the eyes is possible. No information available
Crystalline silica, cristobalite	14464-46-1	Mechanical irritation of the eyes is possible.
Crystalline silica, tridymite	15468-32-3	Mechanical irritation of the eyes is possible.

Substances	CAS Number	Skin Sensitization
Crystalline silica, quartz	14808-60-7	No information available.
Crystalline silica, cristobalite	14464-46-1	No information available
Crystalline silica, tridymite	15468-32-3	No information available

Substances	CAS Number	Respiratory Sensitization
Crystalline silica, quartz	14808-60-7	No information available
Crystalline silica, cristobalite	14464-46-1	No information available
Crystalline silica, tridymite	15468-32-3	No information available

Substances	CAS Number	Mutagenic Effects
Crystalline silica, quartz	14808-60-7	Not regarded as mutagenic.
Crystalline silica, cristobalite	14464-46-1	Not regarded as mutagenic.
Crystalline silica, tridymite	15468-32-3	Not regarded as mutagenic.

Substances	CAS Number	Carcinogenic Effects
Crystalline silica, quartz	14808-60-7	Contains crystalline silica which may cause silicosis, a delayed and progressive lung disease. The IARC and NTP have determined there is sufficient evidence in humans of the carcinogenicity of crystalline silica with repeated respiratory exposure. Based on available scientific evidence, this substance is a threshold carcinogen with a mode of action involving indirect genotoxicity secondary to lung injury.
Crystalline silica, cristobalite	14464-46-1	Contains crystalline silica which may cause silicosis, a delayed and progressive lung disease. The IARC and NTP have determined there is sufficient evidence in humans of the carcinogenicity of crystalline silica with repeated respiratory exposure. Based on available scientific evidence, this substance is a threshold carcinogen with a mode of action involving indirect genotoxicity secondary to lung injury.
Crystalline silica, tridymite	15468-32-3	Contains crystalline silica which may cause silicosis, a delayed and progressive lung disease. The IARC and NTP have determined there is sufficient evidence in humans of the carcinogenicity of crystalline silica with repeated respiratory exposure. Based on available scientific evidence, this substance is a threshold carcinogen with a mode of action involving indirect genotoxicity secondary to lung injury.

Substances	CAS Number	Reproductive toxicity
Crystalline silica, quartz	14808-60-7	No information available
Crystalline silica, cristobalite	14464-46-1	No information available

Crystalline silica, tridymite	15468-32-3	No information available
-------------------------------	------------	--------------------------

Substances	CAS Number	STOT - single exposure
Crystalline silica, quartz	14808-60-7	No significant toxicity observed in animal studies at concentration requiring classification.
Crystalline silica, cristobalite	14464-46-1	No significant toxicity observed in animal studies at concentration requiring classification.
Crystalline silica, tridymite	15468-32-3	No significant toxicity observed in animal studies at concentration requiring classification.

Substances	CAS Number	STOT - repeated exposure
Crystalline silica, quartz	14808-60-7	Causes damage to organs through prolonged or repeated exposure if inhaled: (Lungs)
Crystalline silica, cristobalite	14464-46-1	Causes damage to organs through prolonged or repeated exposure if inhaled: (Lungs)
Crystalline silica, tridymite	15468-32-3	Causes damage to organs through prolonged or repeated exposure if inhaled: (Lungs)

Substances	CAS Number	Aspiration hazard
Crystalline silica, quartz	14808-60-7	Not applicable
Crystalline silica, cristobalite	14464-46-1	Not applicable
Crystalline silica, tridymite	15468-32-3	Not applicable

## 12. Ecological Information

### Ecotoxicity

#### Product Ecotoxicity Data

No data available

#### Substance Ecotoxicity Data

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Crystalline silica, quartz	14808-60-7	EC50 (72 h) =440 mg/L (Selenastrum capricornutum)	LL0 (96 h) =10000 mg/L (Danio rerio)	No information available	LL50 (24 h) >10000 mg/L (Daphnia magna)
Crystalline silica, cristobalite	14464-46-1	No information available	LL0 (96h) 10,000 mg/L (Danio rerio) (similar substance)	No information available	LL50 (24h) > 10,000 mg/L (Daphnia magna) (similar substance)
Crystalline silica, tridymite	15468-32-3	No information available	LL0 (96h) 10,000 mg/L (Danio rerio) (similar substance)	No information available	LL50 (24h) > 10,000 mg/L (Daphnia magna) (similar substance)

### 12.2. Persistence and degradability

Substances	CAS Number	Persistence and Degradability
Crystalline silica, quartz	14808-60-7	The methods for determining biodegradability are not applicable to inorganic substances.
Crystalline silica, cristobalite	14464-46-1	The methods for determining biodegradability are not applicable to inorganic substances.
Crystalline silica, tridymite	15468-32-3	The methods for determining biodegradability are not applicable to inorganic substances.

### 12.3. Bioaccumulative potential

Substances	CAS Number	Log Pow
Crystalline silica, quartz	14808-60-7	No information available
Crystalline silica, cristobalite	14464-46-1	No information available
Crystalline silica, tridymite	15468-32-3	No information available

### 12.4. Mobility in soil

Substances	CAS Number	Mobility
Crystalline silica, quartz	14808-60-7	No information available
Crystalline silica, cristobalite	14464-46-1	No information available
Crystalline silica, tridymite	15468-32-3	No information available

### 12.6. Other adverse effects

#### Endocrine Disruptor Information

This product does not contain any known or suspected endocrine disruptors



### 13. Disposal Considerations

**Safe handling and disposal methods**

Bury in a licensed landfill according to federal, state, and local regulations. Substance should NOT be deposited into a sewage facility.

**Disposal of any contaminated packaging**

Follow all applicable national or local regulations. Contaminated packaging may be disposed of by: rendering packaging incapable of containing any substance, or treating packaging to remove residual contents, or treating packaging to make sure the residual contents are no longer hazardous, or by disposing of packaging into commercial waste collection.

**Environmental regulations**

Not applicable

### 14. Transport Information

**Transportation Information**

<b>UN Number</b>	Not restricted
<b>UN proper shipping name</b>	Not restricted
<b>Transport Hazard Class(es)</b>	Not applicable
<b>Packing Group:</b>	Not applicable
<b>Environmental Hazards</b>	Not applicable

**Special precautions during transport**

None

**HazChem Code**

None Allocated

### 15. Regulatory Information

**Safety, health and environmental regulations specific for the product**

**International Inventories**

**Australian AICS Inventory** All components are listed on the AICS or are subject to a relevant exemption, permit, or assessment certificate.

**New Zealand Inventory of Chemicals** All components are listed on the AICS or are subject to a relevant exemption, permit, or assessment certificate.

**EINECS (European Inventory of Existing Chemical Substances)** This product, and all its components, complies with EINECS

**US TSCA Inventory** All components listed on inventory or are exempt.

**Canadian Domestic Substances List (DSL)** All components listed on inventory or are exempt.

**Poisons Schedule number**

None Allocated

**International Agreements**

<b>Montreal Protocol - Ozone Depleting Substances:</b>	Does not apply
<b>Stolkhom Convention - Persistent Organic Pollutants:</b>	Does not apply
<b>Rotterdam Convention - Prior Informed Consent:</b>	Does not apply
<b>Basel Convention - Hazardous Waste:</b>	Does not apply

### 16. Other information

**Date of preparation or review**

**Revision Date:** 15-Mar-2016

**Revision Note**

SDS sections updated: 2

**Full text of H-Statements referred to under sections 2 and 3**

H351 - Suspected of causing cancer if inhaled

H372 - Causes damage to organs through prolonged or repeated exposure if inhaled

H373 - May cause damage to organs through prolonged or repeated exposure if inhaled

**Additional information**

For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Safety Data Sheet for this or other Halliburton products, contact Chemical Stewardship at 1-580-251-4335.

**Key abbreviations or acronyms used**

bw – body weight

CAS – Chemical Abstracts Service

EC50 – Effective Concentration 50%

LC50 – Lethal Concentration 50%

LD50 – Lethal Dose 50%

LL50 – Lethal Loading 50%

mg/kg – milligram/kilogram

mg/L – milligram/liter

NOEC – No Observed Effect Concentration

OEL – Occupational Exposure Limit

PBT – Persistent Bioaccumulative and Toxic

ppm – parts per million

STEL – Short Term Exposure Limit

TWA – Time-Weighted Average

vPvB – very Persistent and very Bioaccumulative

h - hour

mg/m<sup>3</sup> - milligram/cubic meter

mm - millimeter

mmHg - millimeter mercury

w/w - weight/weight

d - day

**Key literature references and sources for data**

[www.ChemADVISOR.com/](http://www.ChemADVISOR.com/)

NZ CCID

**Disclaimer Statement**

This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.

**End of Safety Data Sheet**

## SAFETY DATA SHEET

### CFR-3

Revision Date: 30-Apr-2020

Revision Number: 37

#### 1. Product Identifier & Identity for the Chemical

**Statement of Hazardous Nature** Non-Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

##### 1.1. Product Identifier

**Product Name** CFR-3

##### Other means of Identification

**Synonyms** None

**Hazardous Material Number:** HM000209

##### Recommended use of the chemical and restrictions on use

**Recommended Use** Cement Friction Reducer

**Uses advised against** No information available

##### Supplier's name, address and phone number

**Manufacturer/Supplier** Halliburton Australia Pty. Ltd.  
15 Marriott Road, Jandakot, WA 6164  
Australia  
ACN Number: 009 000 775  
Telephone Number: + 61 1 800 686 951  
Fax Number: 61 (08) 9455 5300  
**E-mail Address** fdunexchem@halliburton.com

##### Emergency phone number

+ 61 1 800 686 951  
Global Incident Response Access Code: 334305  
Contract Number: 14012

##### **Australian Poisons Information Centre**

24 Hour Service: - 13 11 26  
Police or Fire Brigade: - 000 (exchange): - 1100

#### 2. Hazard Identification

**Statement of Hazardous Nature** Non-Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

##### Classification of the hazardous chemical

Not classified

##### Label elements, including precautionary statements

##### **Hazard Pictograms**

**Signal Word** Not Hazardous

**Hazard Statements:** Not Classified

**Precautionary Statements**

**Prevention** None  
**Response** None  
**Storage** None  
**Disposal** None

**Contains**

**Substances** CAS Number  
 Contains no hazardous substances in concentrations above cut-off values according to the competent authority NA

**Other hazards which do not result in classification**

This substance is not considered to be persistent, bioaccumulating nor toxic (PBT).  
 This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

For the full text of the H-phrases mentioned in this Section, see Section 16

### 3. Composition/information on Ingredients

Substances	CAS Number	PERCENT (w/w)	GHS Classification - Australia
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	60 - 100%	Not classified

### 4. First aid measures

**Description of necessary first aid measures**

**Inhalation** If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.  
**Eyes** In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.  
**Skin** Wash with soap and water. Get medical attention if irritation persists.  
**Ingestion** Do NOT induce vomiting. Give nothing by mouth. Obtain immediate medical attention.

**Symptoms caused by exposure**

No significant hazards expected.

**Medical Attention and Special Treatment**

**Notes to Physician** Treat symptomatically

### 5. Fire Fighting Measures

**Suitable extinguishing equipment**

**Suitable Extinguishing Media**

Water fog, carbon dioxide, foam, dry chemical.

**Extinguishing media which must not be used for safety reasons**

None known.

**Specific hazards arising from the chemical**

**Special exposure hazards in a fire**

Decomposition in fire may produce harmful gases. Organic dust in the presence of an ignition source can be explosive in high concentrations. Good housekeeping practices are required to minimize this potential.

**Special protective equipment and precautions for fire fighters****Special protective equipment for firefighters**

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

## 6. Accidental release measures

**6.1. Personal precautions, protective equipment and emergency procedures**

Use appropriate protective equipment. Avoid creating and breathing dust. Avoid contact with skin, eyes and clothing. Ensure adequate ventilation.

**6.2. Environmental precautions**

Prevent from entering sewers, waterways, or low areas.

**6.3. Methods and material for containment and cleaning up**

Scoop up and remove.

## 7. Handling and storage

**7.1. Precautions for safe handling****Handling Precautions**

Avoid creating or inhaling dust. Slippery when wet. Avoid contact with eyes, skin, or clothing. Wash hands after use. Launder contaminated clothing before reuse. Use appropriate protective equipment.

**Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice.

**7.2. Conditions for safe storage, including any incompatibilities****Storage Information**

Store away from oxidizers. Store in a cool, dry location.

**Other Guidelines**

No information available

## 8. Exposure Controls/Personal Protection

**Control parameters - exposure standards, biological monitoring****Exposure Limits**

Substances	CAS Number	Australia NOHSC	ACGIH TLV-TWA
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable

**Appropriate engineering controls**

**Engineering Controls** Use in a well ventilated area.

**Personal protective equipment (PPE)**

**Personal Protective Equipment** If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.

**Respiratory Protection** Not normally needed. But if significant exposures are possible then the following respirator is recommended:

Dust/mist respirator. (N95, P2/P3)

Normal work gloves.

**Hand Protection**

**Skin Protection**

Normal work coveralls.

**Eye Protection**

Wear safety glasses or goggles to protect against exposure.

**Other Precautions**

None known.

**Environmental Exposure Controls**

Do not allow material to contaminate ground water system.

## 9. Physical and Chemical Properties

**9.1. Information on basic physical and chemical properties**

**Physical State:** Solid  
**Odor:** Musty

**Color** Red brown  
**Odor Threshold:** No information available

PropertyValuesRemarks/ - Method**pH:**

7-8

**Freezing Point / Range**

No data available

**Melting Point / Range**

No data available

**Pour Point / Range**

No data available

**Boiling Point / Range**

No data available

**Flash Point**

No data available

**Evaporation rate**

No data available

**Vapor Pressure**

No data available

**Vapor Density**

No data available

**Specific Gravity**

1.28

**Water Solubility**

Soluble in water

**Solubility in other solvents**

No data available

**Partition coefficient: n-octanol/water**

No data available

**Autoignition Temperature**

No data available

**Decomposition Temperature**

No data available

**Viscosity**

No data available

**Explosive Properties**

No information available

**Oxidizing Properties**

No information available

**9.2. Other information****Molecular Weight**

&gt;700

**VOC Content (%)**

0

**Bulk Density**

38

**10. Stability and Reactivity****10.1. Reactivity**

Not expected to be reactive.

**10.2. Chemical stability**

Stable

**10.3. Possibility of hazardous reactions**

Will Not Occur

**10.4. Conditions to avoid**

None anticipated

**10.5. Incompatible materials**

Strong oxidizers.

**10.6. Hazardous decomposition products**

Oxides of sulfur. Carbon monoxide and carbon dioxide.

**11. Toxicological Information****Information on routes of exposure****Principle Route of Exposure** Eye or skin contact, inhalation.**Symptoms related to exposure****Most Important Symptoms/Effects**

No significant hazards expected.

**Toxicology data for the components**

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Contains no hazardous substances in	NA	No data available	No data available	No data available

concentrations above cut-off values according to the competent authority				
--	--	--	--	--

**Immediate, delayed and chronic health effects from exposure**

<b>Inhalation</b>	May cause mild respiratory irritation.
<b>Eye Contact</b>	May cause mechanical irritation to eye.
<b>Skin Contact</b>	Not irritating to skin in rabbits.
<b>Ingestion</b>	None known.

**Chronic Effects/Carcinogenicity** No data available to indicate product or components present at greater than 0.1% are chronic health hazards.

**Exposure Levels**

No data available

**Interactive effects**

None known.

**Data limitations**

No data available

## 12. Ecological Information

**Ecotoxicity****Substance Ecotoxicity Data**

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available	No information available	No information available	No information available

**12.2. Persistence and degradability**

Substances	CAS Number	Persistence and Degradability
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

**12.3. Bioaccumulative potential**

Substances	CAS Number	Bioaccumulation
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

**12.4. Mobility in soil**

Substances	CAS Number	Mobility
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

**12.6. Other adverse effects****Endocrine Disruptor Information**

This product does not contain any known or suspected endocrine disruptors

**13. Disposal Considerations****Safe handling and disposal methods**

Bury in a licensed landfill according to federal, state, and local regulations. Substance should NOT be deposited into a sewage facility.

**Disposal of any contaminated packaging**

Follow all applicable national or local regulations.

**Environmental regulations**

Not applicable

**14. Transport Information****Transportation Information****Australia ADG**

UN Number	Not restricted
UN proper shipping name:	Not restricted
Transport Hazard Class(es):	Not applicable
Packing Group:	Not applicable
Environmental Hazards:	Not applicable

**IMDG/IMO**

UN Number	Not restricted
UN proper shipping name:	Not restricted
Transport Hazard Class(es):	Not applicable
Packing Group:	Not applicable
Environmental Hazards:	Not applicable

**IATA/ICAO**

UN Number	Not restricted
UN proper shipping name:	Not restricted
Transport Hazard Class(es):	Not applicable
Packing Group:	Not applicable
Environmental Hazards:	Not applicable

**Special precautions during transport**

None

**HazChem Code**

None Allocated

**15. Regulatory Information****Safety, health and environmental regulations specific for the product****International Inventories****Australian AICS Inventory**

All components are listed on the AICS or are subject to a relevant exemption, permit, or assessment certificate.



**New Zealand Inventory of Chemicals** All components are listed on the NZIoC or are subject to a relevant exemption, permit, or assessment certificate.  
**US TSCA Inventory** All components listed on inventory or are exempt.  
**Canadian Domestic Substances List (DSL)** All components listed on inventory or are exempt.

**Poisons Schedule number**

None Allocated

**International Agreements**

<b>Montreal Protocol - Ozone Depleting Substances:</b>	Does not apply.
<b>Stockholm Convention - Persistent Organic Pollutants:</b>	Does not apply
<b>Rotterdam Convention - Prior Informed Consent:</b>	Does not apply.
<b>Basel Convention - Hazardous Waste:</b>	Does not apply.

**16. Other information****Date of preparation or review****Revision Date:** 30-Apr-2020**Revision Note**SDS sections updated:  
2**Full text of H-Statements referred to under sections 2 and 3**

None

**Additional information**

For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Safety Data Sheet for this or other Halliburton products, contact Chemical Stewardship at 1-580-251-4335.

**Key abbreviations or acronyms used**

bw – body weight  
 CAS – Chemical Abstracts Service  
 EC50 – Effective Concentration 50%  
 LC50 – Lethal Concentration 50%  
 LD50 – Lethal Dose 50%  
 LL50 – Lethal Loading 50%  
 mg/kg – milligram/kilogram  
 mg/L – milligram/liter  
 NOEC – No Observed Effect Concentration  
 OEL – Occupational Exposure Limit  
 PBT – Persistent Bioaccumulative and Toxic  
 ppm – parts per million  
 STEL – Short Term Exposure Limit  
 TWA – Time-Weighted Average  
 vPvB – very Persistent and very Bioaccumulative  
 h - hour  
 mg/m<sup>3</sup> - milligram/cubic meter  
 mm - millimeter  
 mmHg - millimeter mercury  
 w/w - weight/weight  
 d - day

**Key literature references and sources for data**www.ChemADVISOR.com/  
NZ CCID

**Disclaimer Statement**

This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.

**End of Safety Data Sheet**

## SAFETY DATA SHEET

### CFR-3L

Revision Date: 16-Sep-2016

Revision Number: 20

#### 1. Product Identifier & Identity for the Chemical

**Statement of Hazardous Nature** Non-Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

##### 1.1. Product Identifier

**Product Name** CFR-3L

##### Other means of Identification

**Synonyms** None  
**Hazardous Material Number:** HM000211

##### Recommended use of the chemical and restrictions on use

**Recommended Use** Friction Reducer  
**Uses advised against** No information available

##### Supplier's name, address and phone number

**Manufacturer/Supplier** Halliburton Australia Pty. Ltd.  
15 Marriott Road, Jandakot, WA 6164  
Australia  
ACN Number: 009 000 775  
Telephone Number: + 61 1 800 686 951  
Fax Number: 61 (08) 9455 5300  
**E-mail Address** fdunexchem@halliburton.com

##### Emergency phone number

+ 61 1 800 686 951  
Global Incident Response Access Code: 334305  
Contract Number: 14012

##### **Australian Poisons Information Centre**

24 Hour Service: - 13 11 26  
Police or Fire Brigade: - 000 (exchange): - 1100

#### 2. Hazard Identification

**Statement of Hazardous Nature** Non-Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

##### Classification of the hazardous chemical

Not classified

##### Label elements, including precautionary statements

##### **Hazard Pictograms**

**Signal Word** Not Hazardous

**Hazard Statements:** Not Classified

**Precautionary Statements**

**Prevention** None  
**Response** None  
**Storage** None  
**Disposal** None

**Contains**

**Substances**

Contains no hazardous substances in concentrations above cut-off values according to the competent authority

**CAS Number**

NA

**Other hazards which do not result in classification**

None known

For the full text of the H-phrases mentioned in this Section, see Section 16

### 3. Composition/information on Ingredients

Substances	CAS Number	PERCENT (w/w)	GHS Classification - Australia
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	60 - 100%	Not Applicable

### 4. First aid measures

**Description of necessary first aid measures**

**Inhalation** If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

**Eyes** In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.

**Skin** Wash with soap and water. Get medical attention if irritation persists.

**Ingestion** Do NOT induce vomiting. Give nothing by mouth. Obtain immediate medical attention.

**Symptoms caused by exposure**

No significant hazards expected.

**Medical Attention and Special Treatment**

**Notes to Physician** Treat symptomatically

### 5. Fire Fighting Measures

**Suitable extinguishing equipment**

**Suitable Extinguishing Media**

Water fog, carbon dioxide, foam, dry chemical.

**Extinguishing media which must not be used for safety reasons**

None known.

**Specific hazards arising from the chemical**

**Special exposure hazards in a fire**

Decomposition in fire may produce harmful gases.

**Special protective equipment and precautions for fire fighters**

**Special protective equipment for firefighters**

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

## 6. Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Use appropriate protective equipment.

### 6.2. Environmental precautions

Prevent from entering sewers, waterways, or low areas.

### 6.3. Methods and material for containment and cleaning up

Isolate spill and stop leak where safe. Contain spill with sand or other inert materials. Scoop up and remove.

## 7. Handling and storage

### 7.1. Precautions for safe handling

#### **Handling Precautions**

Avoid contact with eyes, skin, or clothing.

#### **Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice.

### 7.2. Conditions for safe storage, including any incompatibilities

#### **Storage Information**

Store away from oxidizers. Store in a cool well ventilated area. Keep container closed when not in use.

#### **Other Guidelines**

No information available

## 8. Exposure Controls/Personal Protection

### Control parameters - exposure standards, biological monitoring

#### **Exposure Limits**

Substances	CAS Number	Australia NOHSC	ACGIH TLV-TWA
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable

### Appropriate engineering controls

**Engineering Controls** Use in a well ventilated area.

### Personal protective equipment (PPE)

**Personal Protective Equipment** If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.

**Respiratory Protection** Dust/mist respirator. (N95, P2/P3)

**Hand Protection** Normal work gloves.

**Skin Protection** Normal work coveralls.

**Eye Protection** Chemical goggles; also wear a face shield if splashing hazard exists.

**Other Precautions** None known.

**Environmental Exposure Controls** No information available

## 9. Physical and Chemical Properties

### 9.1. Information on basic physical and chemical properties

**Physical State:** Liquid

**Color** Red

**Odor:** Musty

**Odor Threshold:** No information available

Property

Values

Remarks/ - Method

<b>pH:</b>	7
<b>Freezing Point / Range</b>	No data available
<b>Melting Point / Range</b>	No data available
<b>Boiling Point / Range</b>	No data available
<b>Flash Point</b>	> 98 °C / > 210 °F PMCC
<b>Evaporation rate</b>	No data available
<b>Vapor Pressure</b>	No data available
<b>Vapor Density</b>	No data available
<b>Specific Gravity</b>	1.17
<b>Water Solubility</b>	Soluble in water
<b>Solubility in other solvents</b>	No data available
<b>Partition coefficient: n-octanol/water</b>	No data available
<b>Autoignition Temperature</b>	No data available
<b>Decomposition Temperature</b>	No data available
<b>Viscosity</b>	No data available
<b>Explosive Properties</b>	No information available
<b>Oxidizing Properties</b>	No information available

9.2. Other information

<b>VOC Content (%)</b>	No data available
<b>Liquid Density</b>	9.75 lbs/gal

<b>10. Stability and Reactivity</b>
-------------------------------------

10.1. Reactivity

Not expected to be reactive.

10.2. Chemical stability

Stable

10.3. Possibility of hazardous reactions

Will Not Occur

10.4. Conditions to avoid

None anticipated

10.5. Incompatible materials

Strong oxidizers.

10.6. Hazardous decomposition products

Oxides of sulfur. Carbon monoxide and carbon dioxide.

<b>11. Toxicological Information</b>
--------------------------------------

Information on routes of exposure

**Principle Route of Exposure** Eye or skin contact, inhalation.

Symptoms related to exposure**Most Important Symptoms/Effects**

No significant hazards expected.

Numerical measures of toxicityToxicology data for the components

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No data available	No data available	No data available

Immediate, delayed and chronic health effects from exposure

<b>Inhalation</b>	None known.
<b>Eye Contact</b>	Non-irritating to rabbit's eye

**Skin Contact** Not irritating to skin in rabbits.  
**Ingestion** None known.

**Chronic Effects/Carcinogenicity** No data available to indicate product or components present at greater than 0.1% are chronic health hazards.

**Exposure Levels**

No data available

**Interactive effects**

None known.

**Data limitations**

No data available

## 12. Ecological Information

**Ecotoxicity**

**Substance Ecotoxicity Data**

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available	No information available	No information available	No information available

**12.2. Persistence and degradability**

Substances	CAS Number	Persistence and Degradability
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

**12.3. Bioaccumulative potential**

Substances	CAS Number	Log Pow
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

**12.4. Mobility in soil**

Substances	CAS Number	Mobility
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

**12.6. Other adverse effects**

**Endocrine Disruptor Information**

This product does not contain any known or suspected endocrine disruptors

### 13. Disposal Considerations

**Safe handling and disposal methods**

Bury in a licensed landfill or burn in an approved incinerator according to federal, state, and local regulations. Substance should NOT be deposited into a sewage facility.

**Disposal of any contaminated packaging**

Follow all applicable national or local regulations.

**Environmental regulations**

Not applicable

### 14. Transport Information

**Transportation Information**

**Australia ADG**

<b>UN Number</b>	Not restricted
<b>UN proper shipping name:</b>	Not restricted
<b>Transport Hazard Class(es):</b>	Not applicable
<b>Packing Group:</b>	Not applicable
<b>Environmental Hazards:</b>	Not applicable

**IMDG/IMO**

<b>UN Number</b>	Not restricted
<b>UN proper shipping name:</b>	Not restricted
<b>Transport Hazard Class(es):</b>	Not applicable
<b>Packing Group:</b>	Not applicable
<b>Environmental Hazards:</b>	Not applicable

**IATA/ICAO**

<b>UN Number</b>	Not restricted
<b>UN proper shipping name:</b>	Not restricted
<b>Transport Hazard Class(es):</b>	Not applicable
<b>Packing Group:</b>	Not applicable
<b>Environmental Hazards:</b>	Not applicable

**Special precautions during transport**

None

**HazChem Code**

None Allocated

### 15. Regulatory Information

**Safety, health and environmental regulations specific for the product**

**International Inventories**

**Australian AICS Inventory**

All components are listed on the AICS or are subject to a relevant exemption, permit, or assessment certificate.

**New Zealand Inventory of Chemicals**

All components are listed on the NZIoC or are subject to a relevant exemption, permit, or assessment certificate.

**EINECS (European Inventory of Existing Chemical Substances)**

This product, and all its components, complies with EINECS

**US TSCA Inventory**

All components listed on inventory or are exempt.

**Canadian Domestic Substances List (DSL)**

All components listed on inventory or are exempt.

**Poisons Schedule number**

None Allocated



**International Agreements**

Montreal Protocol - Ozone Depleting Substances:	Does not apply
Stockholm Convention - Persistent Organic Pollutants:	Does not apply
Rotterdam Convention - Prior Informed Consent:	Does not apply
Basel Convention - Hazardous Waste:	Does not apply

**16. Other information****Date of preparation or review**

Revision Date: 16-Sep-2016

**Revision Note**

SDS sections updated: 2

**Full text of H-Statements referred to under sections 2 and 3**

None

**Additional information**

For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Safety Data Sheet for this or other Halliburton products, contact Chemical Stewardship at 1-580-251-4335.

**Key abbreviations or acronyms used**

bw – body weight  
CAS – Chemical Abstracts Service  
EC50 – Effective Concentration 50%  
LC50 – Lethal Concentration 50%  
LD50 – Lethal Dose 50%  
LL50 – Lethal Loading 50%  
mg/kg – milligram/kilogram  
mg/L – milligram/liter  
NOEC – No Observed Effect Concentration  
OEL – Occupational Exposure Limit  
PBT – Persistent Bioaccumulative and Toxic  
ppm – parts per million  
STEL – Short Term Exposure Limit  
TWA – Time-Weighted Average  
vPvB – very Persistent and very Bioaccumulative  
h - hour  
mg/m<sup>3</sup> - milligram/cubic meter  
mm - millimeter  
mmHg - millimeter mercury  
w/w - weight/weight  
d - day

**Key literature references and sources for data**

www.ChemADVISOR.com/  
NZ CCID

**Disclaimer Statement**

This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.

**End of Safety Data Sheet**

## SAFETY DATA SHEET

### ECONOLITE LIQUID

Revision Date: 06-Jan-2020

Revision Number: 101

#### 1. Product Identifier & Identity for the Chemical

**Statement of Hazardous Nature** Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

##### 1.1. Product Identifier

**Product Name** ECONOLITE LIQUID

##### Other means of Identification

**Synonyms** None

**Hazardous Material Number:** HM000478

##### Recommended use of the chemical and restrictions on use

**Recommended Use** Light Weight Cement Additive

**Uses advised against** No information available

##### Supplier's name, address and phone number

**Manufacturer/Supplier** Halliburton Australia Pty. Ltd.  
15 Marriott Road, Jandakot, WA 6164  
Australia  
ACN Number: 009 000 775  
Telephone Number: + 61 1 800 686 951  
Fax Number: 61 (08) 9455 5300  
**E-mail Address** fdunexchem@halliburton.com

##### Emergency phone number

+ 61 1 800 686 951

Global Incident Response Access Code: 334305

Contract Number: 14012

##### **Australian Poisons Information Centre**

24 Hour Service: - 13 11 26

Police or Fire Brigade: - 000 (exchange): - 1100

#### 2. Hazard Identification

**Statement of Hazardous Nature** Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

##### Classification of the hazardous chemical

Skin Corrosion/Irritation	Category 2 - H315
Serious Eye Damage/Irritation	Category 1 - H318

##### Label elements, including precautionary statements

##### **Hazard Pictograms**

**Signal Word**

DANGER

**Hazard Statements:**

H315 - Causes skin irritation  
 H318 - Causes serious eye damage

**Precautionary Statements****Prevention**

P264 - Wash face, hands and any exposed skin thoroughly after handling

P280 - Wear protective gloves/eye protection/face protection

**Response**

P302 + P352 - IF ON SKIN: Wash with plenty of water.

P332 + P313 - If skin irritation occurs: Get medical advice/attention

P362 + P364 - Take off contaminated clothing and wash before reuse

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes.

Remove contact lenses, if present and easy to do. Continue rinsing

P310 - Immediately call a POISON CENTER or doctor/physician

**Storage**

None

**Disposal**

None

**Contains****Substances**

Sodium silicate

**CAS Number**

1344-09-8

**Other hazards which do not result in classification**

This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).

This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

For the full text of the H-phrases mentioned in this Section, see Section 16

### 3. Composition/information on Ingredients

Substances	CAS Number	PERCENT (w/w)	GHS Classification - Australia
Sodium silicate	1344-09-8	30 - 60%	Skin Irrit. 2 (H315) Eye Corr. 1 (H318)

### 4. First aid measures

**Description of necessary first aid measures****Inhalation**

If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

**Eyes**

Immediately flush eyes with large amounts of water for at least 30 minutes. Seek prompt medical attention.

**Skin**

In case of contact, immediately flush skin with plenty of soap and water for at least 15 minutes. Get medical attention. Remove contaminated clothing and launder before reuse.

**Ingestion**

Do NOT induce vomiting. Give nothing by mouth. Obtain immediate medical attention.

**Symptoms caused by exposure**

Causes severe eye irritation which may damage tissue. Causes skin irritation.

**Medical Attention and Special Treatment**

**Notes to Physician** Treat symptomatically

## 5. Fire Fighting Measures

**Suitable extinguishing equipment****Suitable Extinguishing Media**

Water fog, carbon dioxide, foam, dry chemical.

**Extinguishing media which must not be used for safety reasons**

None known.

**Specific hazards arising from the chemical****Special exposure hazards in a fire**

Decomposition in fire may produce harmful gases.

**Special protective equipment and precautions for fire fighters****Special protective equipment for firefighters**

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

## 6. Accidental release measures

**6.1. Personal precautions, protective equipment and emergency procedures**

Use appropriate protective equipment. Avoid contact with skin, eyes and clothing. Avoid breathing vapors. Ensure adequate ventilation.

**6.2. Environmental precautions**

Prevent from entering sewers, waterways, or low areas.

**6.3. Methods and material for containment and cleaning up**

Isolate spill and stop leak where safe. Contain spill with sand or other inert materials. Neutralize to pH of 6-8. Scoop up and remove. Do NOT spread spilled product with water.

## 7. Handling and storage

**7.1. Precautions for safe handling****Handling Precautions**

Avoid contact with eyes, skin, or clothing. Wash hands after use. Launder contaminated clothing before reuse. Avoid breathing vapors. Avoid breathing mist. Ensure adequate ventilation. Use appropriate protective equipment.

**Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice.

**7.2. Conditions for safe storage, including any incompatibilities****Storage Information**

Store away from acids. Store in a cool well ventilated area. Keep container closed when not in use.

**Other Guidelines**

No information available

## 8. Exposure Controls/Personal Protection

**Control parameters - exposure standards, biological monitoring****Exposure Limits**

Substances	CAS Number	Australia NOHSC	ACGIH TLV-TWA
Sodium silicate	1344-09-8	Not applicable	Not applicable

**Appropriate engineering controls****Engineering Controls**

Use in a well ventilated area. Local exhaust ventilation should be used in areas without good cross ventilation.

**Personal protective equipment (PPE)**

<b>Personal Protective Equipment</b>	If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.
<b>Respiratory Protection</b>	If engineering controls and work practices cannot keep exposure below occupational exposure limits or if exposure is unknown, wear a NIOSH certified, European Standard EN 149, AS/NZS 1715:2009, or equivalent respirator when using this product. Selection of and instruction on using all personal protective equipment, including respirators, should be performed by an Industrial Hygienist or other qualified professional. Dust/mist respirator. (N95, P2/P3)
<b>Hand Protection</b>	Chemical-resistant protective gloves (EN 374) Nitrile gloves. Suitable materials for longer, direct contact (recommended: protection index 6, corresponding to > 480 minutes permeation time as per EN 374): (>= 8 mm thickness) This information is based on literature references and on information provided by glove manufacturers, or is derived by analogy with similar substances. Please note that in practice the working life of chemical-resistant protective gloves may be considerably shorter than the permeation time determined in accordance with EN 374 as a result of the many influencing factors (e.g. temperature). If signs of wear and tear are noticed then the gloves should be replaced. Manufacturer's directions for use should be observed because of great diversity of types.
<b>Skin Protection</b>	Full protective chemical resistant clothing.
<b>Eye Protection</b>	Chemical goggles; also wear a face shield if splashing hazard exists.
<b>Other Precautions</b>	Eyewash fountains and safety showers must be easily accessible.
<b>Environmental Exposure Controls</b>	Do not allow material to contaminate ground water system.

**9. Physical and Chemical Properties****9.1. Information on basic physical and chemical properties**

<b>Physical State:</b> Liquid	<b>Color:</b> Clear to hazy
<b>Odor:</b> Slightly soapy	<b>Odor Threshold:</b> No information available

<u>Property</u>	<u>Values</u>
Remarks/ - Method	
<b>pH:</b>	11.2
<b>Freezing Point / Range</b>	-1 °C
<b>Melting Point / Range</b>	No data available
<b>Pour Point / Range</b>	No data available
<b>Boiling Point / Range</b>	101 °C / 214 °F
<b>Flash Point</b>	No data available
<b>Evaporation rate</b>	No data available
<b>Vapor Pressure</b>	No data available
<b>Vapor Density</b>	No data available
<b>Specific Gravity</b>	1.4
<b>Water Solubility</b>	Soluble in water
<b>Solubility in other solvents</b>	No data available
<b>Partition coefficient: n-octanol/water</b>	No data available
<b>Autoignition Temperature</b>	No data available
<b>Decomposition Temperature</b>	No data available
<b>Viscosity</b>	No data available
<b>Explosive Properties</b>	No information available
<b>Oxidizing Properties</b>	No information available

**9.2. Other information**

<b>VOC Content (%)</b>	No data available
------------------------	-------------------

**10. Stability and Reactivity****10.1. Reactivity**

Not expected to be reactive.

**10.2. Chemical stability**

Stable

**10.3. Possibility of hazardous reactions**

Will Not Occur

**10.4. Conditions to avoid**

None anticipated

**10.5. Incompatible materials**

Strong acids. Amphoteric metals such as aluminum, magnesium, lead, tin, or zinc.

**10.6. Hazardous decomposition products**

Hydrogen

**11. Toxicological Information****Information on routes of exposure****Principle Route of Exposure** Eye or skin contact, inhalation.**Symptoms related to exposure****Most Important Symptoms/Effects**

Causes severe eye irritation which may damage tissue. Causes skin irritation.

**Toxicology data for the components**

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Sodium silicate	1344-09-8	3400 mg/kg (Rat)	> 5000 mg/kg (Rat) (similar substance)	> 2.06 mg/L (Rat) 4h (similar substance)

**Immediate, delayed and chronic health effects from exposure****Inhalation**

May cause respiratory irritation.

**Eye Contact**

Causes severe eye irritation which may damage tissue.

**Skin Contact**

Causes skin irritation.

**Ingestion**

Irritation of the mouth, throat, and stomach.

**Chronic Effects/Carcinogenicity** No data available to indicate product or components present at greater than 0.1% are chronic health hazards.**Exposure Levels**

No data available

**Interactive effects**

Skin disorders.

**Data limitations**

No data available

Substances	CAS Number	Skin corrosion/irritation
Sodium silicate	1344-09-8	Causes moderate skin irritation. (Rabbit)

Substances	CAS Number	Serious eye damage/irritation
Sodium silicate	1344-09-8	Causes severe eye irritation which may damage tissue. (Rabbit)

Substances	CAS Number	Skin Sensitization
Sodium silicate	1344-09-8	Did not cause sensitization on laboratory animals (mouse) (similar substances)

Substances	CAS Number	Respiratory Sensitization
Sodium silicate	1344-09-8	No information available

Substances	CAS Number	Mutagenic Effects
Sodium silicate	1344-09-8	In vitro tests did not show mutagenic effects. In vivo tests did not show mutagenic effects.

Substances	CAS Number	Carcinogenic Effects
Sodium silicate	1344-09-8	No information available

Substances	CAS Number	Reproductive toxicity
Sodium silicate	1344-09-8	Animal testing did not show any effects on fertility. Did not show teratogenic effects in animal experiments. (similar substances)
Substances	CAS Number	STOT - single exposure
Sodium silicate	1344-09-8	No information available.
Substances	CAS Number	STOT - repeated exposure
Sodium silicate	1344-09-8	No significant toxicity observed in animal studies at concentration requiring classification.
Substances	CAS Number	Aspiration hazard
Sodium silicate	1344-09-8	Not applicable

## 12. Ecological Information

### Ecotoxicity

#### Substance Ecotoxicity Data

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Sodium silicate	1344-09-8	EC50 (72h) > 345 mg/L (growth rate) (Scenedesmus subspicatus) EC0 (72h) 35 mg/L (growth rate) (Scenedesmus subspicatus)	LC50 (96h) 1108 mg/L (Danio rerio) LC50 (96h) 260 – 310 mg/L (Oncorhynchus mykiss)	EC0 (0.5h) 3454 mg/L (Pseudomonas putida)	EC50 (48h) 1700 mg/L (Daphnia magna)

### 12.2. Persistence and degradability

Substances	CAS Number	Persistence and Degradability
Sodium silicate	1344-09-8	The methods for determining biodegradability are not applicable to inorganic substances.

### 12.3. Bioaccumulative potential

Substances	CAS Number	Bioaccumulation
Sodium silicate	1344-09-8	No information available

### 12.4. Mobility in soil

Substances	CAS Number	Mobility
Sodium silicate	1344-09-8	No information available

### 12.6. Other adverse effects

#### Endocrine Disruptor Information

This product does not contain any known or suspected endocrine disruptors

## 13. Disposal Considerations

### Safe handling and disposal methods

Disposal should be made in accordance with federal, state, and local regulations.

### Disposal of any contaminated packaging

Follow all applicable national or local regulations.

### Environmental regulations

Not applicable

## 14. Transport Information

### Transportation Information

#### Australia ADG

UN Number	Not restricted
UN proper shipping name:	Not restricted
Transport Hazard Class(es):	Not applicable
Packing Group:	Not applicable
Environmental Hazards:	Not applicable

#### IMDG/IMO

UN Number	Not restricted
UN proper shipping name:	Not restricted
Transport Hazard Class(es):	Not applicable
Packing Group:	Not applicable
Environmental Hazards:	Not applicable

#### IATA/ICAO

UN Number	Not restricted
UN proper shipping name:	Not restricted
Transport Hazard Class(es):	Not applicable
Packing Group:	Not applicable
Environmental Hazards:	Not applicable

#### Special precautions during transport

None

#### HazChem Code

None Allocated

## 15. Regulatory Information

### Safety, health and environmental regulations specific for the product

#### International Inventories

<b>Australian AICS Inventory</b>	All components are listed on the AICS or are subject to a relevant exemption, permit, or assessment certificate.
<b>New Zealand Inventory of Chemicals</b>	All components are listed on the NZIoC or are subject to a relevant exemption, permit, or assessment certificate.
<b>US TSCA Inventory</b>	All components listed on inventory or are exempt.
<b>Canadian Domestic Substances List (DSL)</b>	All components listed on inventory or are exempt.

#### Poisons Schedule number

S5

#### International Agreements

<b>Montreal Protocol - Ozone Depleting Substances:</b>	Does not apply.
<b>Stockholm Convention - Persistent Organic Pollutants:</b>	Does not apply.
<b>Rotterdam Convention - Prior Informed Consent:</b>	Does not apply.
<b>Basel Convention - Hazardous Waste:</b>	Does not apply.

## 16. Other information

### Date of preparation or review

Revision Date: 06-Jan-2020



**Revision Note**

SDS sections updated:

2

**Full text of H-Statements referred to under sections 2 and 3**

H315 - Causes skin irritation

H318 - Causes serious eye damage

**Additional information**

For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Safety Data Sheet for this or other Halliburton products, contact Chemical Stewardship at 1-580-251-4335.

**Key abbreviations or acronyms used**

bw – body weight

CAS – Chemical Abstracts Service

EC50 – Effective Concentration 50%

LC50 – Lethal Concentration 50%

LD50 – Lethal Dose 50%

LL50 – Lethal Loading 50%

mg/kg – milligram/kilogram

mg/L – milligram/liter

NOEC – No Observed Effect Concentration

OEL – Occupational Exposure Limit

PBT – Persistent Bioaccumulative and Toxic

ppm – parts per million

STEL – Short Term Exposure Limit

TWA – Time-Weighted Average

vPvB – very Persistent and very Bioaccumulative

h - hour

mg/m<sup>3</sup> - milligram/cubic meter

mm - millimeter

mmHg - millimeter mercury

w/w - weight/weight

d - day

**Key literature references and sources for data**[www.ChemADVISOR.com/](http://www.ChemADVISOR.com/)

NZ CCID

**Disclaimer Statement**

This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.

**End of Safety Data Sheet**

## SAFETY DATA SHEET

### GASCON 469

Revision Date: 30-Apr-2020

Revision Number: 33

#### 1. Product Identifier & Identity for the Chemical

**Statement of Hazardous Nature** Non-Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

##### 1.1. Product Identifier

**Product Name** GASCON 469

##### Other means of Identification

**Synonyms** None

**Hazardous Material Number:** HM000753

##### Recommended use of the chemical and restrictions on use

**Recommended Use** Cement Additive

**Uses advised against** No information available

##### Supplier's name, address and phone number

**Manufacturer/Supplier** Halliburton Australia Pty. Ltd.  
15 Marriott Road, Jandakot, WA 6164  
Australia  
ACN Number: 009 000 775  
Telephone Number: + 61 1 800 686 951  
Fax Number: 61 (08) 9455 5300  
**E-mail Address** fdunexchem@halliburton.com

##### Emergency phone number

+ 61 1 800 686 951

Global Incident Response Access Code: 334305

Contract Number: 14012

##### **Australian Poisons Information Centre**

24 Hour Service: - 13 11 26

Police or Fire Brigade: - 000 (exchange): - 1100

#### 2. Hazard Identification

**Statement of Hazardous Nature** Non-Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

##### Classification of the hazardous chemical

Not classified

##### Label elements, including precautionary statements

##### **Hazard Pictograms**

**Signal Word** Not Hazardous

**Hazard Statements:** Not Classified

**Precautionary Statements**

**Prevention** None  
**Response** None  
**Storage** None  
**Disposal** None

**Contains**

**Substances** CAS Number  
 Contains no hazardous substances in concentrations above cut-off values according to the competent authority NA

**Other hazards which do not result in classification**

This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).  
 This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

For the full text of the H-phrases mentioned in this Section, see Section 16

### 3. Composition/information on Ingredients

Substances	CAS Number	PERCENT (w/w)	GHS Classification - Australia
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	60 - 100%	Not classified

### 4. First aid measures

**Description of necessary first aid measures**

**Inhalation** If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.  
**Eyes** In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.  
**Skin** Wash with soap and water. Get medical attention if irritation persists.  
**Ingestion** Do NOT induce vomiting. Give nothing by mouth. Obtain immediate medical attention.

**Symptoms caused by exposure**

No significant hazards expected.

**Medical Attention and Special Treatment**

**Notes to Physician** Treat symptomatically

### 5. Fire Fighting Measures

**Suitable extinguishing equipment**

**Suitable Extinguishing Media**

All standard fire fighting media

**Extinguishing media which must not be used for safety reasons**

None known.

**Specific hazards arising from the chemical**

**Special exposure hazards in a fire**

Not applicable

**Special protective equipment and precautions for fire fighters**

**Special protective equipment for firefighters**

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

**6. Accidental release measures**

**6.1. Personal precautions, protective equipment and emergency procedures**

Use appropriate protective equipment. Avoid contact with skin, eyes and clothing. Avoid breathing vapors. Ensure adequate ventilation.

**6.2. Environmental precautions**

Prevent from entering sewers, waterways, or low areas.

**6.3. Methods and material for containment and cleaning up**

Isolate spill and stop leak where safe. Contain spill with sand or other inert materials. Scoop up and remove.

**7. Handling and storage**

**7.1. Precautions for safe handling**

**Handling Precautions**

Avoid contact with eyes, skin, or clothing. Avoid breathing vapors. Ensure adequate ventilation. Wash hands after use. Launder contaminated clothing before reuse. Use appropriate protective equipment.

**Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice.

**7.2. Conditions for safe storage, including any incompatibilities**

**Storage Information**

Store in a cool well ventilated area. Keep from excessive heat. Keep from freezing. Keep container closed when not in use. Store in non-rusting containers. Product has a shelf life of 12 months.

**Other Guidelines**

No information available

**8. Exposure Controls/Personal Protection**

**Control parameters - exposure standards, biological monitoring**

**Exposure Limits**

Substances	CAS Number	Australia NOHSC	ACGIH TLV-TWA
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable

**Appropriate engineering controls**

**Engineering Controls** Use in a well ventilated area.

**Personal protective equipment (PPE)**

**Personal Protective Equipment** If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.

**Respiratory Protection** If engineering controls and work practices cannot keep exposure below occupational exposure limits or if exposure is unknown, wear a NIOSH certified, European Standard EN 149, AS/NZS 1715:2009, or equivalent respirator when using this product. Selection of and instruction on using all personal protective equipment, including respirators, should be performed by an Industrial Hygienist or other qualified professional. Dust/mist respirator. (N95, P2/P3)

**Hand Protection** None known.

**Skin Protection** Normal work coveralls.

**Eye Protection** Chemical goggles; also wear a face shield if splashing hazard exists.

**Other Precautions** None known.

**Environmental Exposure Controls** Do not allow material to contaminate ground water system.

## 9. Physical and Chemical Properties

### 9.1. Information on basic physical and chemical properties

**Physical State:** Liquid      **Color:** Transparent  
**Odor:** Odorless      **Odor Threshold:** No information available

Property	Values
Remarks/ - Method	
<b>pH:</b>	10
<b>Freezing Point / Range</b>	No data available
<b>Melting Point / Range</b>	No data available
<b>Pour Point / Range</b>	No data available
<b>Boiling Point / Range</b>	100 °C / 212 °F
<b>Flash Point</b>	No data available
<b>Evaporation rate</b>	No data available
<b>Vapor Pressure</b>	No data available
<b>Vapor Density</b>	No data available
<b>Specific Gravity</b>	1.1
<b>Water Solubility</b>	Soluble in water (10g/100ml)
<b>Solubility in other solvents</b>	No data available
<b>Partition coefficient: n-octanol/water</b>	No data available
<b>Autoignition Temperature</b>	No data available
<b>Decomposition Temperature</b>	No data available
<b>Viscosity</b>	No data available
<b>Explosive Properties</b>	No information available
<b>Oxidizing Properties</b>	No information available

### 9.2. Other information

**VOC Content (%)** 80

## 10. Stability and Reactivity

### 10.1. Reactivity

Not expected to be reactive.

### 10.2. Chemical stability

Stable

### 10.3. Possibility of hazardous reactions

Will Not Occur

### 10.4. Conditions to avoid

None anticipated

### 10.5. Incompatible materials

Strong oxidizers. Strong acids.

### 10.6. Hazardous decomposition products

None known.

## 11. Toxicological Information

### Information on routes of exposure

**Principle Route of Exposure** Eye or skin contact, inhalation.

### Symptoms related to exposure

#### Most Important Symptoms/Effects

No significant hazards expected.

### Toxicology data for the components

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Contains no hazardous	NA	No data available	No data available	No data available

substances in concentrations above cut-off values according to the competent authority				
--	--	--	--	--

**Immediate, delayed and chronic health effects from exposure**

<b>Inhalation</b>	None known.
<b>Eye Contact</b>	May cause mechanical irritation to eye.
<b>Skin Contact</b>	May cause mild skin irritation.
<b>Ingestion</b>	None known.

**Chronic Effects/Carcinogenicity** No data available to indicate product or components present at greater than 0.1% are chronic health hazards.

**Exposure Levels**

No data available

**Interactive effects**

None known.

**Data limitations**

No data available

**12. Ecological Information**

**Ecotoxicity**

**Substance Ecotoxicity Data**

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available	No information available	No information available	No information available

**12.2. Persistence and degradability**

Substances	CAS Number	Persistence and Degradability
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

**12.3. Bioaccumulative potential**

Substances	CAS Number	Bioaccumulation
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

**12.4. Mobility in soil**

Substances	CAS Number	Mobility
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

**12.6. Other adverse effects****Endocrine Disruptor Information**

This product does not contain any known or suspected endocrine disruptors

**13. Disposal Considerations****Safe handling and disposal methods**

Disposal should be made in accordance with federal, state, and local regulations. Incineration recommended in approved incinerator according to federal, state, and local regulations. Substance should NOT be deposited into a sewage facility.

**Disposal of any contaminated packaging**

Follow all applicable national or local regulations.

**Environmental regulations**

Not applicable

**14. Transport Information****Transportation Information****Australia ADG**

UN Number	Not restricted
UN proper shipping name:	Not restricted
Transport Hazard Class(es):	Not applicable
Packing Group:	Not applicable
Environmental Hazards:	Not applicable

**IMDG/IMO**

UN Number	Not restricted
UN proper shipping name:	Not restricted
Transport Hazard Class(es):	Not applicable
Packing Group:	Not applicable
Environmental Hazards:	Not applicable

**IATA/ICAO**

UN Number	Not restricted
UN proper shipping name:	Not restricted
Transport Hazard Class(es):	Not applicable
Packing Group:	Not applicable
Environmental Hazards:	Not applicable

**Special precautions during transport**

None

**HazChem Code**

None Allocated

**15. Regulatory Information****Safety, health and environmental regulations specific for the product****International Inventories****Australian AICS Inventory**

All components are listed on the AICS or are subject to a relevant exemption, permit, or

assessment certificate.  
**New Zealand Inventory of Chemicals** All components are listed on the NZIoC or are subject to a relevant exemption, permit, or assessment certificate.  
**US TSCA Inventory** All components listed on inventory or are exempt.  
**Canadian Domestic Substances List (DSL)** All components listed on inventory or are exempt.

**Poisons Schedule number**

None Allocated

**International Agreements**

<b>Montreal Protocol - Ozone Depleting Substances:</b>	Does not apply.
<b>Stockholm Convention - Persistent Organic Pollutants:</b>	Does not apply
<b>Rotterdam Convention - Prior Informed Consent:</b>	Does not apply.
<b>Basel Convention - Hazardous Waste:</b>	Does not apply.

**16. Other information****Date of preparation or review****Revision Date:** 30-Apr-2020**Revision Note**SDS sections updated:  
2**Full text of H-Statements referred to under sections 2 and 3**

None

**Additional information**

For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Safety Data Sheet for this or other Halliburton products, contact Chemical Stewardship at 1-580-251-4335.

**Key abbreviations or acronyms used**

bw – body weight  
CAS – Chemical Abstracts Service  
EC50 – Effective Concentration 50%  
LC50 – Lethal Concentration 50%  
LD50 – Lethal Dose 50%  
LL50 – Lethal Loading 50%  
mg/kg – milligram/kilogram  
mg/L – milligram/liter  
NOEC – No Observed Effect Concentration  
OEL – Occupational Exposure Limit  
PBT – Persistent Bioaccumulative and Toxic  
ppm – parts per million  
STEL – Short Term Exposure Limit  
TWA – Time-Weighted Average  
vPvB – very Persistent and very Bioaccumulative  
h - hour  
mg/m<sup>3</sup> - milligram/cubic meter  
mm - millimeter  
mmHg - millimeter mercury  
w/w - weight/weight  
d - day

**Key literature references and sources for data**www.ChemADVISOR.com/  
NZ CCID



**Disclaimer Statement**

This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.

**End of Safety Data Sheet**

## SAFETY DATA SHEET

### GASSTOP ADDITIVE

Revision Date: 23-Jul-2018

Revision Number: 32

#### 1. Product Identifier & Identity for the Chemical

**Statement of Hazardous Nature** Non-Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

##### 1.1. Product Identifier

**Product Name** GASSTOP ADDITIVE

##### Other means of Identification

**Synonyms** None  
**Hazardous Material Number:** HM000755

##### Recommended use of the chemical and restrictions on use

**Recommended Use** Cement Additive  
**Uses advised against** No information available

##### Supplier's name, address and phone number

**Manufacturer/Supplier** Halliburton Australia Pty. Ltd.  
15 Marriott Road, Jandakot, WA 6164  
Australia  
ACN Number: 009 000 775  
Telephone Number: + 61 1 800 686 951  
Fax Number: 61 (08) 9455 5300  
**E-mail Address** fdunexchem@halliburton.com

##### Emergency phone number

+ 61 1 800 686 951  
Global Incident Response Access Code: 334305  
Contract Number: 14012

##### **Australian Poisons Information Centre**

24 Hour Service: - 13 11 26  
Police or Fire Brigade: - 000 (exchange): - 1100

#### 2. Hazard Identification

**Statement of Hazardous Nature** Non-Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

##### Classification of the hazardous chemical

Not classified	
Combustible dust	Combustible dust

##### Label elements, including precautionary statements

##### **Hazard Pictograms**

**Signal Word** Not Hazardous

**Hazard Statements:** Not Classified

**Precautionary Statements**

**Prevention** None  
**Response** None  
**Storage** None  
**Disposal** None

**Contains**

**Substances**

Contains no hazardous substances in concentrations above cut-off values according to the competent authority

**CAS Number**

NA

**Other hazards which do not result in classification**

This substance is not considered to be persistent, bioaccumulating nor toxic (PBT).

This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

*For the full text of the H-phrases mentioned in this Section, see Section 16*

### 3. Composition/information on Ingredients

Substances	CAS Number	PERCENT (w/w)	GHS Classification - Australia
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	60 - 100%	Not classified

### 4. First aid measures

**Description of necessary first aid measures**

**Inhalation** If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

**Eyes** In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.

**Skin** Wash with soap and water. Get medical attention if irritation persists.

**Ingestion** Rinse mouth with water many times. Get medical attention, if symptoms occur

**Symptoms caused by exposure**

No significant hazards expected.

**Medical Attention and Special Treatment**

**Notes to Physician** Treat symptomatically

### 5. Fire Fighting Measures

**Suitable extinguishing equipment**

**Suitable Extinguishing Media**

All standard fire fighting media

**Extinguishing media which must not be used for safety reasons**

None known.

**Specific hazards arising from the chemical**

**Special exposure hazards in a fire**

Decomposition in fire may produce harmful gases. Organic dust in the presence of an ignition source can be explosive in high concentrations. Good housekeeping practices are required to minimize this potential.

**Special protective equipment and precautions for fire fighters**

**Special protective equipment for firefighters**

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

## 6. Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Use appropriate protective equipment. Avoid creating and breathing dust. Avoid contact with skin, eyes and clothing. Ensure adequate ventilation.

### 6.2. Environmental precautions

Prevent from entering sewers, waterways, or low areas.

### 6.3. Methods and material for containment and cleaning up

Scoop up and remove.

## 7. Handling and storage

### 7.1. Precautions for safe handling

#### **Handling Precautions**

Avoid creating or inhaling dust. Avoid contact with eyes, skin, or clothing. Ensure adequate ventilation. Wash hands after use. Launder contaminated clothing before reuse. Use appropriate protective equipment.

#### **Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice.

### 7.2. Conditions for safe storage, including any incompatibilities

#### **Storage Information**

Store in a cool, dry location.

#### **Other Guidelines**

No information available

## 8. Exposure Controls/Personal Protection

### Control parameters - exposure standards, biological monitoring

#### **Exposure Limits**

Substances	CAS Number	Australia NOHSC	ACGIH TLV-TWA
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable

### Appropriate engineering controls

#### **Engineering Controls**

Use in a well ventilated area.

### Personal protective equipment (PPE)

#### **Personal Protective Equipment**

If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.

#### **Respiratory Protection**

Not normally needed. But if significant exposures are possible then the following respirator is recommended:

Dust/mist respirator. (N95, P2/P3)

#### **Hand Protection**

Use gloves which are suitable for the chemicals present in this product as well as other environmental factors in the workplace.

#### **Skin Protection**

Wear protective clothing appropriate for the work environment.

#### **Eye Protection**

Wear safety glasses or goggles to protect against exposure.

#### **Other Precautions**

None known.

#### **Environmental Exposure Controls**

Do not allow material to contaminate ground water system

## 9. Physical and Chemical Properties

**9.1. Information on basic physical and chemical properties**

**Physical State:** Solid  
**Odor:** Odorless  
**Color:** White to off white  
**Odor Threshold:** No information available

<u>Property</u>	<u>Values</u>
Remarks/ - Method	
<b>pH:</b>	No data available
<b>Freezing Point / Range</b>	-8 °C
<b>Melting Point / Range</b>	No data available
<b>Boiling Point / Range</b>	No data available
<b>Flash Point</b>	No data available
<b>Evaporation rate</b>	No data available
<b>Vapor Pressure</b>	No data available
<b>Vapor Density</b>	No data available
<b>Specific Gravity</b>	1.37
<b>Water Solubility</b>	Soluble in water
<b>Solubility in other solvents</b>	No data available
<b>Partition coefficient: n-octanol/water</b>	No data available
<b>Autoignition Temperature</b>	No data available
<b>Decomposition Temperature</b>	No data available
<b>Viscosity</b>	No data available
<b>Explosive Properties</b>	No information available
<b>Oxidizing Properties</b>	No information available

**9.2. Other information**

**Molecular Weight** > 600  
**VOC Content (%)** < 5%

**10. Stability and Reactivity****10.1. Reactivity**

Not expected to be reactive.

**10.2. Chemical stability**

Stable

**10.3. Possibility of hazardous reactions**

Will Not Occur

**10.4. Conditions to avoid**

None anticipated

**10.5. Incompatible materials**

None known.

**10.6. Hazardous decomposition products**

Oxides of nitrogen. Oxides of sulfur. Carbon monoxide and carbon dioxide.

**11. Toxicological Information****Information on routes of exposure**

**Principle Route of Exposure** Eye or skin contact, inhalation.

**Symptoms related to exposure****Most Important Symptoms/Effects**

No significant hazards expected.

**Toxicology data for the components**

<b>Substances</b>	<b>CAS Number</b>	<b>LD50 Oral</b>	<b>LD50 Dermal</b>	<b>LC50 Inhalation</b>
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No data available	No data available	No data available

**Immediate, delayed and chronic health effects from exposure**

<b>Inhalation</b>	May cause mild respiratory irritation.
<b>Eye Contact</b>	May cause mechanical irritation to eye.
<b>Skin Contact</b>	Not irritating to skin in rabbits.
<b>Ingestion</b>	May cause abdominal pain, vomiting, nausea, and diarrhea.

**Chronic Effects/Carcinogenicity** No data available to indicate product or components present at greater than 0.1% are chronic health hazards.

**Exposure Levels**

No data available

**Interactive effects**

None known.

**Data limitations**

No data available

<b>12. Ecological Information</b>
-----------------------------------

**Ecotoxicity****Substance Ecotoxicity Data**

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available	No information available	No information available	No information available

**12.2. Persistence and degradability**

Substances	CAS Number	Persistence and Degradability
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

**12.3. Bioaccumulative potential**

Substances	CAS Number	Bioaccumulation
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

**12.4. Mobility in soil**

Substances	CAS Number	Mobility
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

**12.6. Other adverse effects****Endocrine Disruptor Information**

This product does not contain any known or suspected endocrine disruptors

<b>13. Disposal Considerations</b>
------------------------------------

**Safe handling and disposal methods**

Follow all applicable community, national or regional regulations regarding waste management methods.

**Disposal of any contaminated packaging**

Follow all applicable national or local regulations.

**Environmental regulations**

Not applicable

<b>14. Transport Information</b>
----------------------------------

**Transportation Information****Australia ADG**

<b>UN Number</b>	Not restricted
<b>UN proper shipping name:</b>	Not restricted
<b>Transport Hazard Class(es):</b>	Not applicable
<b>Packing Group:</b>	Not applicable
<b>Environmental Hazards:</b>	Not applicable

**IMDG/IMO**

<b>UN Number</b>	Not restricted
<b>UN proper shipping name:</b>	Not restricted
<b>Transport Hazard Class(es):</b>	Not applicable
<b>Packing Group:</b>	Not applicable
<b>Environmental Hazards:</b>	Not applicable

**IATA/ICAO**

<b>UN Number</b>	Not restricted
<b>UN proper shipping name:</b>	Not restricted
<b>Transport Hazard Class(es):</b>	Not applicable
<b>Packing Group:</b>	Not applicable
<b>Environmental Hazards:</b>	Not applicable

**Special precautions during transport**

None

**HazChem Code**

None Allocated

<b>15. Regulatory Information</b>
-----------------------------------

**Safety, health and environmental regulations specific for the product****International Inventories****Australian AICS Inventory**

All components are listed on the AICS or are subject to a relevant exemption, permit, or assessment certificate.

**New Zealand Inventory of Chemicals**

All components are listed on the NZIoC or are subject to a relevant exemption, permit, or assessment certificate.

**EINECS (European Inventory of Existing Chemical Substances)**

This product, and all its components, complies with EINECS

**US TSCA Inventory**

All components listed on inventory or are exempt.

**Canadian Domestic Substances List**

All components listed on inventory or are exempt.

**(DSL)****Poisons Schedule number**

None Allocated

**International Agreements****Montreal Protocol - Ozone Depleting Substances:**

Does not apply.

**Stockholm Convention - Persistent Organic Pollutants:**

Does not apply

**Rotterdam Convention - Prior Informed Consent:**

Does not apply.

**Basel Convention - Hazardous Waste:**

Does not apply.

**16. Other information****Date of preparation or review****Revision Date:** 23-Jul-2018**Revision Note**

SDS sections updated:

2

**Full text of H-Statements referred to under sections 2 and 3**

None

**Additional information**

For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Safety Data Sheet for this or other Halliburton products, contact Chemical Stewardship at 1-580-251-4335.

**Key abbreviations or acronyms used**

bw – body weight

CAS – Chemical Abstracts Service

EC50 – Effective Concentration 50%

LC50 – Lethal Concentration 50%

LD50 – Lethal Dose 50%

LL50 – Lethal Loading 50%

mg/kg – milligram/kilogram

mg/L – milligram/liter

NOEC – No Observed Effect Concentration

OEL – Occupational Exposure Limit

PBT – Persistent Bioaccumulative and Toxic

ppm – parts per million

STEL – Short Term Exposure Limit

TWA – Time-Weighted Average

vPvB – very Persistent and very Bioaccumulative

h - hour

mg/m<sup>3</sup> - milligram/cubic meter

mm - millimeter

mmHg - millimeter mercury

w/w - weight/weight

d - day

**Key literature references and sources for data**[www.ChemADVISOR.com/](http://www.ChemADVISOR.com/)**Disclaimer Statement**

This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.



**End of Safety Data Sheet**

## SAFETY DATA SHEET

### HALAD® 344 CEMENT ADDITIVE

Revision Date: 07-Mar-2016

Revision Number: 34

#### 1. Product Identifier & Identity for the Chemical

**Statement of Hazardous Nature** Non-Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

##### 1.1. Product Identifier

**Product Name** HALAD® 344 CEMENT ADDITIVE

##### Other means of Identification

**Synonyms** None  
**Product Code:** HM000816

##### Recommended use of the chemical and restrictions on use

**Recommended Use** Fluid Loss Additive

**Uses advised against** No information available

##### Supplier's name, address and phone number

**Manufacturer/Supplier** Halliburton Australia Pty. Ltd.  
15 Marriott Road  
Jandakot  
WA 6164  
Australia  
  
ACN Number: 009 000 775  
Telephone Number: + 61 1 800 686 951  
Fax Number: 61 (08) 9455 5300  
**E-mail Address** fdunexchem@halliburton.com

##### Emergency phone number

+ 61 1 800 686 951

##### **Australian Poisons Information Centre**

24 Hour Service: - 13 11 26  
Police or Fire Brigade: - 000 (exchange): - 1100

#### 2. Hazard Identification

**Statement of Hazardous Nature** Non-Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

##### Classification of the hazardous chemical

Not classified

##### Label elements, including precautionary statements

**Hazard pictograms**

**Signal Word** Not Hazardous

**Hazard Statements** Not Classified

**Precautionary Statements**

**Prevention** None

**Response** None

**Storage** None

**Disposal** None

**Contains**

**Substances**

Contains no hazardous substances in concentrations above cut-off values according to the competent authority

**CAS Number**

NA

**Other hazards which do not result in classification**

This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).

This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

*For the full text of the H-phrases mentioned in this Section, see Section 16*

### 3. Composition/information on Ingredients

Substances	CAS Number	PERCENT (w/w)	GHS Classification - Australia
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	60 - 100%	Not Applicable

### 4. First aid measures

**Description of necessary first aid measures**

**Inhalation** If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

**Eyes** Immediately flush eyes with large amounts of water for at least 15 minutes. Get immediate medical attention.

**Skin** Wash with soap and water. Get medical attention if irritation persists.

**Ingestion** Do NOT induce vomiting. Give nothing by mouth. Obtain immediate medical attention.

**Symptoms caused by exposure**

No significant hazards expected.

**Medical Attention and Special Treatment**

**Notes to Physician** Treat symptomatically

### 5. Fire Fighting Measures

**Suitable extinguishing equipment**

**Suitable Extinguishing Media**

All standard fire fighting media

**Extinguishing media which must not be used for safety reasons**

None known.

**Specific hazards arising from the chemical**

**Special exposure hazards in a fire**

Decomposition in fire may produce harmful gases. Organic dust in the presence of an ignition source can be explosive in high

concentrations. Good housekeeping practices are required to minimize this potential.

**Special protective equipment and precautions for fire fighters**

**Special protective equipment for firefighters**

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

**6. Accidental release measures**

**6.1. Personal precautions, protective equipment and emergency procedures**

Use appropriate protective equipment. Avoid creating and breathing dust. Avoid contact with skin, eyes and clothing. Ensure adequate ventilation.

**6.2. Environmental precautions**

Prevent from entering sewers, waterways, or low areas.

**6.3. Methods and material for containment and cleaning up**

Scoop up and remove.

**7. Handling and storage**

**7.1. Precautions for safe handling**

**Handling Precautions**

Avoid creating or inhaling dust. Avoid contact with eyes, skin, or clothing. Ensure adequate ventilation. Wash hands after use. Launder contaminated clothing before reuse. Use appropriate protective equipment.

**Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice.

**7.2. Conditions for safe storage, including any incompatibilities**

**Storage Information**

Store in a cool, dry location. Store away from oxidizers. Keep container closed when not in use. Product has a shelf life of 60 months.

**Other Guidelines**

No information available

**8. Exposure Controls/Personal Protection**

**Control parameters - exposure standards, biological monitoring**

**Exposure Limits**

Substances	CAS Number	Australia NOHSC	ACGIH TLV-TWA
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable

**Appropriate engineering controls**

**Engineering Controls** Use in a well ventilated area.

**Personal protective equipment (PPE)**

**Personal Protective Equipment** If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.

**Respiratory Protection** If engineering controls and work practices cannot keep exposure below occupational exposure limits or if exposure is unknown, wear a NIOSH certified, European Standard EN 149, AS/NZS 1715:2009, or equivalent respirator when using this product. Selection of and instruction on using all personal protective equipment, including respirators, should be performed by an Industrial Hygienist or other qualified professional.  
Dust/mist respirator. (N95, P2/P3)

**Hand Protection** None known.

**Skin Protection** Normal work coveralls.

**Eye Protection** Wear safety glasses or goggles to protect against exposure.

**Other Precautions** None known.  
**Environmental Exposure Controls** Do not allow material to contaminate ground water system

**9. Physical and Chemical Properties**

**9.1. Information on basic physical and chemical properties**

<b>Physical State:</b>	Powder	<b>Color</b>	White to off white
<b>Odor:</b>	Odorless	<b>Odor Threshold:</b>	No information available

<u>Property</u>	<u>Values</u>
<u>Remarks/ - Method</u>	
<b>pH:</b>	No data available
<b>Freezing Point / Range</b>	-8 °C
<b>Melting Point / Range</b>	No data available
<b>Boiling Point / Range</b>	No data available
<b>Flash Point</b>	No data available
<b>Evaporation rate</b>	No data available
<b>Vapor Pressure</b>	No data available
<b>Vapor Density</b>	No data available
<b>Specific Gravity</b>	1.37
<b>Water Solubility</b>	Soluble in water
<b>Solubility in other solvents</b>	No data available
<b>Partition coefficient: n-octanol/water</b>	No data available
<b>Autoignition Temperature</b>	No data available
<b>Decomposition Temperature</b>	No data available
<b>Viscosity</b>	No data available
<b>Explosive Properties</b>	No information available
<b>Oxidizing Properties</b>	No information available

**9.2. Other information**

<b>Molecular Weight</b>	> 600
<b>VOC Content (%)</b>	No data available

**10. Stability and Reactivity**

**10.1. Reactivity**

Not expected to be reactive.

**10.2. Chemical stability**

Stable

**10.3. Possibility of hazardous reactions**

Will Not Occur

**10.4. Conditions to avoid**

None anticipated

**10.5. Incompatible materials**

None known.

**10.6. Hazardous decomposition products**

Oxides of nitrogen. Carbon monoxide and carbon dioxide. Oxides of sulfur.

**11. Toxicological Information**

**Information on routes of exposure**

**Principle Route of Exposure** Eye or skin contact, inhalation.

**Symptoms related to exposure**

**Most Important Symptoms/Effects**

No significant hazards expected.

**Numerical measures of toxicity**

**Toxicology data for the components**

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No data available	No data available	No data available

**Immediate, delayed and chronic health effects from exposure**

**Inhalation** None known.  
**Eye Contact** Non-irritating to rabbit's eye  
**Skin Contact** Not irritating to skin in rabbits.  
**Ingestion** No adverse health effects are expected from swallowing.

**Chronic Effects/Carcinogenicity** No data available to indicate product or components present at greater than 0.1% are chronic health hazards.

**Exposure Levels**

No data available

**Interactive effects**

None known.

**Data limitations**

No data available

**12. Ecological Information**

**Ecotoxicity**

**Product Ecotoxicity Data**

No data available

**Substance Ecotoxicity Data**

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available	No information available	No information available	No information available

**12.2. Persistence and degradability**

Not readily biodegradable

Substances	CAS Number	Persistence and Degradability
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

**12.3. Bioaccumulative potential**

Does not bioaccumulate.

Substances	CAS Number	Log Pow
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

**12.4. Mobility in soil**

Substances	CAS Number	Mobility
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

**12.6. Other adverse effects**

**Endocrine Disruptor Information**

This product does not contain any known or suspected endocrine disruptors

**13. Disposal Considerations**

**Safe handling and disposal methods**

Bury in a licensed landfill according to federal, state, and local regulations. Substance should NOT be deposited into a sewage facility.

**Disposal of any contaminated packaging**

Follow all applicable national or local regulations. Contaminated packaging may be disposed of by: rendering packaging incapable of containing any substance, or treating packaging to remove residual contents, or treating packaging to make sure the residual contents are no longer hazardous, or by disposing of packaging into commercial waste collection.

**Environmental regulations**

Not applicable

**14. Transport Information**

**Transportation Information**

<b>UN Number</b>	Not restricted
<b>UN proper shipping name</b>	Not restricted
<b>Transport Hazard Class(es)</b>	Not applicable
<b>Packing Group:</b>	Not applicable
<b>Environmental Hazards</b>	Not applicable

**Special precautions during transport**

None

**HazChem Code**

None Allocated

**15. Regulatory Information**

**Safety, health and environmental regulations specific for the product**

**International Inventories**

<b>Australian AICS Inventory</b>	All components are listed on the AICS or are subject to a relevant exemption, permit, or assessment certificate.
<b>New Zealand Inventory of Chemicals</b>	All components are listed on the AICS or are subject to a relevant exemption, permit, or assessment certificate.
<b>EINECS (European Inventory of Existing Chemical Substances)</b>	This product does not comply with EINECS
<b>US TSCA Inventory</b>	All components listed on inventory or are exempt.
<b>Canadian Domestic Substances List (DSL)</b>	All components listed on inventory or are exempt.

**Poisons Schedule number**

---

None Allocated

**International Agreements**

<b>Montreal Protocol - Ozone Depleting Substances:</b>	Does not apply
<b>Stolkhom Convention - Persistent Organic Pollutants:</b>	Does not apply
<b>Rotterdam Convention - Prior Informed Consent:</b>	Does not apply
<b>Basel Convention - Hazardous Waste:</b>	Does not apply

<b>16. Other information</b>
------------------------------

**Date of preparation or review**

**Revision Date:** 07-Mar-2016

**Revision Note**

SDS sections updated: 2

**Full text of H-Statements referred to under sections 2 and 3**

None

**Additional information**

For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Safety Data Sheet for this or other Halliburton products, contact Chemical Stewardship at 1-580-251-4335.

**Key abbreviations or acronyms used**

bw – body weight  
CAS – Chemical Abstracts Service  
EC50 – Effective Concentration 50%  
LC50 – Lethal Concentration 50%  
LD50 – Lethal Dose 50%  
LL50 – Lethal Loading 50%  
mg/kg – milligram/kilogram  
mg/L – milligram/liter  
NOEC – No Observed Effect Concentration  
OEL – Occupational Exposure Limit  
PBT – Persistent Bioaccumulative and Toxic  
ppm – parts per million  
STEL – Short Term Exposure Limit  
TWA – Time-Weighted Average  
vPvB – very Persistent and very Bioaccumulative  
h - hour  
mg/m<sup>3</sup> - milligram/cubic meter  
mm - millimeter  
mmHg - millimeter mercury  
w/w - weight/weight  
d - day

**Key literature references and sources for data**

www.ChemADVISOR.com/  
NZ CCID

**Disclaimer Statement**

This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.

**End of Safety Data Sheet**



## SAFETY DATA SHEET

### HALAD® 413 CEMENT ADDITIVE

Revision Date: 11-Jul-2018

Revision Number: 32

#### 1. Product Identifier & Identity for the Chemical

**Statement of Hazardous Nature** Non-Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

##### 1.1. Product Identifier

**Product Name** HALAD® 413 CEMENT ADDITIVE

##### Other means of Identification

**Synonyms** None  
**Hazardous Material Number:** HM000823

##### Recommended use of the chemical and restrictions on use

**Recommended Use** Fluid Loss Additive  
**Uses advised against** No information available

##### Supplier's name, address and phone number

**Manufacturer/Supplier** Halliburton Australia Pty. Ltd.  
15 Marriott Road, Jandakot, WA 6164  
Australia  
ACN Number: 009 000 775  
Telephone Number: + 61 1 800 686 951  
Fax Number: 61 (08) 9455 5300  
**E-mail Address** fdunexchem@halliburton.com

##### Emergency phone number

+ 61 1 800 686 951  
Global Incident Response Access Code: 334305  
Contract Number: 14012

##### **Australian Poisons Information Centre**

24 Hour Service: - 13 11 26  
Police or Fire Brigade: - 000 (exchange): - 1100

#### 2. Hazard Identification

**Statement of Hazardous Nature** Non-Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

##### Classification of the hazardous chemical

Not classified

##### Label elements, including precautionary statements

##### **Hazard Pictograms**

**Signal Word** Not Hazardous

**Hazard Statements:** Not Classified

**Precautionary Statements**

**Prevention** None  
**Response** None  
**Storage** None  
**Disposal** None

**Contains Substances** CAS Number  
 Contains no hazardous substances in concentrations above cut-off values according to the competent authority NA

**Other hazards which do not result in classification**  
 None known

*For the full text of the H-phrases mentioned in this Section, see Section 16*

**3. Composition/information on Ingredients**

Substances	CAS Number	PERCENT (w/w)	GHS Classification - Australia
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	60 - 100%	Not classified

**4. First aid measures**

**Description of necessary first aid measures**

**Inhalation** If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.  
**Eyes** In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.  
**Skin** Wash with soap and water. Get medical attention if irritation persists.  
**Ingestion** Under normal conditions, first aid procedures are not required.

**Symptoms caused by exposure**  
 No significant hazards expected.

**Medical Attention and Special Treatment**  
**Notes to Physician** Treat symptomatically

**5. Fire Fighting Measures**

**Suitable extinguishing equipment**  
**Suitable Extinguishing Media**  
 All standard fire fighting media  
**Extinguishing media which must not be used for safety reasons**  
 None known.

**Specific hazards arising from the chemical**  
**Special exposure hazards in a fire**  
 Decomposition in fire may produce harmful gases. Organic dust in the presence of an ignition source can be explosive in high concentrations. Good housekeeping practices are required to minimize this potential.

**Special protective equipment and precautions for fire fighters**  
**Special protective equipment for firefighters**  
 Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

**6. Accidental release measures**

**6.1. Personal precautions, protective equipment and emergency procedures**

Use appropriate protective equipment. Avoid creating and breathing dust. Avoid contact with skin, eyes and clothing. Ensure adequate ventilation.

**6.2. Environmental precautions**

Prevent from entering sewers, waterways, or low areas.

**6.3. Methods and material for containment and cleaning up**

Scoop up and remove.

**7. Handling and storage**

**7.1. Precautions for safe handling**

**Handling Precautions**

Avoid creating or inhaling dust. Avoid contact with eyes, skin, or clothing. Ensure adequate ventilation. Wash hands after use. Launder contaminated clothing before reuse. Use appropriate protective equipment.

**Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice.

**7.2. Conditions for safe storage, including any incompatibilities**

**Storage Information**

Store in a cool, dry location.

**Other Guidelines**

No information available

**8. Exposure Controls/Personal Protection**

**Control parameters - exposure standards, biological monitoring**

**Exposure Limits**

Substances	CAS Number	Australia NOHSC	ACGIH TLV-TWA
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable

**Appropriate engineering controls**

**Engineering Controls** Use in a well ventilated area.

**Personal protective equipment (PPE)**

**Personal Protective Equipment** If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.

**Respiratory Protection** If engineering controls and work practices cannot keep exposure below occupational exposure limits or if exposure is unknown, wear a NIOSH certified, European Standard EN 149, AS/NZS 1715:2009, or equivalent respirator when using this product. Selection of and instruction on using all personal protective equipment, including respirators, should be performed by an Industrial Hygienist or other qualified professional.  
Dust/mist respirator. (N95, P2/P3)

**Hand Protection** Normal work gloves.

**Skin Protection** Normal work coveralls.

**Eye Protection** Wear safety glasses or goggles to protect against exposure.

**Other Precautions** None known.

**Environmental Exposure Controls** Do not allow material to contaminate ground water system

**9. Physical and Chemical Properties**

**9.1. Information on basic physical and chemical properties**

**Physical State:** Solid  
**Odor:** Sweet  
**Color:** Brown-black  
**Odor Threshold:** No information available

<u>Property</u> Remarks/ - Method	<u>Values</u>
<b>pH:</b>	7.5
<b>Freezing Point / Range</b>	No data available
<b>Melting Point / Range</b>	No data available
<b>Boiling Point / Range</b>	No data available
<b>Flash Point</b>	No data available
<b>Evaporation rate</b>	No data available
<b>Vapor Pressure</b>	No data available
<b>Vapor Density</b>	No data available
<b>Specific Gravity</b>	1.48
<b>Water Solubility</b>	Miscible with water
<b>Solubility in other solvents</b>	No data available
<b>Partition coefficient: n-octanol/water</b>	No data available
<b>Autoignition Temperature</b>	No data available
<b>Decomposition Temperature</b>	No data available
<b>Viscosity</b>	No data available
<b>Explosive Properties</b>	No information available
<b>Oxidizing Properties</b>	No information available

**9.2. Other information**

**VOC Content (%)** No data available

**10. Stability and Reactivity**

**10.1. Reactivity**

Not expected to be reactive.

**10.2. Chemical stability**

Stable

**10.3. Possibility of hazardous reactions**

Will Not Occur

**10.4. Conditions to avoid**

None anticipated

**10.5. Incompatible materials**

Strong oxidizers.

**10.6. Hazardous decomposition products**

Oxides of nitrogen. Oxides of sulfur. Carbon monoxide and carbon dioxide.

**11. Toxicological Information**

**Information on routes of exposure**

**Principle Route of Exposure** Eye or skin contact, inhalation.

**Symptoms related to exposure**

**Most Important Symptoms/Effects**

No significant hazards expected.

**Toxicology data for the components**

<b>Substances</b>	<b>CAS Number</b>	<b>LD50 Oral</b>	<b>LD50 Dermal</b>	<b>LC50 Inhalation</b>
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No data available	No data available	No data available

**Immediate, delayed and chronic health effects from exposure**

**Inhalation** None known.  
**Eye Contact** May cause mechanical irritation to eye.  
**Skin Contact** None known.  
**Ingestion** None known.

**Chronic Effects/Carcinogenicity** No data available to indicate product or components present at greater than 0.1% are chronic health hazards.

**Exposure Levels**

No data available

**Interactive effects**

None known.

**Data limitations**

No data available

**12. Ecological Information**

**Ecotoxicity**

**Substance Ecotoxicity Data**

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available	No information available	No information available	No information available

**12.2. Persistence and degradability**

Substances	CAS Number	Persistence and Degradability
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

**12.3. Bioaccumulative potential**

Substances	CAS Number	Log Pow
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

**12.4. Mobility in soil**

Substances	CAS Number	Mobility
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

**12.6. Other adverse effects**

**Endocrine Disruptor Information**

This product does not contain any known or suspected endocrine disruptors

**13. Disposal Considerations**

**Safe handling and disposal methods**

Bury in a licensed landfill according to federal, state, and local regulations.

**Disposal of any contaminated packaging**

Follow all applicable national or local regulations.

**Environmental regulations**

Not applicable

**14. Transport Information**

**Transportation Information**

**Australia ADG**

UN Number	Not restricted
UN proper shipping name:	Not restricted
Transport Hazard Class(es):	Not applicable
Packing Group:	Not applicable
Environmental Hazards:	Not applicable

**IMDG/IMO**

UN Number	Not restricted
UN proper shipping name:	Not restricted
Transport Hazard Class(es):	Not applicable
Packing Group:	Not applicable
Environmental Hazards:	Not applicable

**IATA/ICAO**

UN Number	Not restricted
UN proper shipping name:	Not restricted
Transport Hazard Class(es):	Not applicable
Packing Group:	Not applicable
Environmental Hazards:	Not applicable

**Special precautions during transport**

None

**HazChem Code**

None Allocated

**15. Regulatory Information**

**Safety, health and environmental regulations specific for the product**

**International Inventories**

<b>Australian AICS Inventory</b>	All components are listed on the AICS or are subject to a relevant exemption, permit, or assessment certificate.
<b>New Zealand Inventory of Chemicals</b>	All components are listed on the NZIoC or are subject to a relevant exemption, permit, or assessment certificate.
<b>EINECS (European Inventory of Existing Chemical Substances)</b>	This product, and all its components, complies with EINECS
<b>US TSCA Inventory</b>	All components listed on inventory or are exempt.
<b>Canadian Domestic Substances List (DSL)</b>	Product contains one or more components not listed on the inventory.

**Poisons Schedule number**

None Allocated

**International Agreements****Montreal Protocol - Ozone Depleting Substances:**

Does not apply.

**Stockholm Convention - Persistent Organic Pollutants:**

Does not apply

**Rotterdam Convention - Prior Informed Consent:**

Does not apply.

**Basel Convention - Hazardous Waste:**

Does not apply.

**16. Other information****Date of preparation or review****Revision Date:** 11-Jul-2018**Revision Note**

SDS sections updated:

2

**Full text of H-Statements referred to under sections 2 and 3**

None

**Additional information**

For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Safety Data Sheet for this or other Halliburton products, contact Chemical Stewardship at 1-580-251-4335.

**Key abbreviations or acronyms used**

bw – body weight

CAS – Chemical Abstracts Service

EC50 – Effective Concentration 50%

LC50 – Lethal Concentration 50%

LD50 – Lethal Dose 50%

LL50 – Lethal Loading 50%

mg/kg – milligram/kilogram

mg/L – milligram/liter

NOEC – No Observed Effect Concentration

OEL – Occupational Exposure Limit

PBT – Persistent Bioaccumulative and Toxic

ppm – parts per million

STEL – Short Term Exposure Limit

TWA – Time-Weighted Average

vPvB – very Persistent and very Bioaccumulative

h - hour

mg/m<sup>3</sup> - milligram/cubic meter

mm - millimeter

mmHg - millimeter mercury

w/w - weight/weight

d - day

**Key literature references and sources for data**[www.ChemADVISOR.com/](http://www.ChemADVISOR.com/)

NZ CCID

**Disclaimer Statement**

This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.

---

**End of Safety Data Sheet**



## SAFETY DATA SHEET

### HALAD® 413L CEMENT ADDITIVE

Revision Date: 07-May-2018

Revision Number: 26

#### 1. Product Identifier & Identity for the Chemical

**Statement of Hazardous Nature** Non-Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

##### 1.1. Product Identifier

**Product Name** HALAD® 413L CEMENT ADDITIVE

##### Other means of Identification

**Synonyms** None  
**Hazardous Material Number:** HM000824

##### Recommended use of the chemical and restrictions on use

**Recommended Use** Fluid Loss Additive  
**Uses advised against** No information available

##### Supplier's name, address and phone number

**Manufacturer/Supplier** Halliburton Australia Pty. Ltd.  
15 Marriott Road, Jandakot, WA 6164  
Australia  
ACN Number: 009 000 775  
Telephone Number: + 61 1 800 686 951  
Fax Number: 61 (08) 9455 5300  
**E-mail Address** fdunexchem@halliburton.com

##### Emergency phone number

+ 61 1 800 686 951  
Global Incident Response Access Code: 334305  
Contract Number: 14012

##### **Australian Poisons Information Centre**

24 Hour Service: - 13 11 26  
Police or Fire Brigade: - 000 (exchange): - 1100

#### 2. Hazard Identification

**Statement of Hazardous Nature** Non-Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

##### Classification of the hazardous chemical

Not classified

##### Label elements, including precautionary statements

##### **Hazard Pictograms**

**Signal Word** Not Hazardous

**Hazard Statements:** Not Classified

**Precautionary Statements**

**Prevention** None  
**Response** None  
**Storage** None  
**Disposal** None

**Contains**

**Substances** CAS Number  
 Contains no hazardous substances in concentrations above cut-off values according to the competent authority NA

**Other hazards which do not result in classification**

This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).  
 This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

For the full text of the H-phrases mentioned in this Section, see Section 16

**3. Composition/information on Ingredients**

Substances	CAS Number	PERCENT (w/w)	GHS Classification - Australia
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	60 - 100%	Not classified

**4. First aid measures**

**Description of necessary first aid measures**

**Inhalation** If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.  
**Eyes** In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.  
**Skin** Wash with soap and water. Get medical attention if irritation persists.  
**Ingestion** Under normal conditions, first aid procedures are not required.

**Symptoms caused by exposure**

No significant hazards expected.

**Medical Attention and Special Treatment**

**Notes to Physician** Treat symptomatically

**5. Fire Fighting Measures**

**Suitable extinguishing equipment**

**Suitable Extinguishing Media**

All standard fire fighting media

**Extinguishing media which must not be used for safety reasons**

None known.

**Specific hazards arising from the chemical**

**Special exposure hazards in a fire**

Decomposition in fire may produce harmful gases.

**Special protective equipment and precautions for fire fighters**

**Special protective equipment for firefighters**

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

**6. Accidental release measures**

**6.1. Personal precautions, protective equipment and emergency procedures**

Use appropriate protective equipment. Avoid contact with skin, eyes and clothing. Avoid breathing vapors.

**6.2. Environmental precautions**

Prevent from entering sewers, waterways, or low areas.

**6.3. Methods and material for containment and cleaning up**

Isolate spill and stop leak where safe. Contain spill with sand or other inert materials. Scoop up and remove.

**7. Handling and storage**

**7.1. Precautions for safe handling**

**Handling Precautions**

Avoid contact with eyes, skin, or clothing. Avoid breathing vapors. Wash hands after use. Launder contaminated clothing before reuse. Use appropriate protective equipment.

**Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice.

**7.2. Conditions for safe storage, including any incompatibilities**

**Storage Information**

Store away from oxidizers. Product has a shelf life of 24 months.

**Other Guidelines**

No information available

**8. Exposure Controls/Personal Protection**

**Control parameters - exposure standards, biological monitoring**

**Exposure Limits**

Substances	CAS Number	Australia NOHSC	ACGIH TLV-TWA
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable

**Appropriate engineering controls**

**Engineering Controls** Use in a well ventilated area.

**Personal protective equipment (PPE)**

**Personal Protective Equipment** If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.

**Respiratory Protection** If engineering controls and work practices cannot keep exposure below occupational exposure limits or if exposure is unknown, wear a NIOSH certified, European Standard EN 149, AS/NZS 1715:2009, or equivalent respirator when using this product. Selection of and instruction on using all personal protective equipment, including respirators, should be performed by an Industrial Hygienist or other qualified professional.

Not normally needed. But if significant exposures are possible then the following respirator is recommended:

Dust/mist respirator. (N95, P2/P3)

**Hand Protection**

Normal work gloves.

**Skin Protection**

Normal work coveralls.

**Eye Protection**

Wear safety glasses or goggles to protect against exposure.

**Other Precautions**

None known.

**Environmental Exposure Controls**

Do not allow material to contaminate ground water system

**9. Physical and Chemical Properties**

**9.1. Information on basic physical and chemical properties**

**Physical State:** Liquid      **Color:** Brown-black  
**Odor:** Sweet      **Odor Threshold:** No information available

<u>Property</u>	<u>Values</u>
Remarks/ - Method	
<b>pH:</b>	7.5
<b>Freezing Point / Range</b>	No data available
<b>Melting Point / Range</b>	No data available
<b>Boiling Point / Range</b>	No data available
<b>Flash Point</b>	No data available
<b>Evaporation rate</b>	No data available
<b>Vapor Pressure</b>	No data available
<b>Vapor Density</b>	No data available
<b>Specific Gravity</b>	1.1
<b>Water Solubility</b>	Miscible with water
<b>Solubility in other solvents</b>	No data available
<b>Partition coefficient: n-octanol/water</b>	No data available
<b>Autoignition Temperature</b>	No data available
<b>Decomposition Temperature</b>	No data available
<b>Viscosity</b>	No data available
<b>Explosive Properties</b>	No information available
<b>Oxidizing Properties</b>	No information available

**9.2. Other information**

**VOC Content (%)**      No data available

**10. Stability and Reactivity**

**10.1. Reactivity**

Not expected to be reactive.

**10.2. Chemical stability**

Stable

**10.3. Possibility of hazardous reactions**

Will Not Occur

**10.4. Conditions to avoid**

None anticipated

**10.5. Incompatible materials**

Strong oxidizers.

**10.6. Hazardous decomposition products**

Oxides of nitrogen. Carbon monoxide and carbon dioxide.

**11. Toxicological Information**

**Information on routes of exposure**

**Principle Route of Exposure**      Eye or skin contact, inhalation.

**Symptoms related to exposure**

**Most Important Symptoms/Effects**

No significant hazards expected.

**Toxicology data for the components**

<b>Substances</b>	<b>CAS Number</b>	<b>LD50 Oral</b>	<b>LD50 Dermal</b>	<b>LC50 Inhalation</b>
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No data available	No data available	No data available

**Immediate, delayed and chronic health effects from exposure**

**Inhalation** None known.  
**Eye Contact** None known.  
**Skin Contact** None known.  
**Ingestion** None known.

**Chronic Effects/Carcinogenicity** No data available to indicate product or components present at greater than 0.1% are chronic health hazards.

**Exposure Levels**

No data available

**Interactive effects**

None known.

**Data limitations**

No data available

**12. Ecological Information**

**Ecotoxicity**

**Substance Ecotoxicity Data**

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available	No information available	No information available	No information available

**12.2. Persistence and degradability**

Substances	CAS Number	Persistence and Degradability
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

**12.3. Bioaccumulative potential**

Substances	CAS Number	Log Pow
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

**12.4. Mobility in soil**

Substances	CAS Number	Mobility
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

**12.6. Other adverse effects****Endocrine Disruptor Information**

This product does not contain any known or suspected endocrine disruptors

<b>13. Disposal Considerations</b>
------------------------------------

**Safe handling and disposal methods**

Disposal should be made in accordance with federal, state, and local regulations.

**Disposal of any contaminated packaging**

Follow all applicable national or local regulations.

**Environmental regulations**

Not applicable

<b>14. Transport Information</b>
----------------------------------

**Transportation Information****Australia ADG**

<b>UN Number</b>	Not restricted
<b>UN proper shipping name:</b>	Not restricted
<b>Transport Hazard Class(es):</b>	Not applicable
<b>Packing Group:</b>	Not applicable
<b>Environmental Hazards:</b>	Not applicable

**IMDG/IMO**

<b>UN Number</b>	Not restricted
<b>UN proper shipping name:</b>	Not restricted
<b>Transport Hazard Class(es):</b>	Not applicable
<b>Packing Group:</b>	Not applicable
<b>Environmental Hazards:</b>	Not applicable

**IATA/ICAO**

<b>UN Number</b>	Not restricted
<b>UN proper shipping name:</b>	Not restricted
<b>Transport Hazard Class(es):</b>	Not applicable
<b>Packing Group:</b>	Not applicable
<b>Environmental Hazards:</b>	Not applicable

**Special precautions during transport**

None

**HazChem Code**

None Allocated

<b>15. Regulatory Information</b>
-----------------------------------

**Safety, health and environmental regulations specific for the product****International Inventories****Australian AICS Inventory**

All components are listed on the AICS or are subject to a relevant exemption, permit, or assessment certificate.

**New Zealand Inventory of Chemicals**

All components are listed on the NZIoC or are subject to a relevant exemption, permit, or assessment certificate.

**EINECS (European Inventory of Existing Chemical Substances)**

This product, and all its components, complies with EINECS

**US TSCA Inventory**

All components listed on inventory or are exempt.

**Canadian Domestic Substances List (DSL)**

Product contains one or more components not listed on the inventory.

**Poisons Schedule number**

None Allocated

**International Agreements****Montreal Protocol - Ozone Depleting Substances:**

Does not apply.

**Stockholm Convention - Persistent Organic Pollutants:**

Does not apply

**Rotterdam Convention - Prior Informed Consent:**

Does not apply.

**Basel Convention - Hazardous Waste:**

Does not apply.

**16. Other information****Date of preparation or review****Revision Date:** 07-May-2018**Revision Note**

SDS sections updated:

2

**Full text of H-Statements referred to under sections 2 and 3**

None

**Additional information**

For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Safety Data Sheet for this or other Halliburton products, contact Chemical Stewardship at 1-580-251-4335.

**Key abbreviations or acronyms used**

bw – body weight

CAS – Chemical Abstracts Service

EC50 – Effective Concentration 50%

LC50 – Lethal Concentration 50%

LD50 – Lethal Dose 50%

LL50 – Lethal Loading 50%

mg/kg – milligram/kilogram

mg/L – milligram/liter

NOEC – No Observed Effect Concentration

OEL – Occupational Exposure Limit

PBT – Persistent Bioaccumulative and Toxic

ppm – parts per million

STEL – Short Term Exposure Limit

TWA – Time-Weighted Average

vPvB – very Persistent and very Bioaccumulative

h - hour

mg/m<sup>3</sup> - milligram/cubic meter

mm - millimeter

mmHg - millimeter mercury

w/w - weight/weight

d - day

**Key literature references and sources for data**[www.ChemADVISOR.com/](http://www.ChemADVISOR.com/)

NZ CCID

**Disclaimer Statement**

This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.

**End of Safety Data Sheet**



## SAFETY DATA SHEET

### HR-25

Revision Date: 09-Mar-2016

Revision Number: 41

#### 1. Product Identifier & Identity for the Chemical

**Statement of Hazardous Nature** Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

##### 1.1. Product Identifier

**Product Name** HR-25

##### Other means of Identification

**Synonyms** None  
**Product Code:** HM000892

##### Recommended use of the chemical and restrictions on use

**Recommended Use** Cement Retarder  
**Uses advised against** No information available

##### Supplier's name, address and phone number

**Manufacturer/Supplier** Halliburton Australia Pty. Ltd.  
15 Marriott Road  
Jandakot  
WA 6164  
Australia  
  
ACN Number: 009 000 775  
Telephone Number: + 61 1 800 686 951  
Fax Number: 61 (08) 9455 5300  
**E-mail Address** fdunexchem@halliburton.com

##### Emergency phone number

+ 61 1 800 686 951

##### **Australian Poisons Information Centre**

24 Hour Service: - 13 11 26  
Police or Fire Brigade: - 000 (exchange): - 1100

#### 2. Hazard Identification

**Statement of Hazardous Nature** Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

##### Classification of the hazardous chemical

Serious Eye Damage/Irritation	Category 1 - H318
Acute Aquatic Toxicity	Category 3 - H402

##### Label elements, including precautionary statements

**Hazard pictograms**



<b>Signal Word</b>	Danger
<b>Hazard Statements</b>	H318 - Causes serious eye damage H402 - Harmful to aquatic life
<b>Precautionary Statements</b>	
<b>Prevention</b>	P280 - Wear eye protection/face protection P273 - Avoid release to the environment
<b>Response</b>	P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing P310 - Immediately call a POISON CENTER or doctor/physician
<b>Storage</b>	None
<b>Disposal</b>	P501 - Dispose of contents/container in accordance with local/regional/national/international regulations
<b>Contains Substances</b>	<b>CAS Number</b>
Tartaric acid	87-69-4

**Other hazards which do not result in classification**

This substance is not considered to be persistent, bioaccumulating nor toxic (PBT).  
This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

*For the full text of the H-phrases mentioned in this Section, see Section 16*

### 3. Composition/information on Ingredients

Substances	CAS Number	PERCENT (w/w)	GHS Classification - Australia
Tartaric acid	87-69-4	60 - 100%	Eye Corr. 1 (H318) Aquatic Acute 3 (H402)

### 4. First aid measures

**Description of necessary first aid measures**

<b>Inhalation</b>	If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.
<b>Eyes</b>	Immediately flush eyes with large amounts of water for at least 30 minutes. Seek prompt medical attention.
<b>Skin</b>	Wash with soap and water. Get medical attention if irritation persists.
<b>Ingestion</b>	Do NOT induce vomiting. Give nothing by mouth. Obtain immediate medical attention.

**Symptoms caused by exposure**

Causes severe eye irritation which may damage tissue.

**Medical Attention and Special Treatment**

**Notes to Physician** Treat symptomatically

## 5. Fire Fighting Measures

### Suitable extinguishing equipment

#### Suitable Extinguishing Media

Water fog, carbon dioxide, foam, dry chemical.

#### Extinguishing media which must not be used for safety reasons

None known.

### Specific hazards arising from the chemical

#### Special exposure hazards in a fire

None anticipated

### Special protective equipment and precautions for fire fighters

#### Special protective equipment for firefighters

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

## 6. Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Use appropriate protective equipment. Avoid creating and breathing dust. Avoid contact with skin, eyes and clothing. Ensure adequate ventilation.

### 6.2. Environmental precautions

Prevent from entering sewers, waterways, or low areas. Consult local authorities.

### 6.3. Methods and material for containment and cleaning up

Scoop up and remove.

## 7. Handling and storage

### 7.1. Precautions for safe handling

#### Handling Precautions

Avoid contact with eyes, skin, or clothing. Avoid creating or inhaling dust. Ensure adequate ventilation. Wash hands after use. Launder contaminated clothing before reuse. Use appropriate protective equipment.

#### Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

### 7.2. Conditions for safe storage, including any incompatibilities

#### Storage Information

Store away from oxidizers. Store in a cool, dry location. Keep container closed when not in use. Product has a shelf life of 60 months.

#### Other Guidelines

No information available

## 8. Exposure Controls/Personal Protection

### Control parameters - exposure standards, biological monitoring

#### Exposure Limits

Substances	CAS Number	Australia NOHSC	ACGIH TLV-TWA
Tartaric acid	87-69-4	Not applicable	Not applicable

### Appropriate engineering controls

#### Engineering Controls

Use in a well ventilated area.

### Personal protective equipment (PPE)

#### Personal Protective Equipment

If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this

<b>Respiratory Protection</b>	product. Not normally needed. But if significant exposures are possible then the following respirator is recommended: Dust/mist respirator. (N95, P2/P3)
<b>Hand Protection</b>	Impervious rubber gloves.
<b>Skin Protection</b>	Normal work coveralls.
<b>Eye Protection</b>	Chemical goggles; also wear a face shield if splashing hazard exists.
<b>Other Precautions</b>	Eyewash fountains and safety showers must be easily accessible.
<b>Environmental Exposure Controls</b>	Do not allow material to contaminate ground water system

## 9. Physical and Chemical Properties

### 9.1. Information on basic physical and chemical properties

<b>Physical State:</b>	Solid	<b>Color</b>	White
<b>Odor:</b>	Odorless	<b>Odor Threshold:</b>	No information available

<u>Property</u>	<u>Values</u>
Remarks/ - Method	
<b>pH:</b>	1.7
<b>Freezing Point / Range</b>	168 - 170 °C
<b>Melting Point / Range</b>	No data available
<b>Boiling Point / Range</b>	No data available
<b>Flash Point</b>	No data available
<b>Evaporation rate</b>	No data available
<b>Vapor Pressure</b>	No data available
<b>Vapor Density</b>	No data available
<b>Specific Gravity</b>	1.76
<b>Water Solubility</b>	Soluble in water
<b>Solubility in other solvents</b>	No data available
<b>Partition coefficient: n-octanol/water</b>	-1.91
<b>Autoignition Temperature</b>	No data available
<b>Decomposition Temperature</b>	No data available
<b>Viscosity</b>	No data available
<b>Explosive Properties</b>	No information available
<b>Oxidizing Properties</b>	No information available

### 9.2. Other information

<b>VOC Content (%)</b>	No data available
------------------------	-------------------

## 10. Stability and Reactivity

### 10.1. Reactivity

Not expected to be reactive.

### 10.2. Chemical stability

Stable

### 10.3. Possibility of hazardous reactions

Will Not Occur

### 10.4. Conditions to avoid

None anticipated

### 10.5. Incompatible materials

Strong alkalis.

### 10.6. Hazardous decomposition products

Carbon monoxide and carbon dioxide.

## 11. Toxicological Information

### Information on routes of exposure

**Principle Route of Exposure** Eye or skin contact, inhalation.

### Symptoms related to exposure

**Most Important Symptoms/Effects**

Causes severe eye irritation which may damage tissue.

### Numerical measures of toxicity

#### Toxicology data for the components

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Tartaric acid	87-69-4	2000 - 5000 mg/kg (Rat)	> 2000 mg/kg (Rat)	No data available

#### Immediate, delayed and chronic health effects from exposure

<b>Inhalation</b>	May cause mild respiratory irritation.
<b>Eye Contact</b>	Causes severe eye irritation which may damage tissue.
<b>Skin Contact</b>	May cause mild skin irritation.
<b>Ingestion</b>	May cause stomach discomfort.

**Chronic Effects/Carcinogenicity** No data available to indicate product or components present at greater than 0.1% are chronic health hazards.

#### Exposure Levels

No data available

#### Interactive effects

None known.

#### Data limitations

No data available

Substances	CAS Number	Skin corrosion/irritation
Tartaric acid	87-69-4	Non-irritating to the skin (Rabbit) (in vitro)

Substances	CAS Number	Serious eye damage/irritation
Tartaric acid	87-69-4	Causes severe eye irritation (Rabbit)

Substances	CAS Number	Skin Sensitization
Tartaric acid	87-69-4	Did not cause sensitization on laboratory animals (mouse)

Substances	CAS Number	Respiratory Sensitization
Tartaric acid	87-69-4	No information available

Substances	CAS Number	Mutagenic Effects
Tartaric acid	87-69-4	In vitro tests did not show mutagenic effects. In vivo tests did not show mutagenic effects.

Substances	CAS Number	Carcinogenic Effects
Tartaric acid	87-69-4	Did not show carcinogenic effects in animal experiments (Rat) (similar substances)

Substances	CAS Number	Reproductive toxicity
Tartaric acid	87-69-4	Did not show teratogenic effects in animal experiments.

Substances	CAS Number	STOT - single exposure
Tartaric acid	87-69-4	No significant toxicity observed in animal studies at concentration requiring classification.

Substances	CAS Number	STOT - repeated exposure
Tartaric acid	87-69-4	No significant toxicity observed in animal studies at concentration requiring classification.

Substances	CAS Number	Aspiration hazard
Tartaric acid	87-69-4	Not applicable

## 12. Ecological Information

### Ecotoxicity

**Product Ecotoxicity Data**

No data available

**Substance Ecotoxicity Data**

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Tartaric acid	87-69-4	E(B)C50 2575.2 mg/L (Skeletonema costatum) E(R)C50 1198 mg/L (Skeletonema costatum) EC50 791.25 mg/L (Skeletonema costatum) EC50 (72h) 51.4043 mg/L (Pseudokirchnerella subcapitata)	LC50 250 mg/L (Scophthalmus maximus) LC50 (96h) > 100 mg/L (Danio rerio)	EC50 (3h) > 1000 mg/L (Activated sludge)	TLM96 330-1000 ppm (Crangon crangon) EC50 46.04 - 165.37 mg/L (Ceriodaphnia dubia) LC50 3753.85 (Acartia tonsa) EC50 (48h) 93.313 mg/L (Daphnia magna)

**12.2. Persistence and degradability**

Substances	CAS Number	Persistence and Degradability
Tartaric acid	87-69-4	Readily biodegradable (85% @ 28d)

**12.3. Bioaccumulative potential**

Substances	CAS Number	Log Pow
Tartaric acid	87-69-4	-1

**12.4. Mobility in soil**

Substances	CAS Number	Mobility
Tartaric acid	87-69-4	No information available

**12.6. Other adverse effects****Endocrine Disruptor Information**

This product does not contain any known or suspected endocrine disruptors

**13. Disposal Considerations****Safe handling and disposal methods**

Bury in a licensed landfill according to federal, state, and local regulations.

**Disposal of any contaminated packaging**

Follow all applicable national or local regulations.

**Environmental regulations**

Not applicable

**14. Transport Information****Transportation Information**

UN Number	Not restricted
UN proper shipping name	Not restricted
Transport Hazard Class(es)	Not applicable
Packing Group:	Not applicable
Environmental Hazards	Not applicable

**Special precautions during transport**

None

**HazChem Code**

None Allocated

## 15. Regulatory Information

### Safety, health and environmental regulations specific for the product

#### International Inventories

##### **Australian AICS Inventory**

All components are listed on the AICS or are subject to a relevant exemption, permit, or assessment certificate.

##### **New Zealand Inventory of Chemicals**

All components are listed on the AICS or are subject to a relevant exemption, permit, or assessment certificate.

##### **EINECS (European Inventory of Existing Chemical Substances)**

This product, and all its components, complies with EINECS

##### **US TSCA Inventory**

All components listed on inventory or are exempt.

##### **Canadian Domestic Substances List (DSL)**

All components listed on inventory or are exempt.

#### Poisons Schedule number

None Allocated

#### International Agreements

**Montreal Protocol - Ozone Depleting Substances:**

Does not apply

**Stokholm Convention - Persistent Organic Pollutants:**

Does not apply

**Rotterdam Convention - Prior Informed Consent:**

Does not apply

**Basel Convention - Hazardous Waste:**

Does not apply

## 16. Other information

### Date of preparation or review

**Revision Date:** 09-Mar-2016

#### **Revision Note**

SDS sections updated: 2

#### **Full text of H-Statements referred to under sections 2 and 3**

H318 - Causes serious eye damage

#### **Additional information**

For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Safety Data Sheet for this or other Halliburton products, contact Chemical Stewardship at 1-580-251-4335.

#### Key abbreviations or acronyms used

bw – body weight

CAS – Chemical Abstracts Service

EC50 – Effective Concentration 50%

LC50 – Lethal Concentration 50%

LD50 – Lethal Dose 50%

LL50 – Lethal Loading 50%

mg/kg – milligram/kilogram

mg/L – milligram/liter

NOEC – No Observed Effect Concentration

OEL – Occupational Exposure Limit

PBT – Persistent Bioaccumulative and Toxic

ppm – parts per million

STEL – Short Term Exposure Limit

TWA – Time-Weighted Average

vPvB – very Persistent and very Bioaccumulative

h - hour

mg/m<sup>3</sup> - milligram/cubic meter

mm - millimeter

mmHg - millimeter mercury  
w/w - weight/weight  
d - day

**Key literature references and sources for data**

[www.ChemADVISOR.com/](http://www.ChemADVISOR.com/)  
OSHA  
ECHA C&L  
NZ CCID

**Disclaimer Statement**

This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.

**End of Safety Data Sheet**



## SAFETY DATA SHEET

### HR-25L

Revision Date: 09-Mar-2016

Revision Number: 30

#### 1. Product Identifier & Identity for the Chemical

**Statement of Hazardous Nature** Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

##### 1.1. Product Identifier

**Product Name** HR-25L

##### Other means of Identification

**Synonyms** None  
**Product Code:** HM000893

##### Recommended use of the chemical and restrictions on use

**Recommended Use** Cement Retarder  
**Uses advised against** No information available

##### Supplier's name, address and phone number

**Manufacturer/Supplier** Halliburton Australia Pty. Ltd.  
15 Marriott Road  
Jandakot  
WA 6164  
Australia  
  
ACN Number: 009 000 775  
Telephone Number: + 61 1 800 686 951  
Fax Number: 61 (08) 9455 5300  
**E-mail Address** fdunexchem@halliburton.com

##### Emergency phone number

+ 61 1 800 686 951

##### **Australian Poisons Information Centre**

24 Hour Service: - 13 11 26  
Police or Fire Brigade: - 000 (exchange): - 1100

#### 2. Hazard Identification

**Statement of Hazardous Nature** Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

##### Classification of the hazardous chemical

Serious Eye Damage/Irritation	Category 1 - H318
Acute Aquatic Toxicity	Category 3 - H402

##### Label elements, including precautionary statements

**Hazard pictograms**



<b>Signal Word</b>	Danger
<b>Hazard Statements</b>	H318 - Causes serious eye damage H402 - Harmful to aquatic life
<b>Precautionary Statements</b>	
<b>Prevention</b>	P273 - Avoid release to the environment P280 - Wear eye protection/face protection
<b>Response</b>	P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing P310 - Immediately call a POISON CENTER or doctor/physician
<b>Storage</b>	None
<b>Disposal</b>	P501 - Dispose of contents/container in accordance with local/regional/national/international regulations

**Contains Substances**  
Tartaric acid

**CAS Number**  
87-69-4

**Other hazards which do not result in classification**

This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).  
This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

*For the full text of the H-phrases mentioned in this Section, see Section 16*

### 3. Composition/information on Ingredients

Substances	CAS Number	PERCENT (w/w)	GHS Classification - Australia
Tartaric acid	87-69-4	30 - 60%	Eye Corr. 1 (H318) Aquatic Acute 3 (H402)

### 4. First aid measures

**Description of necessary first aid measures**

<b>Inhalation</b>	If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.
<b>Eyes</b>	In case of contact, or suspected contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention immediately after flushing.
<b>Skin</b>	In case of contact, immediately flush skin with plenty of soap and water for at least 15 minutes. Get medical attention. Remove contaminated clothing and launder before reuse.
<b>Ingestion</b>	Do NOT induce vomiting. Give nothing by mouth. Obtain immediate medical attention.

**Symptoms caused by exposure**

Causes severe eye irritation which may damage tissue.

**Medical Attention and Special Treatment****Notes to Physician** Treat symptomatically**5. Fire Fighting Measures****Suitable extinguishing equipment****Suitable Extinguishing Media**

All standard fire fighting media

**Extinguishing media which must not be used for safety reasons**

None known.

**Specific hazards arising from the chemical****Special exposure hazards in a fire**

Decomposition in fire may produce harmful gases.

**Special protective equipment and precautions for fire fighters****Special protective equipment for firefighters**

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

**6. Accidental release measures****6.1. Personal precautions, protective equipment and emergency procedures**

Use appropriate protective equipment. Avoid contact with skin, eyes and clothing. Avoid breathing vapors. Ensure adequate ventilation.

**6.2. Environmental precautions**

Prevent from entering sewers, waterways, or low areas.

**6.3. Methods and material for containment and cleaning up**

Isolate spill and stop leak where safe. Contain spill with sand or other inert materials. Neutralize to pH of 6-8. Scoop up and remove.

**7. Handling and storage****7.1. Precautions for safe handling****Handling Precautions**

Avoid contact with eyes, skin, or clothing. Avoid breathing vapors. Ensure adequate ventilation. Wash hands after use. Launder contaminated clothing before reuse. Use appropriate protective equipment.

**Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice.

**7.2. Conditions for safe storage, including any incompatibilities****Storage Information**

Store away from alkalis. Store away from oxidizers. Store in a cool well ventilated area. Keep container closed when not in use. Product has a shelf life of 60 months.

**Other Guidelines**

No information available

**8. Exposure Controls/Personal Protection****Control parameters - exposure standards, biological monitoring****Exposure Limits**

Substances	CAS Number	Australia NOHSC	ACGIH TLV-TWA
Tartaric acid	87-69-4	Not applicable	Not applicable

**Appropriate engineering controls****Engineering Controls**

Use in a well ventilated area.

**Personal protective equipment (PPE)**

<b>Personal Protective Equipment</b>	If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.
<b>Respiratory Protection</b>	Dust/mist respirator. (N95, P2/P3)
<b>Hand Protection</b>	Impervious rubber gloves.
<b>Skin Protection</b>	Rubber apron.
<b>Eye Protection</b>	Chemical goggles; also wear a face shield if splashing hazard exists.
<b>Other Precautions</b>	Eyewash fountains and safety showers must be easily accessible.
<b>Environmental Exposure Controls</b>	Do not allow material to contaminate ground water system

<b>9. Physical and Chemical Properties</b>
--

**9.1. Information on basic physical and chemical properties**

<b>Physical State:</b>	Liquid	<b>Color</b>	Light yellow-green
<b>Odor:</b>	Odorless	<b>Odor Threshold:</b>	No information available

<u>Property</u>	<u>Values</u>
Remarks/ - Method	
<b>pH:</b>	1.7
<b>Freezing Point / Range</b>	No data available
<b>Melting Point / Range</b>	No data available
<b>Boiling Point / Range</b>	103 °C / 219 °F
<b>Flash Point</b>	No data available
<b>Evaporation rate</b>	No data available
<b>Vapor Pressure</b>	No data available
<b>Vapor Density</b>	No data available
<b>Specific Gravity</b>	1.2
<b>Water Solubility</b>	Soluble in water
<b>Solubility in other solvents</b>	No data available
<b>Partition coefficient: n-octanol/water</b>	No data available
<b>Autoignition Temperature</b>	No data available
<b>Decomposition Temperature</b>	No data available
<b>Viscosity</b>	No data available
<b>Explosive Properties</b>	No information available
<b>Oxidizing Properties</b>	No information available

**9.2. Other information**

<b>VOC Content (%)</b>	No data available
------------------------	-------------------

<b>10. Stability and Reactivity</b>
-------------------------------------

**10.1. Reactivity**

Not expected to be reactive.

**10.2. Chemical stability**

Stable

**10.3. Possibility of hazardous reactions**

Will Not Occur

**10.4. Conditions to avoid**

None anticipated

**10.5. Incompatible materials**

Strong oxidizers. Strong alkalis.

**10.6. Hazardous decomposition products**

Carbon monoxide and carbon dioxide.

<b>11. Toxicological Information</b>
--------------------------------------

**Information on routes of exposure**

**Principle Route of Exposure** Eye or skin contact, inhalation.

**Symptoms related to exposure****Most Important Symptoms/Effects**

Causes severe eye irritation which may damage tissue.

**Numerical measures of toxicity****Toxicology data for the components**

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Tartaric acid	87-69-4	2000 - 5000 mg/kg (Rat)	> 2000 mg/kg (Rat)	No data available

**Immediate, delayed and chronic health effects from exposure****Product Information**

Under certain conditions of use, some of the product ingredients may cause the following:

**Inhalation**

May cause mild respiratory irritation.

**Eye Contact**

Causes severe eye irritation which may damage tissue.

**Skin Contact**

May cause mild skin irritation.

**Ingestion**

Irritation of the mouth, throat, and stomach.

**Chronic Effects/Carcinogenicity**

No data available to indicate product or components present at greater than 0.1% are chronic health hazards.

**Exposure Levels**

No data available

**Interactive effects**

Skin disorders.

**Data limitations**

No data available

Substances	CAS Number	Skin corrosion/irritation
Tartaric acid	87-69-4	Non-irritating to the skin (Rabbit) (in vitro)

Substances	CAS Number	Serious eye damage/irritation
Tartaric acid	87-69-4	Causes severe eye irritation (Rabbit)

Substances	CAS Number	Skin Sensitization
Tartaric acid	87-69-4	Did not cause sensitization on laboratory animals (mouse)

Substances	CAS Number	Respiratory Sensitization
Tartaric acid	87-69-4	No information available

Substances	CAS Number	Mutagenic Effects
Tartaric acid	87-69-4	In vitro tests did not show mutagenic effects. In vivo tests did not show mutagenic effects.

Substances	CAS Number	Carcinogenic Effects
Tartaric acid	87-69-4	Did not show carcinogenic effects in animal experiments (Rat) (similar substances)

Substances	CAS Number	Reproductive toxicity
Tartaric acid	87-69-4	Did not show teratogenic effects in animal experiments.

Substances	CAS Number	STOT - single exposure
Tartaric acid	87-69-4	No significant toxicity observed in animal studies at concentration requiring classification.

Substances	CAS Number	STOT - repeated exposure
Tartaric acid	87-69-4	No significant toxicity observed in animal studies at concentration requiring classification.

Substances	CAS Number	Aspiration hazard
Tartaric acid	87-69-4	Not applicable

## 12. Ecological Information

### Ecotoxicity

#### **Product Ecotoxicity Data**

No data available

#### **Substance Ecotoxicity Data**

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Tartaric acid	87-69-4	E(B)C50 2575.2 mg/L (Skeletonema costatum) E(R)C50 1198 mg/L (Skeletonema costatum) EC50 791.25 mg/L (Skeletonema costatum) EC50 (72h) 51.4043 mg/L (Pseudokirchnerella subcapitata)	LC50 250 mg/L (Scophthalmus maximus) LC50 (96h) > 100 mg/L (Danio rerio)	EC50 (3h) > 1000 mg/L (Activated sludge)	TLM96 330-1000 ppm (Crangon crangon) EC50 46.04 - 165.37 mg/L (Ceriodaphnia dubia) LC50 3753.85 (Acartia tonsa) EC50 (48h) 93.313 mg/L (Daphnia magna)

### 12.2. Persistence and degradability

Readily biodegradable

Substances	CAS Number	Persistence and Degradability
Tartaric acid	87-69-4	Readily biodegradable (85% @ 28d)

### 12.3. Bioaccumulative potential

Does not bioaccumulate.

Substances	CAS Number	Log Pow
Tartaric acid	87-69-4	-1

### 12.4. Mobility in soil

Substances	CAS Number	Mobility
Tartaric acid	87-69-4	No information available

### 12.6. Other adverse effects

#### **Endocrine Disruptor Information**

This product does not contain any known or suspected endocrine disruptors

## 13. Disposal Considerations

### Safe handling and disposal methods

Disposal should be made in accordance with federal, state, and local regulations. Incineration recommended in approved incinerator according to federal, state, and local regulations. Substance should NOT be deposited into a sewage facility.

### Disposal of any contaminated packaging

Follow all applicable national or local regulations. Contaminated packaging may be disposed of by: rendering packaging incapable of containing any substance, or treating packaging to remove residual contents, or treating packaging to make sure the residual contents are no longer hazardous, or by disposing of packaging into commercial waste collection.

### Environmental regulations

Not applicable

## 14. Transport Information

### Transportation Information

<b>UN Number</b>	Not restricted
<b>UN proper shipping name</b>	Not restricted
<b>Transport Hazard Class(es)</b>	Not applicable
<b>Packing Group:</b>	Not applicable
<b>Environmental Hazards</b>	Not applicable

### Special precautions during transport

None

**HazChem Code**

None Allocated

**15. Regulatory Information****Safety, health and environmental regulations specific for the product****International Inventories****Australian AICS Inventory**

All components are listed on the AICS or are subject to a relevant exemption, permit, or assessment certificate.

**New Zealand Inventory of Chemicals**

All components are listed on the AICS or are subject to a relevant exemption, permit, or assessment certificate.

**EINECS (European Inventory of Existing Chemical Substances)**

This product, and all its components, complies with EINECS

**US TSCA Inventory**

All components listed on inventory or are exempt.

**Canadian Domestic Substances List (DSL)**

All components listed on inventory or are exempt.

**Poisons Schedule number**

None Allocated

**International Agreements****Montreal Protocol - Ozone Depleting Substances:**

Does not apply

**Stolkhom Convention - Persistent Organic Pollutants:**

Does not apply

**Rotterdam Convention - Prior Informed Consent:**

Does not apply

**Basel Convention - Hazardous Waste:**

Does not apply

**16. Other information****Date of preparation or review****Revision Date:** 09-Mar-2016**Revision Note**

SDS sections updated: 2

**Full text of H-Statements referred to under sections 2 and 3**

H318 - Causes serious eye damage

**Additional information**

For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Safety Data Sheet for this or other Halliburton products, contact Chemical Stewardship at 1-580-251-4335.

**Key abbreviations or acronyms used**

bw – body weight

CAS – Chemical Abstracts Service

EC50 – Effective Concentration 50%

LC50 – Lethal Concentration 50%

LD50 – Lethal Dose 50%

LL50 – Lethal Loading 50%

mg/kg – milligram/kilogram

mg/L – milligram/liter

NOEC – No Observed Effect Concentration

OEL – Occupational Exposure Limit

PBT – Persistent Bioaccumulative and Toxic

ppm – parts per million

STEL – Short Term Exposure Limit  
TWA – Time-Weighted Average  
vPvB – very Persistent and very Bioaccumulative  
h - hour  
mg/m<sup>3</sup> - milligram/cubic meter  
mm - millimeter  
mmHg - millimeter mercury  
w/w - weight/weight  
d - day

**Key literature references and sources for data**

[www.ChemADVISOR.com/](http://www.ChemADVISOR.com/)  
NZ CCID

**Disclaimer Statement**

This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.

**End of Safety Data Sheet**



## SAFETY DATA SHEET

### HR-5

Revision Date: 30-Apr-2020

Revision Number: 38

#### 1. Product Identifier & Identity for the Chemical

**Statement of Hazardous Nature** Non-Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

##### 1.1. Product Identifier

**Product Name** HR-5

##### Other means of Identification

**Synonyms** None

**Hazardous Material Number:** HM000899

##### Recommended use of the chemical and restrictions on use

**Recommended Use** Cement Retarder

**Uses advised against** No information available

##### Supplier's name, address and phone number

**Manufacturer/Supplier** Halliburton Australia Pty. Ltd.  
15 Marriott Road, Jandakot, WA 6164  
Australia  
ACN Number: 009 000 775  
Telephone Number: + 61 1 800 686 951  
Fax Number: 61 (08) 9455 5300  
**E-mail Address** fdunexchem@halliburton.com

##### Emergency phone number

+ 61 1 800 686 951

Global Incident Response Access Code: 334305

Contract Number: 14012

##### **Australian Poisons Information Centre**

24 Hour Service: - 13 11 26

Police or Fire Brigade: - 000 (exchange): - 1100

#### 2. Hazard Identification

**Statement of Hazardous Nature** Non-Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

##### Classification of the hazardous chemical

Not classified

##### Label elements, including precautionary statements

##### **Hazard Pictograms**

**Signal Word** Not Hazardous

**Hazard Statements:** Not Classified

**Precautionary Statements**

**Prevention** None  
**Response** None  
**Storage** None  
**Disposal** None

**Contains**

**Substances** CAS Number  
 Contains no hazardous substances in concentrations above cut-off values according to the competent authority NA

**Other hazards which do not result in classification**

This substance is not considered to be persistent, bioaccumulating nor toxic (PBT).  
 This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

For the full text of the H-phrases mentioned in this Section, see Section 16

### 3. Composition/information on Ingredients

Substances	CAS Number	PERCENT (w/w)	GHS Classification - Australia
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	60 - 100%	Not classified

### 4. First aid measures

**Description of necessary first aid measures**

**Inhalation** If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.  
**Eyes** In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.  
**Skin** Wash with soap and water. Get medical attention if irritation persists.  
**Ingestion** Under normal conditions, first aid procedures are not required.

**Symptoms caused by exposure**

No significant hazards expected.

**Medical Attention and Special Treatment**

**Notes to Physician** Treat symptomatically

### 5. Fire Fighting Measures

**Suitable extinguishing equipment**

**Suitable Extinguishing Media**

Water fog, carbon dioxide, foam, dry chemical.

**Extinguishing media which must not be used for safety reasons**

None known.

**Specific hazards arising from the chemical**

**Special exposure hazards in a fire**

Decomposition in fire may produce harmful gases.

**Special protective equipment and precautions for fire fighters**

**Special protective equipment for firefighters**

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

**6. Accidental release measures**

**6.1. Personal precautions, protective equipment and emergency procedures**

Use appropriate protective equipment. Avoid creating and breathing dust. Avoid contact with skin, eyes and clothing. Ensure adequate ventilation.

**6.2. Environmental precautions**

Prevent from entering sewers, waterways, or low areas.

**6.3. Methods and material for containment and cleaning up**

Scoop up and remove.

**7. Handling and storage**

**7.1. Precautions for safe handling**

**Handling Precautions**

Avoid contact with eyes, skin, or clothing. Avoid creating or inhaling dust. Ensure adequate ventilation. Wash hands after use. Launder contaminated clothing before reuse. Use appropriate protective equipment.

**Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice.

**7.2. Conditions for safe storage, including any incompatibilities**

**Storage Information**

Store in a cool, dry location.

**Other Guidelines**

No information available

**8. Exposure Controls/Personal Protection**

**Control parameters - exposure standards, biological monitoring**

**Exposure Limits**

Substances	CAS Number	Australia NOHSC	ACGIH TLV-TWA
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable

**Appropriate engineering controls**

**Engineering Controls** Use in a well ventilated area.

**Personal protective equipment (PPE)**

**Personal Protective Equipment** If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.

**Respiratory Protection** Not normally needed. But if significant exposures are possible then the following respirator is recommended:  
Dust/mist respirator. (N95, P2/P3)

**Hand Protection** Normal work gloves.

**Skin Protection** Normal work coveralls.

**Eye Protection** Wear safety glasses or goggles to protect against exposure.

**Other Precautions** None known.

**Environmental Exposure Controls** Do not allow material to contaminate ground water system.

**9. Physical and Chemical Properties**

**9.1. Information on basic physical and chemical properties**

**Physical State:** Solid  
**Color:** Black  
**Odor:** Molasses  
**Odor Threshold:** No information available

<u>Property</u>	<u>Values</u>
Remarks/ - Method	
<b>pH:</b>	9.5-10.3
<b>Freezing Point / Range</b>	No data available
<b>Melting Point / Range</b>	No data available
<b>Pour Point / Range</b>	No data available
<b>Boiling Point / Range</b>	No data available
<b>Flash Point</b>	No data available
<b>Evaporation rate</b>	No data available
<b>Vapor Pressure</b>	No data available
<b>Vapor Density</b>	No data available
<b>Specific Gravity</b>	1.41
<b>Water Solubility</b>	Soluble in water (25g/100ml)
<b>Solubility in other solvents</b>	No data available
<b>Partition coefficient: n-octanol/water</b>	No data available
<b>Autoignition Temperature</b>	No data available
<b>Decomposition Temperature</b>	No data available
<b>Viscosity</b>	No data available
<b>Explosive Properties</b>	No information available
<b>Oxidizing Properties</b>	No information available
<b>9.2. Other information</b>	
<b>VOC Content (%)</b>	No data available

## 10. Stability and Reactivity

### 10.1. Reactivity

Not expected to be reactive.

### 10.2. Chemical stability

Stable

### 10.3. Possibility of hazardous reactions

Will Not Occur

### 10.4. Conditions to avoid

None anticipated

### 10.5. Incompatible materials

Strong oxidizers.

### 10.6. Hazardous decomposition products

Oxides of sulfur.

## 11. Toxicological Information

### Information on routes of exposure

**Principle Route of Exposure** Eye or skin contact, inhalation.

### Symptoms related to exposure

#### **Most Important Symptoms/Effects**

No significant hazards expected.

### Toxicology data for the components

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No data available	No data available	No data available

**Immediate, delayed and chronic health effects from exposure**

<b>Inhalation</b>	May cause mild respiratory irritation.
<b>Eye Contact</b>	May cause mechanical irritation to eye.
<b>Skin Contact</b>	None known.
<b>Ingestion</b>	None known.

**Chronic Effects/Carcinogenicity** No data available to indicate product or components present at greater than 0.1% are chronic health hazards.

**Exposure Levels**

No data available

**Interactive effects**

None known.

**Data limitations**

No data available

## 12. Ecological Information

**Ecotoxicity****Substance Ecotoxicity Data**

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available	No information available	No information available	No information available

**12.2. Persistence and degradability**

Substances	CAS Number	Persistence and Degradability
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

**12.3. Bioaccumulative potential**

Substances	CAS Number	Bioaccumulation
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

**12.4. Mobility in soil**

Substances	CAS Number	Mobility
Contains no hazardous substances in concentrations	NA	No information available

above cut-off values according to the competent authority		
---	--	--

**12.6. Other adverse effects****Endocrine Disruptor Information**

This product does not contain any known or suspected endocrine disruptors

## 13. Disposal Considerations

**Safe handling and disposal methods**

Bury in a licensed landfill according to federal, state, and local regulations. Substance should NOT be deposited into a sewage facility.

**Disposal of any contaminated packaging**

Follow all applicable national or local regulations. Contaminated packaging may be disposed of by: rendering packaging incapable of containing any substance, or treating packaging to remove residual contents, or treating packaging to make sure the residual contents are no longer hazardous, or by disposing of packaging into commercial waste collection.

**Environmental regulations**

Not applicable

## 14. Transport Information

**Transportation Information****Australia ADG**

<b>UN Number</b>	Not restricted
<b>UN proper shipping name:</b>	Not restricted
<b>Transport Hazard Class(es):</b>	Not applicable
<b>Packing Group:</b>	Not applicable
<b>Environmental Hazards:</b>	Not applicable

**IMDG/IMO**

<b>UN Number</b>	Not restricted
<b>UN proper shipping name:</b>	Not restricted
<b>Transport Hazard Class(es):</b>	Not applicable
<b>Packing Group:</b>	Not applicable
<b>Environmental Hazards:</b>	Not applicable

**IATA/ICAO**

<b>UN Number</b>	Not restricted
<b>UN proper shipping name:</b>	Not restricted
<b>Transport Hazard Class(es):</b>	Not applicable
<b>Packing Group:</b>	Not applicable
<b>Environmental Hazards:</b>	Not applicable

**Special precautions during transport**

None

**HazChem Code**

None Allocated

## 15. Regulatory Information

**Safety, health and environmental regulations specific for the product****International Inventories****Australian AICS Inventory**

All components are listed on the AICS or are subject to a relevant exemption, permit, or assessment certificate.

**New Zealand Inventory of Chemicals**

All components are listed on the NZIoC or are subject to a relevant exemption, permit, or assessment certificate.

**US TSCA Inventory** All components listed on inventory or are exempt.  
**Canadian Domestic Substances List (DSL)** All components listed on inventory or are exempt.

**Poisons Schedule number**  
 None Allocated

**International Agreements**

<b>Montreal Protocol - Ozone Depleting Substances:</b>	Does not apply.
<b>Stockholm Convention - Persistent Organic Pollutants:</b>	Does not apply.
<b>Rotterdam Convention - Prior Informed Consent:</b>	Does not apply.
<b>Basel Convention - Hazardous Waste:</b>	Does not apply.

## 16. Other information

**Date of preparation or review**

**Revision Date:** 30-Apr-2020

**Revision Note**  
 SDS sections updated:  
 2

**Full text of H-Statements referred to under sections 2 and 3**  
 None

**Additional information** For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Safety Data Sheet for this or other Halliburton products, contact Chemical Stewardship at 1-580-251-4335.

**Key abbreviations or acronyms used**

bw – body weight  
 CAS – Chemical Abstracts Service  
 EC50 – Effective Concentration 50%  
 LC50 – Lethal Concentration 50%  
 LD50 – Lethal Dose 50%  
 LL50 – Lethal Loading 50%  
 mg/kg – milligram/kilogram  
 mg/L – milligram/liter  
 NOEC – No Observed Effect Concentration  
 OEL – Occupational Exposure Limit  
 PBT – Persistent Bioaccumulative and Toxic  
 ppm – parts per million  
 STEL – Short Term Exposure Limit  
 TWA – Time-Weighted Average  
 vPvB – very Persistent and very Bioaccumulative  
 h - hour  
 mg/m<sup>3</sup> - milligram/cubic meter  
 mm - millimeter  
 mmHg - millimeter mercury  
 w/w - weight/weight  
 d - day

**Key literature references and sources for data**  
[www.ChemADVISOR.com/](http://www.ChemADVISOR.com/)  
 NZ CCID

**Disclaimer Statement**

---

This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.

**End of Safety Data Sheet**



## SAFETY DATA SHEET

### HR-6L

Revision Date: 10-Mar-2020

Revision Number: 23

#### 1. Product Identifier & Identity for the Chemical

**Statement of Hazardous Nature** Non-Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

##### 1.1. Product Identifier

**Product Name** HR-6L

##### Other means of Identification

**Synonyms** None

**Hazardous Material Number:** HM000901

##### Recommended use of the chemical and restrictions on use

**Recommended Use** Cement Retarder

**Uses advised against** No information available

##### Supplier's name, address and phone number

**Manufacturer/Supplier** Halliburton Australia Pty. Ltd.  
15 Marriott Road, Jandakot, WA 6164  
Australia  
ACN Number: 009 000 775  
Telephone Number: + 61 1 800 686 951  
Fax Number: 61 (08) 9455 5300  
**E-mail Address** fdunexchem@halliburton.com

##### Emergency phone number

+ 61 1 800 686 951

Global Incident Response Access Code: 334305

Contract Number: 14012

##### **Australian Poisons Information Centre**

24 Hour Service: - 13 11 26

Police or Fire Brigade: - 000 (exchange): - 1100

#### 2. Hazard Identification

**Statement of Hazardous Nature** Non-Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

##### Classification of the hazardous chemical

Not classified

##### Label elements, including precautionary statements

##### **Hazard Pictograms**

**Signal Word** Not Hazardous

**Hazard Statements:** Not Classified

**Precautionary Statements**

**Prevention** None  
**Response** None  
**Storage** None  
**Disposal** None

**Contains**

**Substances** CAS Number  
 Contains no hazardous substances in concentrations above cut-off values according to the competent authority NA

**Other hazards which do not result in classification**

This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).  
 This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

For the full text of the H-phrases mentioned in this Section, see Section 16

### 3. Composition/information on Ingredients

Substances	CAS Number	PERCENT (w/w)	GHS Classification - Australia
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	60 - 100%	Not classified

### 4. First aid measures

**Description of necessary first aid measures**

**Inhalation** If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.  
**Eyes** In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.  
**Skin** Wash with soap and water. Get medical attention if irritation persists.  
**Ingestion** Under normal conditions, first aid procedures are not required.

**Symptoms caused by exposure**

No significant hazards expected.

**Medical Attention and Special Treatment**

**Notes to Physician** Treat symptomatically

### 5. Fire Fighting Measures

**Suitable extinguishing equipment**

**Suitable Extinguishing Media**

Water fog, carbon dioxide, foam, dry chemical.

**Extinguishing media which must not be used for safety reasons**

None known.

**Specific hazards arising from the chemical**

**Special exposure hazards in a fire**

Decomposition in fire may produce harmful gases.

**Special protective equipment and precautions for fire fighters**

**Special protective equipment for firefighters**

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

## 6. Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Use appropriate protective equipment.

### 6.2. Environmental precautions

Prevent from entering sewers, waterways, or low areas.

### 6.3. Methods and material for containment and cleaning up

Isolate spill and stop leak where safe. Contain spill with sand or other inert materials. Scoop up and remove.

## 7. Handling and storage

### 7.1. Precautions for safe handling

#### Handling Precautions

Avoid contact with eyes, skin, or clothing. Avoid breathing vapors.

#### Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

### 7.2. Conditions for safe storage, including any incompatibilities

#### Storage Information

Store away from oxidizers. Keep container closed when not in use.

#### Other Guidelines

No information available

## 8. Exposure Controls/Personal Protection

### Control parameters - exposure standards, biological monitoring

#### Exposure Limits

Substances	CAS Number	Australia NOHSC	ACGIH TLV-TWA
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable

### Appropriate engineering controls

#### Engineering Controls

Use in a well ventilated area.

### Personal protective equipment (PPE)

#### Personal Protective Equipment

If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.

#### Respiratory Protection

Not normally necessary.

#### Hand Protection

Normal work gloves.

#### Skin Protection

Normal work coveralls.

#### Eye Protection

Wear safety glasses or goggles to protect against exposure.

#### Other Precautions

None known.

#### Environmental Exposure Controls

No information available

## 9. Physical and Chemical Properties

### 9.1. Information on basic physical and chemical properties

Physical State: Liquid

Color: Dark brown

Odor: Molasses

Odor Threshold: No information available

<u>Property</u> <u>Remarks/ - Method</u>	<u>Values</u>
<b>pH:</b>	9.5
<b>Freezing Point / Range</b>	No data available
<b>Melting Point / Range</b>	No data available
<b>Pour Point / Range</b>	No data available
<b>Boiling Point / Range</b>	No data available
<b>Flash Point</b>	> 98 °C / > 210 °F (PMCC)
<b>Evaporation rate</b>	No data available
<b>Vapor Pressure</b>	No data available
<b>Vapor Density</b>	No data available
<b>Specific Gravity</b>	1.21
<b>Water Solubility</b>	Soluble in water
<b>Solubility in other solvents</b>	No data available
<b>Partition coefficient: n-octanol/water</b>	No data available
<b>Autoignition Temperature</b>	No data available
<b>Decomposition Temperature</b>	No data available
<b>Viscosity</b>	No data available
<b>Explosive Properties</b>	No information available
<b>Oxidizing Properties</b>	No information available
<b>9.2. Other information</b>	
<b>VOC Content (%)</b>	No data available
<b>Liquid Density</b>	10.08 lbs/gal

## 10. Stability and Reactivity

### 10.1. Reactivity

Not expected to be reactive.

### 10.2. Chemical stability

Stable

### 10.3. Possibility of hazardous reactions

Will Not Occur

### 10.4. Conditions to avoid

None anticipated

### 10.5. Incompatible materials

Strong oxidizers.

### 10.6. Hazardous decomposition products

Oxides of sulfur. Carbon monoxide and carbon dioxide.

## 11. Toxicological Information

### Information on routes of exposure

**Principle Route of Exposure** Eye or skin contact, inhalation.

### Symptoms related to exposure

#### **Most Important Symptoms/Effects**

No significant hazards expected.

### Toxicology data for the components

<b>Substances</b>	<b>CAS Number</b>	<b>LD50 Oral</b>	<b>LD50 Dermal</b>	<b>LC50 Inhalation</b>
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No data available	No data available	No data available

### Immediate, delayed and chronic health effects from exposure

<b>Inhalation</b>	May cause mild respiratory irritation.
<b>Eye Contact</b>	May cause mechanical irritation to eye.
<b>Skin Contact</b>	None known.
<b>Ingestion</b>	None known.

**Chronic Effects/Carcinogenicity** No data available to indicate product or components present at greater than 0.1% are chronic health hazards.

**Exposure Levels**

No data available

**Interactive effects**

None known.

**Data limitations**

No data available

## 12. Ecological Information

**Ecotoxicity**

**Substance Ecotoxicity Data**

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available	No information available	No information available	No information available

**12.2. Persistence and degradability**

Substances	CAS Number	Persistence and Degradability
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

**12.3. Bioaccumulative potential**

Substances	CAS Number	Bioaccumulation
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

**12.4. Mobility in soil**

Substances	CAS Number	Mobility
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

**12.6. Other adverse effects****Endocrine Disruptor Information**

This product does not contain any known or suspected endocrine disruptors

**13. Disposal Considerations****Safe handling and disposal methods**

This product is not regarded as hazardous waste. Dispose in accordance with local regulations.

**Disposal of any contaminated packaging**

Follow all applicable national or local regulations.

**Environmental regulations**

Not applicable

**14. Transport Information****Transportation Information****Australia ADG**

<b>UN Number</b>	Not restricted
<b>UN proper shipping name:</b>	Not restricted
<b>Transport Hazard Class(es):</b>	Not applicable
<b>Packing Group:</b>	Not applicable
<b>Environmental Hazards:</b>	Not applicable

**IMDG/IMO**

<b>UN Number</b>	Not restricted
<b>UN proper shipping name:</b>	Not restricted
<b>Transport Hazard Class(es):</b>	Not applicable
<b>Packing Group:</b>	Not applicable
<b>Environmental Hazards:</b>	Not applicable

**IATA/ICAO**

<b>UN Number</b>	Not restricted
<b>UN proper shipping name:</b>	Not restricted
<b>Transport Hazard Class(es):</b>	Not applicable
<b>Packing Group:</b>	Not applicable
<b>Environmental Hazards:</b>	Not applicable

**Special precautions during transport**

None

**HazChem Code**

None Allocated

**15. Regulatory Information****Safety, health and environmental regulations specific for the product****International Inventories****Australian AICS Inventory**

All components are listed on the AICS or are subject to a relevant exemption, permit, or assessment certificate.

**New Zealand Inventory of Chemicals**

All components are listed on the NZIoC or are subject to a relevant exemption, permit, or assessment certificate.

**US TSCA Inventory**

All components listed on inventory or are exempt.

**Canadian Domestic Substances List (DSL)**

All components listed on inventory or are exempt.

**Poisons Schedule number**

None Allocated

#### International Agreements

<b>Montreal Protocol - Ozone Depleting Substances:</b>	Does not apply.
<b>Stockholm Convention - Persistent Organic Pollutants:</b>	Does not apply
<b>Rotterdam Convention - Prior Informed Consent:</b>	Does not apply.
<b>Basel Convention - Hazardous Waste:</b>	Does not apply.

## 16. Other information

#### Date of preparation or review

**Revision Date:** 10-Mar-2020

#### **Revision Note**

SDS sections updated:  
2

#### **Full text of H-Statements referred to under sections 2 and 3**

None

#### **Additional information**

For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Safety Data Sheet for this or other Halliburton products, contact Chemical Stewardship at 1-580-251-4335.

#### Key abbreviations or acronyms used

bw – body weight  
 CAS – Chemical Abstracts Service  
 EC50 – Effective Concentration 50%  
 LC50 – Lethal Concentration 50%  
 LD50 – Lethal Dose 50%  
 LL50 – Lethal Loading 50%  
 mg/kg – milligram/kilogram  
 mg/L – milligram/liter  
 NOEC – No Observed Effect Concentration  
 OEL – Occupational Exposure Limit  
 PBT – Persistent Bioaccumulative and Toxic  
 ppm – parts per million  
 STEL – Short Term Exposure Limit  
 TWA – Time-Weighted Average  
 vPvB – very Persistent and very Bioaccumulative  
 h - hour  
 mg/m<sup>3</sup> - milligram/cubic meter  
 mm - millimeter  
 mmHg - millimeter mercury  
 w/w - weight/weight  
 d - day

#### **Key literature references and sources for data**

www.ChemADVISOR.com/  
 NZ CCID

#### **Disclaimer Statement**

This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.

**End of Safety Data Sheet**



## SAFETY DATA SHEET

### MICROBOND EXPANDING ADDITIVE

Revision Date: 21-Jun-2016

Revision Number: 28

#### 1. Product Identifier & Identity for the Chemical

**Statement of Hazardous Nature** Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

##### 1.1. Product Identifier

**Product Name** MICROBOND EXPANDING ADDITIVE

##### Other means of Identification

**Synonyms** None  
**Hazardous Material Number:** HM001064

##### Recommended use of the chemical and restrictions on use

**Recommended Use** Cement Additive  
**Uses advised against** No information available

##### Supplier's name, address and phone number

**Manufacturer/Supplier** Halliburton Australia Pty. Ltd.  
15 Marriott Road  
Jandakot  
WA 6164  
Australia  
  
ACN Number: 009 000 775  
Telephone Number: + 61 1 800 686 951  
Fax Number: 61 (08) 9455 5300  
**E-mail Address** fdunexchem@halliburton.com

##### Emergency phone number

+ 61 1 800 686 951

##### **Australian Poisons Information Centre**

24 Hour Service: - 13 11 26  
Police or Fire Brigade: - 000 (exchange): - 1100

#### 2. Hazard Identification

**Statement of Hazardous Nature** Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

##### Classification of the hazardous chemical

Skin Corrosion/Irritation	Category 2 - H315
Serious Eye Damage/Irritation	Category 1 - H318
Acute Aquatic Toxicity	Category 3 - H402

##### Label elements, including precautionary statements

**Hazard pictograms**



<b>Signal Word</b>	Danger
<b>Hazard Statements:</b>	H315 - Causes skin irritation H318 - Causes serious eye damage H402 - Harmful to aquatic life
<b>Precautionary Statements</b>	
<b>Prevention</b>	P264 - Wash face, hands and any exposed skin thoroughly after handling P273 - Avoid release to the environment P280 - Wear protective gloves/eye protection/face protection
<b>Response</b>	P302 + P352 - IF ON SKIN: Wash with plenty of soap and water P332 + P313 - If skin irritation occurs: Get medical advice/attention P362 - Take off contaminated clothing and wash before reuse P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing P310 - Immediately call a POISON CENTER or doctor/physician
<b>Storage</b>	None
<b>Disposal</b>	P501 - Dispose of contents/container in accordance with local/regional/national/international regulations
<b>Contains Substances</b>	<b>CAS Number</b>
Calcium aluminate	12042-68-1
Calcium hydroxide	1305-62-0

**Other hazards which do not result in classification**

This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).  
This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

*For the full text of the H-phrases mentioned in this Section, see Section 16*

### 3. Composition/information on Ingredients

Substances	CAS Number	PERCENT (w/w)	GHS Classification - Australia
Calcium aluminate	12042-68-1	10 - 30%	Acute Tox. 4 (H332) Eye Irrit. 2 (H319) Aquatic Acute 2 (H401)
Calcium hydroxide	1305-62-0	10 - 30%	Skin Irrit. 2 (H315) Eye Corr. 1 (H318) STOT SE 3 (H335)

### 4. First aid measures

**Description of necessary first aid measures**

**Inhalation** If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

**Eyes** In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.

**Skin** Wash with soap and water. Get medical attention if irritation persists.  
**Ingestion** Do NOT induce vomiting. Give nothing by mouth. Obtain immediate medical attention.

**Symptoms caused by exposure**

Causes severe eye irritation which may damage tissue. Causes skin irritation.

**Medical Attention and Special Treatment**

**Notes to Physician** Treat symptomatically

## 5. Fire Fighting Measures

**Suitable extinguishing equipment****Suitable Extinguishing Media**

All standard fire fighting media

**Extinguishing media which must not be used for safety reasons**

None known.

**Specific hazards arising from the chemical****Special exposure hazards in a fire**

Decomposition in fire may produce harmful gases.

**Special protective equipment and precautions for fire fighters****Special protective equipment for firefighters**

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

## 6. Accidental release measures

**6.1. Personal precautions, protective equipment and emergency procedures**

Use appropriate protective equipment. Avoid creating and breathing dust. Ensure adequate ventilation. Avoid contact with skin, eyes and clothing.

**6.2. Environmental precautions**

Prevent from entering sewers, waterways, or low areas.

**6.3. Methods and material for containment and cleaning up**

Scoop up and remove.

## 7. Handling and storage

**7.1. Precautions for safe handling****Handling Precautions**

Avoid contact with eyes, skin, or clothing. Avoid creating or inhaling dust. Ensure adequate ventilation. Wash hands after use. Launder contaminated clothing before reuse. Use appropriate protective equipment.

**Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice.

**7.2. Conditions for safe storage, including any incompatibilities****Storage Information**

Store in a cool, dry location.

**Other Guidelines**

No information available

## 8. Exposure Controls/Personal Protection

**Control parameters - exposure standards, biological monitoring****Exposure Limits**

Substances	CAS Number	Australia NOHSC	ACGIH TLV-TWA

Calcium aluminate	12042-68-1	Not applicable	10 mg/m <sup>3</sup>
Calcium hydroxide	1305-62-0	TWA: 5 mg/m <sup>3</sup>	TWA: 5 mg/m <sup>3</sup>

**Appropriate engineering controls****Engineering Controls**

Use in a well ventilated area.

**Personal protective equipment (PPE)****Personal Protective Equipment**

If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.

**Respiratory Protection**

If engineering controls and work practices cannot keep exposure below occupational exposure limits or if exposure is unknown, wear a NIOSH certified, European Standard EN 149, AS/NZS 1715:2009, or equivalent respirator when using this product. Selection of and instruction on using all personal protective equipment, including respirators, should be performed by an Industrial Hygienist or other qualified professional.

**Hand Protection**

Normal work gloves.

**Skin Protection**

Normal work coveralls.

**Eye Protection**

Wear safety glasses or goggles to protect against exposure.

**Other Precautions**

Eyewash fountains and safety showers must be easily accessible.

**Environmental Exposure Controls**

Do not allow material to contaminate ground water system

## 9. Physical and Chemical Properties

**9.1. Information on basic physical and chemical properties****Physical State:** Solid**Color:** Light red**Odor:** Odorless**Odor Threshold:** No information availablePropertyValues

Remarks/ - Method

**pH:**

No data available

**Freezing Point / Range**

No data available

**Melting Point / Range**

No data available

**Boiling Point / Range**

No data available

**Flash Point**

No data available

**Evaporation rate**

No data available

**Vapor Pressure**

No data available

**Vapor Density**

No data available

**Specific Gravity**

3.2

**Water Solubility**

Insoluble in water

**Solubility in other solvents**

No data available

**Partition coefficient: n-octanol/water**

No data available

**Autoignition Temperature**

No data available

**Decomposition Temperature**

No data available

**Viscosity**

No data available

**Explosive Properties**

No information available

**Oxidizing Properties**

No information available

**9.2. Other information****VOC Content (%)**

No data available

## 10. Stability and Reactivity

**10.1. Reactivity**

Not expected to be reactive.

**10.2. Chemical stability**

Stable

**10.3. Possibility of hazardous reactions**

Will Not Occur

**10.4. Conditions to avoid**

None anticipated

**10.5. Incompatible materials**

None known.

**10.6. Hazardous decomposition products**

Oxides of sulfur. Carbon monoxide and carbon dioxide.

## 11. Toxicological Information

**Information on routes of exposure**

**Principle Route of Exposure** Eye or skin contact, inhalation.

**Symptoms related to exposure****Most Important Symptoms/Effects**

Causes severe eye irritation which may damage tissue. Causes skin irritation.

**Numerical measures of toxicity****Toxicology data for the components**

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Calcium aluminate	12042-68-1	> 2000 mg/kg (Rat) (similar substance)	> 2000 mg/kg (Rat) (similar substance)	1.9 mg/L air (Rat) 4h (similar substance)
Calcium hydroxide	1305-62-0	7340 mg/kg-bw (rat)	>2500 mg/kg-bw (rabbit)	No data available

**Immediate, delayed and chronic health effects from exposure**

**Inhalation** May be harmful if inhaled. May cause mild respiratory irritation.  
**Eye Contact** Causes severe eye irritation which may damage tissue.  
**Skin Contact** Causes skin irritation.  
**Ingestion** Irritation of the mouth, throat, and stomach.

**Chronic Effects/Carcinogenicity** No data available to indicate product or components present at greater than 0.1% are chronic health hazards.

**Exposure Levels**

No data available

**Interactive effects**

None known.

**Data limitations**

No data available

Substances	CAS Number	Skin corrosion/irritation
Calcium aluminate	12042-68-1	Contact with moist skin may cause skin burns
Calcium hydroxide	1305-62-0	Skin, rabbit: May cause moderate skin irritation. Causes moderate skin irritation.

Substances	CAS Number	Serious eye damage/irritation
Calcium aluminate	12042-68-1	Causes moderate eye irritation (Rabbit) (similar substances)
Calcium hydroxide	1305-62-0	Eye, rabbit: Causes severe eye irritation

Substances	CAS Number	Skin Sensitization
Calcium aluminate	12042-68-1	Did not cause sensitization on laboratory animals (similar substances)
Calcium hydroxide	1305-62-0	Did not cause sensitization on laboratory animals (guinea pig) Not regarded as a sensitizer.

Substances	CAS Number	Respiratory Sensitization
Calcium aluminate	12042-68-1	No information available
Calcium hydroxide	1305-62-0	No data of sufficient quality are available.

Substances	CAS Number	Mutagenic Effects
Calcium aluminate	12042-68-1	In vitro tests did not show mutagenic effects. In vivo tests did not show mutagenic effects. (similar substances)
Calcium hydroxide	1305-62-0	In vitro tests did not show mutagenic effects.

Substances	CAS Number	Carcinogenic Effects
Calcium aluminate	12042-68-1	No information available
Calcium hydroxide	1305-62-0	Did not show carcinogenic effects in animal experiments (similar substances)

Substances	CAS Number	Reproductive toxicity
Calcium aluminate	12042-68-1	No information available
Calcium hydroxide	1305-62-0	Animal testing did not show any effects on fertility. Did not show teratogenic effects in animal experiments. (similar substances)

Substances	CAS Number	STOT - single exposure
Calcium aluminate	12042-68-1	No information available
Calcium hydroxide	1305-62-0	May cause mild respiratory irritation. May cause respiratory irritation.

Substances	CAS Number	STOT - repeated exposure
Calcium aluminate	12042-68-1	No significant toxicity observed in animal studies at concentration requiring classification. (similar substances)
Calcium hydroxide	1305-62-0	No significant toxicity observed in animal studies at concentration requiring classification.

Substances	CAS Number	Aspiration hazard
Calcium aluminate	12042-68-1	Not applicable
Calcium hydroxide	1305-62-0	Not applicable

## 12. Ecological Information

### Ecotoxicity

#### Product Ecotoxicity Data

No data available

#### Substance Ecotoxicity Data

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Calcium aluminate	12042-68-1	EC50 (72h) 3.6 mg/L (Desmodesmus subspicatus) (similar substance) NOEC (72h) 2.6 mg/L (Desmodesmus subspicatus) (similar substance)	LC50 (96h) >100 mg/L (Danio rerio) (similar substance)	EC50 (3h) > 100 mg/L (Activated sludge of a predominantly domestic sewage) (similar substance)	EC50 (48h) 5.4 mg/L (Daphnia magna) (similar substance)
Calcium hydroxide	1305-62-0	EC50 (72h) 184.57 mg/L (Pseudokirchnerella subcapitata)	LC50 (96 h) =50.6 mg/L (Oncorhynchus mykiss) LC50 (96 h) =457 mg/L (Gasterosteus aculeatus)	EC50 (3h) 300.4 mg/L (respiration rate) (activated sludge of a predominantly domestic sewage)	EC50 (48 h) =49.1 mg/L (Daphnia magna) EC50 (96 h) =158 mg/L (Crangon septemspinosus) NOAEC (14 d) =32 mg/L (Crangon septemspinosus)

### 12.2. Persistence and degradability

Substances	CAS Number	Persistence and Degradability
Calcium aluminate	12042-68-1	The methods for determining biodegradability are not applicable to inorganic substances.
Calcium hydroxide	1305-62-0	The methods for determining biodegradability are not applicable to inorganic substances.

### 12.3. Bioaccumulative potential

Substances	CAS Number	Log Pow
Calcium aluminate	12042-68-1	No information available
Calcium hydroxide	1305-62-0	No information available

### 12.4. Mobility in soil

Substances	CAS Number	Mobility
------------	------------	----------

Calcium aluminate	12042-68-1	No information available
Calcium hydroxide	1305-62-0	No information available

**12.6. Other adverse effects****Endocrine Disruptor Information**

This product does not contain any known or suspected endocrine disruptors

## 13. Disposal Considerations

**Safe handling and disposal methods**

Bury in a licensed landfill according to federal, state, and local regulations.

**Disposal of any contaminated packaging**

Follow all applicable national or local regulations.

**Environmental regulations**

Not applicable

## 14. Transport Information

**Transportation Information**

<b>UN Number</b>	Not restricted
<b>UN proper shipping name:</b>	Not restricted
<b>Transport Hazard Class(es):</b>	Not applicable
<b>Packing Group:</b>	Not applicable
<b>Environmental Hazards:</b>	Not applicable

**Special precautions during transport**

None

**HazChem Code**

None Allocated

## 15. Regulatory Information

**Safety, health and environmental regulations specific for the product****International Inventories**

<b>Australian AICS Inventory</b>	All components are listed on the AICS or are subject to a relevant exemption, permit, or assessment certificate.
<b>New Zealand Inventory of Chemicals</b>	All components are listed on the NZIoC or are subject to a relevant exemption, permit, or assessment certificate.
<b>EINECS (European Inventory of Existing Chemical Substances)</b>	This product, and all its components, complies with EINECS
<b>US TSCA Inventory</b>	All components listed on inventory or are exempt.
<b>Canadian Domestic Substances List (DSL)</b>	All components listed on inventory or are exempt.

**Poisons Schedule number**

None Allocated

**International Agreements**

<b>Montreal Protocol - Ozone Depleting Substances:</b>	Does not apply
<b>Stolkholm Convention - Persistent Organic Pollutants:</b>	Does not apply
<b>Rotterdam Convention - Prior Informed Consent:</b>	Does not apply
<b>Basel Convention - Hazardous Waste:</b>	Does not apply

## 16. Other information

---

**Date of preparation or review**

**Revision Date:** 21-Jun-2016

**Revision Note**

SDS sections updated: 2

**Full text of H-Statements referred to under sections 2 and 3**

H315 - Causes skin irritation  
H318 - Causes serious eye damage  
H319 - Causes serious eye irritation  
H332 - Harmful if inhaled  
H335 - May cause respiratory irritation  
H401 - Toxic to aquatic life  
H402 - Harmful to aquatic life

**Additional information**

For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Safety Data Sheet for this or other Halliburton products, contact Chemical Stewardship at 1-580-251-4335.

**Key abbreviations or acronyms used**

bw – body weight  
CAS – Chemical Abstracts Service  
EC50 – Effective Concentration 50%  
LC50 – Lethal Concentration 50%  
LD50 – Lethal Dose 50%  
LL50 – Lethal Loading 50%  
mg/kg – milligram/kilogram  
mg/L – milligram/liter  
NOEC – No Observed Effect Concentration  
OEL – Occupational Exposure Limit  
PBT – Persistent Bioaccumulative and Toxic  
ppm – parts per million  
STEL – Short Term Exposure Limit  
TWA – Time-Weighted Average  
vPvB – very Persistent and very Bioaccumulative  
h - hour  
mg/m<sup>3</sup> - milligram/cubic meter  
mm - millimeter  
mmHg - millimeter mercury  
w/w - weight/weight  
d - day

**Key literature references and sources for data**

[www.ChemADVISOR.com/](http://www.ChemADVISOR.com/)

**Disclaimer Statement**

This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.

**End of Safety Data Sheet**



## SAFETY DATA SHEET

### MICROBOND HT CEMENT

Revision Date: 02-Feb-2017

Revision Number: 27

#### 1. Product Identifier & Identity for the Chemical

**Statement of Hazardous Nature** Non-Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

##### 1.1. Product Identifier

**Product Name** MICROBOND HT CEMENT

##### Other means of Identification

**Synonyms** None  
**Hazardous Material Number:** HM001065

##### Recommended use of the chemical and restrictions on use

**Recommended Use** Cement Additive  
**Uses advised against** No information available

##### Supplier's name, address and phone number

**Manufacturer/Supplier** Halliburton Australia Pty. Ltd.  
15 Marriott Road, Jandakot, WA 6164  
Australia  
ACN Number: 009 000 775  
Telephone Number: + 61 1 800 686 951  
Fax Number: 61 (08) 9455 5300  
**E-mail Address** fdunexchem@halliburton.com

##### Emergency phone number

+ 61 1 800 686 951  
Global Incident Response Access Code: 334305  
Contract Number: 14012

##### **Australian Poisons Information Centre**

24 Hour Service: - 13 11 26  
Police or Fire Brigade: - 000 (exchange): - 1100

#### 2. Hazard Identification

**Statement of Hazardous Nature** Non-Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

##### Classification of the hazardous chemical

Not classified

##### Label elements, including precautionary statements

##### **Hazard Pictograms**

**Signal Word** Not Hazardous

**Hazard Statements:** Not Classified

**Precautionary Statements**

<b>Prevention</b>	None
<b>Response</b>	None
<b>Storage</b>	None
<b>Disposal</b>	None

**Contains****Substances****CAS Number**

Contains no hazardous substances in concentrations above cut-off values according to the competent authority

NA

**Other hazards which do not result in classification**

This substance is not considered to be persistent, bioaccumulating nor toxic (PBT).

This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

For the full text of the H-phrases mentioned in this Section, see Section 16

<b>3. Composition/information on Ingredients</b>
--

Substances	CAS Number	PERCENT (w/w)	GHS Classification - Australia
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	60 - 100%	Not Applicable

<b>4. First aid measures</b>
------------------------------

**Description of necessary first aid measures**

<b>Inhalation</b>	If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.
<b>Eyes</b>	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.
<b>Skin</b>	Wash with soap and water. Get medical attention if irritation persists.
<b>Ingestion</b>	Under normal conditions, first aid procedures are not required.

**Symptoms caused by exposure**

No significant hazards expected.

**Medical Attention and Special Treatment**

**Notes to Physician** Treat symptomatically

<b>5. Fire Fighting Measures</b>
----------------------------------

**Suitable extinguishing equipment****Suitable Extinguishing Media**

All standard fire fighting media

**Extinguishing media which must not be used for safety reasons**

None known.

**Specific hazards arising from the chemical****Special exposure hazards in a fire**

Not applicable

**Special protective equipment and precautions for fire fighters****Special protective equipment for firefighters**

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

## 6. Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Use appropriate protective equipment. Avoid creating and breathing dust. Avoid contact with skin, eyes and clothing. Ensure adequate ventilation.

### 6.2. Environmental precautions

Prevent from entering sewers, waterways, or low areas.

### 6.3. Methods and material for containment and cleaning up

Scoop up and remove.

## 7. Handling and storage

### 7.1. Precautions for safe handling

#### Handling Precautions

Avoid contact with eyes, skin, or clothing. Avoid creating or inhaling dust. Ensure adequate ventilation. Wash hands after use. Launder contaminated clothing before reuse. Use appropriate protective equipment.

#### Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

### 7.2. Conditions for safe storage, including any incompatibilities

#### Storage Information

Store in a cool, dry location. Store in a cool well ventilated area. Product has a shelf life of 36 months.

#### Other Guidelines

No information available

## 8. Exposure Controls/Personal Protection

### Control parameters - exposure standards, biological monitoring

#### Exposure Limits

Substances	CAS Number	Australia NOHSC	ACGIH TLV-TWA
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable

### Appropriate engineering controls

**Engineering Controls** Use in a well ventilated area.

### Personal protective equipment (PPE)

<b>Personal Protective Equipment</b>	If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.
<b>Respiratory Protection</b>	Not normally needed. But if significant exposures are possible then the following respirator is recommended: Dust/mist respirator. (N95, P2/P3)
<b>Hand Protection</b>	Normal work gloves.
<b>Skin Protection</b>	Normal work coveralls.
<b>Eye Protection</b>	Wear safety glasses or goggles to protect against exposure.
<b>Other Precautions</b>	None known.
<b>Environmental Exposure Controls</b>	No information available

## 9. Physical and Chemical Properties

### 9.1. Information on basic physical and chemical properties

<b>Physical State:</b>	Solid	<b>Color:</b>	White to Light gray
<b>Odor:</b>	Odorless	<b>Odor Threshold:</b>	No information available

<u>Property</u>	<u>Values</u>
Remarks/ - Method	
<b>pH:</b>	10.5
<b>Freezing Point / Range</b>	No data available
<b>Melting Point / Range</b>	No data available
<b>Boiling Point / Range</b>	No data available
<b>Flash Point</b>	No data available
<b>Evaporation rate</b>	No data available
<b>Vapor Pressure</b>	No data available
<b>Vapor Density</b>	No data available
<b>Specific Gravity</b>	3.46
<b>Water Solubility</b>	Insoluble in water
<b>Solubility in other solvents</b>	No data available
<b>Partition coefficient: n-octanol/water</b>	No data available
<b>Autoignition Temperature</b>	No data available
<b>Decomposition Temperature</b>	No data available
<b>Viscosity</b>	No data available
<b>Explosive Properties</b>	No information available
<b>Oxidizing Properties</b>	No information available
<b>9.2. Other information</b>	
<b>Molecular Weight</b>	40.32
<b>VOC Content (%)</b>	0%
<b>Bulk Density</b>	100 lbs/ft3

## 10. Stability and Reactivity

### 10.1. Reactivity

Not expected to be reactive.

### 10.2. Chemical stability

Stable

### 10.3. Possibility of hazardous reactions

Will Not Occur

### 10.4. Conditions to avoid

None anticipated

### 10.5. Incompatible materials

None known.

### 10.6. Hazardous decomposition products

None known.

## 11. Toxicological Information

### Information on routes of exposure

**Principle Route of Exposure** Eye or skin contact, inhalation.

### Symptoms related to exposure

#### **Most Important Symptoms/Effects**

No significant hazards expected.

### Numerical measures of toxicity

#### **Toxicology data for the components**

<b>Substances</b>	<b>CAS Number</b>	<b>LD50 Oral</b>	<b>LD50 Dermal</b>	<b>LC50 Inhalation</b>
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No data available	No data available	No data available

**Immediate, delayed and chronic health effects from exposure**

<b>Inhalation</b>	May cause mild respiratory irritation.
<b>Eye Contact</b>	May cause mechanical irritation to eye.
<b>Skin Contact</b>	None known.
<b>Ingestion</b>	None known.

**Chronic Effects/Carcinogenicity** No data available to indicate product or components present at greater than 0.1% are chronic health hazards.

**Exposure Levels**

No data available

**Interactive effects**

None known.

**Data limitations**

No data available

## 12. Ecological Information

**Ecotoxicity****Substance Ecotoxicity Data**

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available	No information available	No information available	No information available

**12.2. Persistence and degradability**

Substances	CAS Number	Persistence and Degradability
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

**12.3. Bioaccumulative potential**

Substances	CAS Number	Log Pow
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

**12.4. Mobility in soil**

Substances	CAS Number	Mobility
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

**12.6. Other adverse effects****Endocrine Disruptor Information**

This product does not contain any known or suspected endocrine disruptors

<b>13. Disposal Considerations</b>
------------------------------------

**Safe handling and disposal methods**

Bury in a licensed landfill according to federal, state, and local regulations.

**Disposal of any contaminated packaging**

Follow all applicable national or local regulations. Contaminated packaging may be disposed of by: rendering packaging incapable of containing any substance, or treating packaging to remove residual contents, or treating packaging to make sure the residual contents are no longer hazardous, or by disposing of packaging into commercial waste collection.

**Environmental regulations**

Not applicable

<b>14. Transport Information</b>
----------------------------------

**Transportation Information****Australia ADG**

<b>UN Number</b>	Not restricted
<b>UN proper shipping name:</b>	Not restricted
<b>Transport Hazard Class(es):</b>	Not applicable
<b>Packing Group:</b>	Not applicable
<b>Environmental Hazards:</b>	Not applicable

**IMDG/IMO**

<b>UN Number</b>	Not restricted
<b>UN proper shipping name:</b>	Not restricted
<b>Transport Hazard Class(es):</b>	Not applicable
<b>Packing Group:</b>	Not applicable
<b>Environmental Hazards:</b>	Not applicable

**IATA/ICAO**

<b>UN Number</b>	Not restricted
<b>UN proper shipping name:</b>	Not restricted
<b>Transport Hazard Class(es):</b>	Not applicable
<b>Packing Group:</b>	Not applicable
<b>Environmental Hazards:</b>	Not applicable

**Special precautions during transport**

None

**HazChem Code**

None Allocated

<b>15. Regulatory Information</b>
-----------------------------------

**Safety, health and environmental regulations specific for the product****International Inventories****Australian AICS Inventory**

All components are listed on the AICS or are subject to a relevant exemption, permit, or assessment certificate.

**New Zealand Inventory of Chemicals**

All components are listed on the NZIoC or are subject to a relevant exemption, permit, or assessment certificate.

**EINECS (European Inventory of Existing Chemical Substances)**

This product, and all its components, complies with EINECS

**US TSCA Inventory**

All components listed on inventory or are exempt.

**Canadian Domestic Substances List**

All components listed on inventory or are exempt.

**(DSL)****Poisons Schedule number**

None Allocated

**International Agreements****Montreal Protocol - Ozone Depleting Substances:**

Does not apply

**Stockholm Convention - Persistent Organic Pollutants:**

Does not apply

**Rotterdam Convention - Prior Informed Consent:**

Does not apply

**Basel Convention - Hazardous Waste:**

Does not apply

**16. Other information****Date of preparation or review****Revision Date:** 02-Feb-2017**Revision Note**

SDS sections updated: 2

**Full text of H-Statements referred to under sections 2 and 3**

None

**Additional information**

For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Safety Data Sheet for this or other Halliburton products, contact Chemical Stewardship at 1-580-251-4335.

**Key abbreviations or acronyms used**

bw – body weight

CAS – Chemical Abstracts Service

EC50 – Effective Concentration 50%

LC50 – Lethal Concentration 50%

LD50 – Lethal Dose 50%

LL50 – Lethal Loading 50%

mg/kg – milligram/kilogram

mg/L – milligram/liter

NOEC – No Observed Effect Concentration

OEL – Occupational Exposure Limit

PBT – Persistent Bioaccumulative and Toxic

ppm – parts per million

STEL – Short Term Exposure Limit

TWA – Time-Weighted Average

vPvB – very Persistent and very Bioaccumulative

h - hour

mg/m<sup>3</sup> - milligram/cubic meter

mm - millimeter

mmHg - millimeter mercury

w/w - weight/weight

d - day

**Key literature references and sources for data**[www.ChemADVISOR.com/](http://www.ChemADVISOR.com/)

NZ CCID

**Disclaimer Statement**

This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.

**End of Safety Data Sheet**



## SAFETY DATA SHEET

### SA-541

Revision Date: 16-Mar-2020

Revision Number: 26

#### 1. Product Identifier & Identity for the Chemical

**Statement of Hazardous Nature** Non-Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

##### 1.1. Product Identifier

**Product Name** SA-541

##### Other means of Identification

**Synonyms** None

**Hazardous Material Number:** HM001226

##### Recommended use of the chemical and restrictions on use

**Recommended Use** Additive

**Uses advised against** No information available

##### Supplier's name, address and phone number

**Manufacturer/Supplier** Halliburton Australia Pty. Ltd.  
15 Marriott Road, Jandakot, WA 6164  
Australia  
ACN Number: 009 000 775  
Telephone Number: + 61 1 800 686 951  
Fax Number: 61 (08) 9455 5300  
**E-mail Address** fdunexchem@halliburton.com

##### Emergency phone number

+ 61 1 800 686 951

Global Incident Response Access Code: 334305

Contract Number: 14012

##### **Australian Poisons Information Centre**

24 Hour Service: - 13 11 26

Police or Fire Brigade: - 000 (exchange): - 1100

#### 2. Hazard Identification

**Statement of Hazardous Nature** Non-Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

##### Classification of the hazardous chemical

Not classified

##### Label elements, including precautionary statements

##### **Hazard Pictograms**

**Signal Word** Not Hazardous

**Hazard Statements:** Not Classified

**Precautionary Statements**

**Prevention** None  
**Response** None  
**Storage** None  
**Disposal** None

**Contains**

**Substances** CAS Number  
 Contains no hazardous substances in concentrations above cut-off values according to the competent authority NA

**Other hazards which do not result in classification**

This substance is not considered to be persistent, bioaccumulating nor toxic (PBT).  
 This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

For the full text of the H-phrases mentioned in this Section, see Section 16

### 3. Composition/information on Ingredients

Substances	CAS Number	PERCENT (w/w)	GHS Classification - Australia
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	60 - 100%	Not classified

### 4. First aid measures

**Description of necessary first aid measures**

**Inhalation** If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.  
**Eyes** In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.  
**Skin** Flush skin with large amounts of water. If irritation persists, get medical attention.  
**Ingestion** Under normal conditions, first aid procedures are not required.

**Symptoms caused by exposure**

No significant hazards expected.

**Medical Attention and Special Treatment**

**Notes to Physician** Treat symptomatically

### 5. Fire Fighting Measures

**Suitable extinguishing equipment**

**Suitable Extinguishing Media**

Water fog, carbon dioxide, foam, dry chemical.

**Extinguishing media which must not be used for safety reasons**

None known.

**Specific hazards arising from the chemical**

**Special exposure hazards in a fire**

Decomposition in fire may produce harmful gases. Organic dust in the presence of an ignition source can be explosive in high concentrations. Good housekeeping practices are required to minimize this potential.

**Special protective equipment and precautions for fire fighters**

**Special protective equipment for firefighters**

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

## 6. Accidental release measures

**6.1. Personal precautions, protective equipment and emergency procedures**

Use appropriate protective equipment. Avoid creating and breathing dust. Slippery when wet. Ensure adequate ventilation. Avoid contact with skin, eyes and clothing.

**6.2. Environmental precautions**

Prevent from entering sewers, waterways, or low areas.

**6.3. Methods and material for containment and cleaning up**

Scoop up and remove.

## 7. Handling and storage

**7.1. Precautions for safe handling****Handling Precautions**

Avoid contact with eyes, skin, or clothing. Avoid creating or inhaling dust. Ensure adequate ventilation. Slippery when wet. Wash hands after use. Launder contaminated clothing before reuse. Use appropriate protective equipment.

**Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice.

**7.2. Conditions for safe storage, including any incompatibilities****Storage Information**

Store away from oxidizers. Store in a cool, dry location. Product has a shelf life of 24 months. Use good housekeeping in storage and work areas to prevent accumulation of dust. Close container when not in use.

**Other Guidelines**

No information available

## 8. Exposure Controls/Personal Protection

**Control parameters - exposure standards, biological monitoring****Exposure Limits**

Substances	CAS Number	Australia NOHSC	ACGIH TLV-TWA
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable

**Appropriate engineering controls**

**Engineering Controls** Use in a well ventilated area.

**Personal protective equipment (PPE)**

**Personal Protective Equipment** If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.

**Respiratory Protection** Not normally needed. But if significant exposures are possible then the following respirator is recommended:

Dust/mist respirator. (N95, P2/P3)

**Hand Protection** Use gloves which are suitable for the chemicals present in this product as well as other environmental factors in the workplace.

**Skin Protection** Wear protective clothing appropriate for the work environment.

**Eye Protection** Wear safety glasses or goggles to protect against exposure.

**Other Precautions** None known.

**Environmental Exposure Controls** No information available

## 9. Physical and Chemical Properties

### 9.1. Information on basic physical and chemical properties

**Physical State:** Solid      **Color:** White to light straw  
**Odor:** Mild      **Odor Threshold:** No information available

<u>Property</u>	<u>Values</u>
<u>Remarks/ - Method</u>	
<b>pH:</b>	10.1
<b>Freezing Point / Range</b>	No data available
<b>Melting Point / Range</b>	No data available
<b>Pour Point / Range</b>	No data available
<b>Boiling Point / Range</b>	No data available
<b>Flash Point</b>	> 93 °C / > 200 °F
<b>Lower flammability limit</b>	0.29 oz./ft3
<b>Evaporation rate</b>	No data available
<b>Vapor Pressure</b>	No data available
<b>Vapor Density</b>	No data available
<b>Specific Gravity</b>	1.4
<b>Water Solubility</b>	Soluble in water
<b>Solubility in other solvents</b>	No data available
<b>Partition coefficient: n-octanol/water</b>	No data available
<b>Autoignition Temperature</b>	510 °C / 950 °F
<b>Decomposition Temperature</b>	No data available
<b>Viscosity</b>	No data available
<b>Explosive Properties</b>	No information available
<b>Oxidizing Properties</b>	No information available

### 9.2. Other information

**VOC Content (%)**      No data available  
**Bulk Density**      36 lbs/gallon

## 10. Stability and Reactivity

### 10.1. Reactivity

May form combustible dust concentrations in air.

### 10.2. Chemical stability

Stable

### 10.3. Possibility of hazardous reactions

Will Not Occur

### 10.4. Conditions to avoid

None anticipated

### 10.5. Incompatible materials

Strong oxidizers.

### 10.6. Hazardous decomposition products

Carbon monoxide and carbon dioxide.

## 11. Toxicological Information

### Information on routes of exposure

**Principle Route of Exposure**      Eye or skin contact, inhalation.

### Symptoms related to exposure

#### Most Important Symptoms/Effects

No significant hazards expected.

### Toxicology data for the components

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Contains no hazardous	NA	No data available	No data available	No data available

substances in concentrations above cut-off values according to the competent authority				
--	--	--	--	--

**Immediate, delayed and chronic health effects from exposure**

<b>Inhalation</b>	May cause mild respiratory irritation.
<b>Eye Contact</b>	May cause mild eye irritation.
<b>Skin Contact</b>	May cause mild skin irritation.
<b>Ingestion</b>	Irritation of the mouth, throat, and stomach.

**Chronic Effects/Carcinogenicity** No data available to indicate product or components present at greater than 0.1% are chronic health hazards.

**Exposure Levels**

No data available

**Interactive effects**

None known.

**Data limitations**

No data available

## 12. Ecological Information

**Ecotoxicity****Substance Ecotoxicity Data**

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available	No information available	No information available	No information available

**12.2. Persistence and degradability**

Substances	CAS Number	Persistence and Degradability
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

**12.3. Bioaccumulative potential**

Substances	CAS Number	Bioaccumulation
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

**12.4. Mobility in soil**

Substances	CAS Number	Mobility
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

**12.6. Other adverse effects****Endocrine Disruptor Information**

This product does not contain any known or suspected endocrine disruptors

**13. Disposal Considerations****Safe handling and disposal methods**

Follow all applicable community, national or regional regulations regarding waste management methods.

**Disposal of any contaminated packaging**

Follow all applicable national or local regulations.

**Environmental regulations**

Not applicable

**14. Transport Information****Transportation Information****Australia ADG**

UN Number	Not restricted
UN proper shipping name:	Not restricted
Transport Hazard Class(es):	Not applicable
Packing Group:	Not applicable
Environmental Hazards:	Not applicable

**IMDG/IMO**

UN Number	Not restricted
UN proper shipping name:	Not restricted
Transport Hazard Class(es):	Not applicable
Packing Group:	Not applicable
Environmental Hazards:	Not applicable

**IATA/ICAO**

UN Number	Not restricted
UN proper shipping name:	Not restricted
Transport Hazard Class(es):	Not applicable
Packing Group:	Not applicable
Environmental Hazards:	Not applicable

**Special precautions during transport**

None

**HazChem Code**

None Allocated

**15. Regulatory Information****Safety, health and environmental regulations specific for the product****International Inventories****Australian AICS Inventory**

All components are listed on the AICS or are subject to a relevant exemption, permit, or

assessment certificate.  
**New Zealand Inventory of Chemicals** All components are listed on the NZIoC or are subject to a relevant exemption, permit, or assessment certificate.  
**US TSCA Inventory** All components listed on inventory or are exempt.  
**Canadian Domestic Substances List (DSL)** All components listed on inventory or are exempt.

**Poisons Schedule number**

None Allocated

**International Agreements**

<b>Montreal Protocol - Ozone Depleting Substances:</b>	Does not apply.
<b>Stockholm Convention - Persistent Organic Pollutants:</b>	Does not apply
<b>Rotterdam Convention - Prior Informed Consent:</b>	Does not apply.
<b>Basel Convention - Hazardous Waste:</b>	Does not apply.

**16. Other information****Date of preparation or review****Revision Date:** 16-Mar-2020**Revision Note**SDS sections updated:  
2**Full text of H-Statements referred to under sections 2 and 3**

None

**Additional information**

For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Safety Data Sheet for this or other Halliburton products, contact Chemical Stewardship at 1-580-251-4335.

**Key abbreviations or acronyms used**

bw – body weight  
CAS – Chemical Abstracts Service  
EC50 – Effective Concentration 50%  
LC50 – Lethal Concentration 50%  
LD50 – Lethal Dose 50%  
LL50 – Lethal Loading 50%  
mg/kg – milligram/kilogram  
mg/L – milligram/liter  
NOEC – No Observed Effect Concentration  
OEL – Occupational Exposure Limit  
PBT – Persistent Bioaccumulative and Toxic  
ppm – parts per million  
STEL – Short Term Exposure Limit  
TWA – Time-Weighted Average  
vPvB – very Persistent and very Bioaccumulative  
h - hour  
mg/m<sup>3</sup> - milligram/cubic meter  
mm - millimeter  
mmHg - millimeter mercury  
w/w - weight/weight  
d - day

**Key literature references and sources for data**www.ChemADVISOR.com/  
NZ CCID

**Disclaimer Statement**

This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.

**End of Safety Data Sheet**



## SAFETY DATA SHEET

### SCR-100

Revision Date: 30-Apr-2020

Revision Number: 33

#### 1. Product Identifier & Identity for the Chemical

**Statement of Hazardous Nature** Non-Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

##### 1.1. Product Identifier

**Product Name** SCR-100

##### Other means of Identification

**Synonyms** None

**Hazardous Material Number:** HM001253

##### Recommended use of the chemical and restrictions on use

**Recommended Use** Retarder

**Uses advised against** No information available

##### Supplier's name, address and phone number

**Manufacturer/Supplier** Halliburton Australia Pty. Ltd.  
15 Marriott Road, Jandakot, WA 6164  
Australia  
ACN Number: 009 000 775  
Telephone Number: + 61 1 800 686 951  
Fax Number: 61 (08) 9455 5300  
**E-mail Address** fdunexchem@halliburton.com

##### Emergency phone number

+ 61 1 800 686 951

Global Incident Response Access Code: 334305

Contract Number: 14012

##### **Australian Poisons Information Centre**

24 Hour Service: - 13 11 26

Police or Fire Brigade: - 000 (exchange): - 1100

#### 2. Hazard Identification

**Statement of Hazardous Nature** Non-Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

##### Classification of the hazardous chemical

Not classified

##### Label elements, including precautionary statements

##### **Hazard Pictograms**

**Signal Word** Not Hazardous

**Hazard Statements:** Not Classified

**Precautionary Statements**

**Prevention** None  
**Response** None  
**Storage** None  
**Disposal** None

**Contains**

**Substances** CAS Number  
 Contains no hazardous substances in concentrations above cut-off values according to the competent authority NA

**Other hazards which do not result in classification**

This substance is not considered to be persistent, bioaccumulating nor toxic (PBT).  
 This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

*For the full text of the H-phrases mentioned in this Section, see Section 16*

### 3. Composition/information on Ingredients

Substances	CAS Number	PERCENT (w/w)	GHS Classification - Australia
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	60 - 100%	Not classified

### 4. First aid measures

**Description of necessary first aid measures**

**Inhalation** If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.  
**Eyes** In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.  
**Skin** Wash with soap and water. Get medical attention if irritation persists.  
**Ingestion** Rinse mouth with water many times. Get medical attention, if symptoms occur

**Symptoms caused by exposure**

No significant hazards expected.

**Medical Attention and Special Treatment**

**Notes to Physician** Treat symptomatically

### 5. Fire Fighting Measures

**Suitable extinguishing equipment**

**Suitable Extinguishing Media**

Water fog, carbon dioxide, foam, dry chemical.

**Extinguishing media which must not be used for safety reasons**

None known.

**Specific hazards arising from the chemical**

**Special exposure hazards in a fire**

Decomposition in fire may produce harmful gases. Organic dust in the presence of an ignition source can be explosive in high concentrations. Good housekeeping practices are required to minimize this potential.

**Special protective equipment and precautions for fire fighters**

**Special protective equipment for firefighters**

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

## 6. Accidental release measures

**6.1. Personal precautions, protective equipment and emergency procedures**

Use appropriate protective equipment. Avoid creating and breathing dust. Avoid contact with skin, eyes and clothing. Ensure adequate ventilation.

**6.2. Environmental precautions**

Prevent from entering sewers, waterways, or low areas.

**6.3. Methods and material for containment and cleaning up**

Scoop up and remove.

## 7. Handling and storage

**7.1. Precautions for safe handling****Handling Precautions**

Avoid contact with eyes, skin, or clothing. Avoid creating or inhaling dust. Ensure adequate ventilation. Wash hands after use. Launder contaminated clothing before reuse. Use appropriate protective equipment.

**Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice.

**7.2. Conditions for safe storage, including any incompatibilities****Storage Information**

Store away from oxidizers. Store in a cool, dry location.

**Other Guidelines**

No information available

## 8. Exposure Controls/Personal Protection

**Control parameters - exposure standards, biological monitoring****Exposure Limits**

Substances	CAS Number	Australia NOHSC	ACGIH TLV-TWA
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable

**Appropriate engineering controls****Engineering Controls**

Use in a well ventilated area.

**Personal protective equipment (PPE)****Personal Protective Equipment**

If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.

**Respiratory Protection**

Not normally needed. But if significant exposures are possible then the following respirator is recommended:

Dust/mist respirator. (N95, P2/P3)

**Hand Protection**

Use gloves which are suitable for the chemicals present in this product as well as other environmental factors in the workplace.

**Skin Protection**

Wear protective clothing appropriate for the work environment.

**Eye Protection**

Safety glasses with side-shields. If splashes are likely to occur, wear: Goggles, Face-shield.

**Other Precautions**

None known.

**Environmental Exposure Controls**

Do not allow material to contaminate ground water system.

## 9. Physical and Chemical Properties

**9.1. Information on basic physical and chemical properties**

**Physical State:** Solid  
**Odor:** Odorless

**Color** White  
**Odor Threshold:** No information available

PropertyValuesRemarks/ - Method**pH:**

3 - 4 (28%)

**Freezing Point / Range**

No data available

**Melting Point / Range**

No data available

**Pour Point / Range**

No data available

**Boiling Point / Range**

No data available

**Flash Point**

&gt; 200 °C (PMCC)

**Flammability (solid, gas)**

No data available

**Evaporation rate**

No data available

**Vapor Pressure**

No data available

**Vapor Density**

No data available

**Specific Gravity**

1.25

**Water Solubility**

Soluble in water

**Solubility in other solvents**

No data available

**Partition coefficient: n-octanol/water**

No data available

**Autoignition Temperature**

No data available

**Decomposition Temperature**

No data available

**Viscosity**

No data available

**Explosive Properties**

No information available

**Oxidizing Properties**

No information available

**9.2. Other information****VOC Content (%)**

&lt; 5.5%

**Bulk Density**

20-30 lbs/ft3

**10. Stability and Reactivity****10.1. Reactivity**

Not expected to be reactive.

**10.2. Chemical stability**

Stable

**10.3. Possibility of hazardous reactions**

Will Not Occur

**10.4. Conditions to avoid**

None anticipated

**10.5. Incompatible materials**

Strong oxidizers.

**10.6. Hazardous decomposition products**

Oxides of nitrogen. Oxides of sulfur. Carbon monoxide and carbon dioxide.

**11. Toxicological Information****Information on routes of exposure****Principle Route of Exposure** Eye or skin contact, inhalation.**Symptoms related to exposure****Most Important Symptoms/Effects**

No significant hazards expected.

**Toxicology data for the components**

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Contains no hazardous substances in	NA	No data available	No data available	No data available

concentrations above cut-off values according to the competent authority				
--	--	--	--	--

**Immediate, delayed and chronic health effects from exposure**

**Inhalation** May cause mild respiratory irritation.  
**Eye Contact** May cause mild eye irritation.  
**Skin Contact** May cause mild skin irritation.  
**Ingestion** May cause abdominal pain, vomiting, nausea, and diarrhea.

**Chronic Effects/Carcinogenicity** No data available to indicate product or components present at greater than 0.1% are chronic health hazards.

**Exposure Levels**

No data available

**Interactive effects**

Skin disorders.

**Data limitations**

No data available

**12. Ecological Information**

**Ecotoxicity**

**Substance Ecotoxicity Data**

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available	No information available	No information available	No information available

**12.2. Persistence and degradability**

Substances	CAS Number	Persistence and Degradability
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

**12.3. Bioaccumulative potential**

Substances	CAS Number	Bioaccumulation
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

**12.4. Mobility in soil**

Substances	CAS Number	Mobility
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

**12.6. Other adverse effects****Endocrine Disruptor Information**

This product does not contain any known or suspected endocrine disruptors

**13. Disposal Considerations****Safe handling and disposal methods**

Follow all applicable community, national or regional regulations regarding waste management methods.

**Disposal of any contaminated packaging**

Follow all applicable national or local regulations.

**Environmental regulations**

Not applicable

**14. Transport Information****Transportation Information****Australia ADG**

UN Number	Not restricted
UN proper shipping name:	Not restricted
Transport Hazard Class(es):	Not applicable
Packing Group:	Not applicable
Environmental Hazards:	Not applicable

**IMDG/IMO**

UN Number	Not restricted
UN proper shipping name:	Not restricted
Transport Hazard Class(es):	Not applicable
Packing Group:	Not applicable
Environmental Hazards:	Not applicable

**IATA/ICAO**

UN Number	Not restricted
UN proper shipping name:	Not restricted
Transport Hazard Class(es):	Not applicable
Packing Group:	Not applicable
Environmental Hazards:	Not applicable

**Special precautions during transport**

None

**HazChem Code**

None Allocated

**15. Regulatory Information****Safety, health and environmental regulations specific for the product****International Inventories****Australian AICS Inventory**

All components are listed on the AICS or are subject to a relevant exemption, permit, or assessment certificate.

**New Zealand Inventory of Chemicals** All components are listed on the NZIoC or are subject to a relevant exemption, permit, or assessment certificate.  
**US TSCA Inventory** All components listed on inventory or are exempt.  
**Canadian Domestic Substances List (DSL)** All components listed on inventory or are exempt.

**Poisons Schedule number**

None Allocated

**International Agreements**

<b>Montreal Protocol - Ozone Depleting Substances:</b>	Does not apply.
<b>Stockholm Convention - Persistent Organic Pollutants:</b>	Does not apply
<b>Rotterdam Convention - Prior Informed Consent:</b>	Does not apply.
<b>Basel Convention - Hazardous Waste:</b>	Does not apply.

**16. Other information****Date of preparation or review****Revision Date:** 30-Apr-2020**Revision Note**SDS sections updated:  
2**Full text of H-Statements referred to under sections 2 and 3**

None

**Additional information**

For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Safety Data Sheet for this or other Halliburton products, contact Chemical Stewardship at 1-580-251-4335.

**Key abbreviations or acronyms used**

bw – body weight  
 CAS – Chemical Abstracts Service  
 EC50 – Effective Concentration 50%  
 LC50 – Lethal Concentration 50%  
 LD50 – Lethal Dose 50%  
 LL50 – Lethal Loading 50%  
 mg/kg – milligram/kilogram  
 mg/L – milligram/liter  
 NOEC – No Observed Effect Concentration  
 OEL – Occupational Exposure Limit  
 PBT – Persistent Bioaccumulative and Toxic  
 ppm – parts per million  
 STEL – Short Term Exposure Limit  
 TWA – Time-Weighted Average  
 vPvB – very Persistent and very Bioaccumulative  
 h - hour  
 mg/m<sup>3</sup> - milligram/cubic meter  
 mm - millimeter  
 mmHg - millimeter mercury  
 w/w - weight/weight  
 d - day

**Key literature references and sources for data**[www.ChemADVISOR.com/](http://www.ChemADVISOR.com/)

**Disclaimer Statement**

This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.

**End of Safety Data Sheet**



## SAFETY DATA SHEET

### SCR-100L

Revision Date: 28-Jan-2020

Revision Number: 43

#### 1. Product Identifier & Identity for the Chemical

**Statement of Hazardous Nature** Non-Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

##### 1.1. Product Identifier

**Product Name** SCR-100L

##### Other means of Identification

**Synonyms** None

**Hazardous Material Number:** HM001254

##### Recommended use of the chemical and restrictions on use

**Recommended Use** Retarder

**Uses advised against** No information available

##### Supplier's name, address and phone number

**Manufacturer/Supplier** Halliburton Australia Pty. Ltd.  
15 Marriott Road, Jandakot, WA 6164  
Australia  
ACN Number: 009 000 775  
Telephone Number: + 61 1 800 686 951  
Fax Number: 61 (08) 9455 5300  
**E-mail Address** fdunexchem@halliburton.com

##### Emergency phone number

+ 61 1 800 686 951

Global Incident Response Access Code: 334305

Contract Number: 14012

##### **Australian Poisons Information Centre**

24 Hour Service: - 13 11 26

Police or Fire Brigade: - 000 (exchange): - 1100

#### 2. Hazard Identification

**Statement of Hazardous Nature** Non-Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

##### Classification of the hazardous chemical

Not classified

##### Label elements, including precautionary statements

##### **Hazard Pictograms**

**Signal Word** Not Hazardous

**Hazard Statements:** Not Classified

**Precautionary Statements**

**Prevention** None  
**Response** None  
**Storage** None  
**Disposal** None

**Contains**

**Substances** CAS Number  
 Contains no hazardous substances in concentrations above cut-off values according to the competent authority NA

**Other hazards which do not result in classification**

This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).  
 This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

*For the full text of the H-phrases mentioned in this Section, see Section 16*

### 3. Composition/information on Ingredients

Substances	CAS Number	PERCENT (w/w)	GHS Classification - Australia
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	60 - 100%	Not classified

### 4. First aid measures

**Description of necessary first aid measures**

**Inhalation** If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.  
**Eyes** Immediately flush eyes with large amounts of water for at least 15 minutes. Get immediate medical attention.  
**Skin** Wash with soap and water. Get medical attention if irritation persists.  
**Ingestion** Do NOT induce vomiting. Give nothing by mouth. Obtain immediate medical attention.

**Symptoms caused by exposure**

No significant hazards expected.

**Medical Attention and Special Treatment**

**Notes to Physician** Treat symptomatically

### 5. Fire Fighting Measures

**Suitable extinguishing equipment**

**Suitable Extinguishing Media**

All standard fire fighting media

**Extinguishing media which must not be used for safety reasons**

None known.

**Specific hazards arising from the chemical**

**Special exposure hazards in a fire**

Decomposition in fire may produce harmful gases.

**Special protective equipment and precautions for fire fighters**

**Special protective equipment for firefighters**

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

## 6. Accidental release measures

**6.1. Personal precautions, protective equipment and emergency procedures**

Use appropriate protective equipment. Avoid contact with skin, eyes and clothing. Avoid breathing vapors. Ensure adequate ventilation.

**6.2. Environmental precautions**

Prevent from entering sewers, waterways, or low areas.

**6.3. Methods and material for containment and cleaning up**

Isolate spill and stop leak where safe. Contain spill with sand or other inert materials. Scoop up and remove.

## 7. Handling and storage

**7.1. Precautions for safe handling****Handling Precautions**

Avoid contact with eyes, skin, or clothing. Avoid breathing vapors. Ensure adequate ventilation. Wash hands after use. Launder contaminated clothing before reuse. Use appropriate protective equipment.

**Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice.

**7.2. Conditions for safe storage, including any incompatibilities****Storage Information**

Store away from oxidizers. Store in a dry location. Keep container closed when not in use.

**Other Guidelines**

No information available

## 8. Exposure Controls/Personal Protection

**Control parameters - exposure standards, biological monitoring****Exposure Limits**

Substances	CAS Number	Australia NOHSC	ACGIH TLV-TWA
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable

**Appropriate engineering controls****Engineering Controls**

Use in a well ventilated area.

**Personal protective equipment (PPE)****Personal Protective Equipment**

If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.

**Respiratory Protection**

Not normally needed. But if significant exposures are possible then the following respirator is recommended:

Dust/mist respirator. (N95, P2/P3)

**Hand Protection**

Normal work gloves.

**Skin Protection**

Normal work coveralls.

**Eye Protection**

Wear safety glasses or goggles to protect against exposure.

**Other Precautions**

None known.

**Environmental Exposure Controls**

Do not allow material to contaminate ground water system.

## 9. Physical and Chemical Properties

**9.1. Information on basic physical and chemical properties**

**Physical State:** Liquid      **Color:** Blue  
**Odor:** Odorless      **Odor Threshold:** No information available

<u>Property</u>	<u>Values</u>
<u>Remarks/ - Method</u>	
<b>pH:</b>	3 - 4 (28%)
<b>Freezing Point / Range</b>	-4 °C
<b>Melting Point / Range</b>	No data available
<b>Pour Point / Range</b>	No data available
<b>Boiling Point / Range</b>	No data available
<b>Flash Point</b>	> 93 °C / > 200 °F (PMCC)
<b>Evaporation rate</b>	No data available
<b>Vapor Pressure</b>	No data available
<b>Vapor Density</b>	No data available
<b>Specific Gravity</b>	1.16
<b>Water Solubility</b>	Soluble in water
<b>Solubility in other solvents</b>	No data available
<b>Partition coefficient: n-octanol/water</b>	No data available
<b>Autoignition Temperature</b>	520 °C
<b>Decomposition Temperature</b>	No data available
<b>Viscosity</b>	15-30 cP @ 25°C
<b>Explosive Properties</b>	No information available
<b>Oxidizing Properties</b>	No information available

**9.2. Other information**

**VOC Content (%)** ~60%  
**Liquid Density** 9.66

**10. Stability and Reactivity****10.1. Reactivity**

Not expected to be reactive.

**10.2. Chemical stability**

Stable

**10.3. Possibility of hazardous reactions**

Will Not Occur

**10.4. Conditions to avoid**

None anticipated

**10.5. Incompatible materials**

Strong oxidizers.

**10.6. Hazardous decomposition products**

Oxides of nitrogen. Oxides of sulfur. Carbon monoxide and carbon dioxide.

**11. Toxicological Information****Information on routes of exposure**

**Principle Route of Exposure** Eye or skin contact, inhalation.

**Symptoms related to exposure****Most Important Symptoms/Effects**

No significant hazards expected.

**Toxicology data for the components**

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Contains no hazardous substances in concentrations above cut-off values according	NA	No data available	No data available	No data available

to the competent authority				
----------------------------	--	--	--	--

**Immediate, delayed and chronic health effects from exposure**

<b>Inhalation</b>	May cause mild respiratory irritation.
<b>Eye Contact</b>	May cause mechanical irritation to eye.
<b>Skin Contact</b>	None known.
<b>Ingestion</b>	Irritation of the mouth, throat, and stomach.

**Chronic Effects/Carcinogenicity** No data available to indicate product or components present at greater than 0.1% are chronic health hazards.

**Exposure Levels**

No data available

**Interactive effects**

Skin disorders.

**Data limitations**

No data available

**12. Ecological Information**

**Ecotoxicity**

**Substance Ecotoxicity Data**

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available	No information available	No information available	No information available

**12.2. Persistence and degradability**

Substances	CAS Number	Persistence and Degradability
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

**12.3. Bioaccumulative potential**

Substances	CAS Number	Bioaccumulation
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

**12.4. Mobility in soil**

Substances	CAS Number	Mobility
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

**12.6. Other adverse effects****Endocrine Disruptor Information**

This product does not contain any known or suspected endocrine disruptors

## 13. Disposal Considerations

**Safe handling and disposal methods**

Bury in a licensed landfill or burn in an approved incinerator according to federal, state, and local regulations. Substance should NOT be deposited into a sewage facility.

**Disposal of any contaminated packaging**

Follow all applicable national or local regulations. Contaminated packaging may be disposed of by: rendering packaging incapable of containing any substance, or treating packaging to remove residual contents, or treating packaging to make sure the residual contents are no longer hazardous, or by disposing of packaging into commercial waste collection.

**Environmental regulations**

Not applicable

## 14. Transport Information

**Transportation Information****Australia ADG**

UN Number	Not restricted
UN proper shipping name:	Not restricted
Transport Hazard Class(es):	Not applicable
Packing Group:	Not applicable
Environmental Hazards:	Not applicable

**IMDG/IMO**

UN Number	Not restricted
UN proper shipping name:	Not restricted
Transport Hazard Class(es):	Not applicable
Packing Group:	Not applicable
Environmental Hazards:	Not applicable

**IATA/ICAO**

UN Number	Not restricted
UN proper shipping name:	Not restricted
Transport Hazard Class(es):	Not applicable
Packing Group:	Not applicable
Environmental Hazards:	Not applicable

**Special precautions during transport**

None

**HazChem Code**

None Allocated

## 15. Regulatory Information

**Safety, health and environmental regulations specific for the product****International Inventories****Australian AICS Inventory**

All components are listed on the AICS or are subject to a relevant exemption, permit, or assessment certificate.

**New Zealand Inventory of**

All components are listed on the NZIoC or are subject to a relevant exemption, permit, or

**Chemicals** assessment certificate.  
**US TSCA Inventory** All components listed on inventory or are exempt.  
**Canadian Domestic Substances List (DSL)** All components listed on inventory or are exempt.

**Poisons Schedule number**

None Allocated

**International Agreements**

<b>Montreal Protocol - Ozone Depleting Substances:</b>	Does not apply.
<b>Stockholm Convention - Persistent Organic Pollutants:</b>	Does not apply.
<b>Rotterdam Convention - Prior Informed Consent:</b>	Does not apply.
<b>Basel Convention - Hazardous Waste:</b>	Does not apply.

**16. Other information****Date of preparation or review****Revision Date:** 28-Jan-2020**Revision Note**SDS sections updated:  
2**Full text of H-Statements referred to under sections 2 and 3**

None

**Additional information**

For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Safety Data Sheet for this or other Halliburton products, contact Chemical Stewardship at 1-580-251-4335.

**Key abbreviations or acronyms used**

bw – body weight  
CAS – Chemical Abstracts Service  
EC50 – Effective Concentration 50%  
LC50 – Lethal Concentration 50%  
LD50 – Lethal Dose 50%  
LL50 – Lethal Loading 50%  
mg/kg – milligram/kilogram  
mg/L – milligram/liter  
NOEC – No Observed Effect Concentration  
OEL – Occupational Exposure Limit  
PBT – Persistent Bioaccumulative and Toxic  
ppm – parts per million  
STEL – Short Term Exposure Limit  
TWA – Time-Weighted Average  
vPvB – very Persistent and very Bioaccumulative  
h - hour  
mg/m<sup>3</sup> - milligram/cubic meter  
mm - millimeter  
mmHg - millimeter mercury  
w/w - weight/weight  
d - day

**Key literature references and sources for data**www.ChemADVISOR.com/  
NZ CCID

**Disclaimer Statement**

This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.

**End of Safety Data Sheet**



## SAFETY DATA SHEET

### SILICALITE LIQUID

Revision Date: 30-Apr-2020

Revision Number: 26

#### 1. Product Identifier & Identity for the Chemical

**Statement of Hazardous Nature** Non-Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

##### 1.1. Product Identifier

**Product Name** SILICALITE LIQUID

##### Other means of Identification

**Synonyms** None

**Hazardous Material Number:** HM001274

##### Recommended use of the chemical and restrictions on use

**Recommended Use** Light Weight Cement Additive

**Uses advised against** No information available

##### Supplier's name, address and phone number

**Manufacturer/Supplier** Halliburton Australia Pty. Ltd.  
15 Marriott Road, Jandakot, WA 6164  
Australia  
ACN Number: 009 000 775  
Telephone Number: + 61 1 800 686 951  
Fax Number: 61 (08) 9455 5300  
**E-mail Address** fdunexchem@halliburton.com

##### Emergency phone number

+ 61 1 800 686 951

Global Incident Response Access Code: 334305

Contract Number: 14012

##### **Australian Poisons Information Centre**

24 Hour Service: - 13 11 26

Police or Fire Brigade: - 000 (exchange): - 1100

#### 2. Hazard Identification

**Statement of Hazardous Nature** Non-Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

##### Classification of the hazardous chemical

Not classified

##### Label elements, including precautionary statements

##### **Hazard Pictograms**

**Signal Word** Not Hazardous

**Hazard Statements:** Not Classified

**Precautionary Statements**

**Prevention** None  
**Response** None  
**Storage** None  
**Disposal** None

**Contains**

**Substances** CAS Number  
 Contains no hazardous substances in concentrations above cut-off values according to the competent authority NA

**Other hazards which do not result in classification**

This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).  
 This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

For the full text of the H-phrases mentioned in this Section, see Section 16

### 3. Composition/information on Ingredients

Substances	CAS Number	PERCENT (w/w)	GHS Classification - Australia
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	60 - 100%	Not classified

### 4. First aid measures

**Description of necessary first aid measures**

**Inhalation** If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.  
**Eyes** In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.  
**Skin** Flush skin with large amounts of water. If irritation persists, get medical attention.  
**Ingestion** Rinse mouth with water many times. Get medical attention, if symptoms occur

**Symptoms caused by exposure**

No significant hazards expected.

**Medical Attention and Special Treatment**

**Notes to Physician** Treat symptomatically

### 5. Fire Fighting Measures

**Suitable extinguishing equipment**

**Suitable Extinguishing Media**

All standard fire fighting media

**Extinguishing media which must not be used for safety reasons**

None known.

**Specific hazards arising from the chemical**

**Special exposure hazards in a fire**

Not applicable

**Special protective equipment and precautions for fire fighters**

**Special protective equipment for firefighters**

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

## 6. Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Use appropriate protective equipment. Avoid contact with skin, eyes and clothing.

### 6.2. Environmental precautions

None known. Prevent from entering sewers, waterways, or low areas.

### 6.3. Methods and material for containment and cleaning up

Isolate spill and stop leak where safe. Contain spill with sand or other inert materials. Scoop up and remove.

## 7. Handling and storage

### 7.1. Precautions for safe handling

#### Handling Precautions

Avoid contact with eyes, skin, or clothing. Ensure adequate ventilation. Wash hands after use. Launder contaminated clothing before reuse. Use appropriate protective equipment.

#### Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

### 7.2. Conditions for safe storage, including any incompatibilities

#### Storage Information

Keep container closed when not in use. Product has a shelf life of 24 months.

#### Other Guidelines

No information available

## 8. Exposure Controls/Personal Protection

### Control parameters - exposure standards, biological monitoring

#### Exposure Limits

Substances	CAS Number	Australia NOHSC	ACGIH TLV-TWA
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable

### Appropriate engineering controls

**Engineering Controls** Use in a well ventilated area.

### Personal protective equipment (PPE)

**Personal Protective Equipment** If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.

**Respiratory Protection** Not normally necessary.

**Hand Protection** Normal work gloves.

**Skin Protection** Normal work coveralls.

**Eye Protection** Wear safety glasses or goggles to protect against exposure.

**Other Precautions** None known.

**Environmental Exposure Controls** No information available

## 9. Physical and Chemical Properties

### 9.1. Information on basic physical and chemical properties

**Physical State:** Liquid

**Color** Dark gray

**Odor:** Odorless

**Odor Threshold:** No information available

<u>Property</u> <u>Remarks/ - Method</u>	<u>Values</u>
<b>pH:</b>	6- 8
<b>Freezing Point / Range</b>	0 °C
<b>Melting Point / Range</b>	No data available
<b>Pour Point / Range</b>	No data available
<b>Boiling Point / Range</b>	100 °C / 212 °F
<b>Flash Point</b>	100 °C / > 212 °F
<b>Evaporation rate</b>	No data available
<b>Vapor Pressure</b>	22.9
<b>Vapor Density</b>	No data available
<b>Specific Gravity</b>	1.37
<b>Water Solubility</b>	Miscible with water
<b>Solubility in other solvents</b>	No data available
<b>Partition coefficient: n-octanol/water</b>	No data available
<b>Autoignition Temperature</b>	No data available
<b>Decomposition Temperature</b>	No data available
<b>Viscosity</b>	No data available
<b>Explosive Properties</b>	No information available
<b>Oxidizing Properties</b>	No information available

**9.2. Other information**

<b>VOC Content (%)</b>	No data available
<b>Liquid Density</b>	11.64 lbs/gal

## 10. Stability and Reactivity

**10.1. Reactivity**

Not expected to be reactive.

**10.2. Chemical stability**

Stable

**10.3. Possibility of hazardous reactions**

Will Not Occur

**10.4. Conditions to avoid**

None anticipated

**10.5. Incompatible materials**

None known.

**10.6. Hazardous decomposition products**

Amorphous silica may transform at elevated temperatures to tridymite (870 C) or cristobalite (1470 C).

## 11. Toxicological Information

**Information on routes of exposure**

**Principle Route of Exposure** Eye and skin contact.

**Symptoms related to exposure****Most Important Symptoms/Effects**

No significant hazards expected.

**Toxicology data for the components**

<b>Substances</b>	<b>CAS Number</b>	<b>LD50 Oral</b>	<b>LD50 Dermal</b>	<b>LC50 Inhalation</b>
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No data available	No data available	No data available

**Immediate, delayed and chronic health effects from exposure**

<b>Inhalation</b>	May cause mild respiratory irritation.
<b>Eye Contact</b>	May cause mechanical irritation to eye.
<b>Skin Contact</b>	None known.
<b>Ingestion</b>	May cause abdominal pain, vomiting, nausea, and diarrhea.

**Chronic Effects/Carcinogenicity** No data available to indicate product or components present at greater than 0.1% are chronic health hazards.

**Exposure Levels**

No data available

**Interactive effects**

None known.

**Data limitations**

No data available

## 12. Ecological Information

**Ecotoxicity****Substance Ecotoxicity Data**

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available	No information available	No information available	No information available

**12.2. Persistence and degradability**

Substances	CAS Number	Persistence and Degradability
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

**12.3. Bioaccumulative potential**

Substances	CAS Number	Bioaccumulation
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

**12.4. Mobility in soil**

Substances	CAS Number	Mobility
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

**12.6. Other adverse effects****Endocrine Disruptor Information**

This product does not contain any known or suspected endocrine disruptors

<b>13. Disposal Considerations</b>
------------------------------------

**Safe handling and disposal methods**

Disposal should be made in accordance with federal, state, and local regulations.

**Disposal of any contaminated packaging**

Follow all applicable national or local regulations.

**Environmental regulations**

Not applicable

<b>14. Transport Information</b>
----------------------------------

**Transportation Information****Australia ADG**

<b>UN Number</b>	Not restricted
<b>UN proper shipping name:</b>	Not restricted
<b>Transport Hazard Class(es):</b>	Not applicable
<b>Packing Group:</b>	Not applicable
<b>Environmental Hazards:</b>	Not applicable

**IMDG/IMO**

<b>UN Number</b>	Not restricted
<b>UN proper shipping name:</b>	Not restricted
<b>Transport Hazard Class(es):</b>	Not applicable
<b>Packing Group:</b>	Not applicable
<b>Environmental Hazards:</b>	Not applicable

**IATA/CAO**

<b>UN Number</b>	Not restricted
<b>UN proper shipping name:</b>	Not restricted
<b>Transport Hazard Class(es):</b>	Not applicable
<b>Packing Group:</b>	Not applicable
<b>Environmental Hazards:</b>	Not applicable

**Special precautions during transport**

None

**HazChem Code**

None Allocated

<b>15. Regulatory Information</b>
-----------------------------------

**Safety, health and environmental regulations specific for the product****International Inventories**

<b>Australian AICS Inventory</b>	All components are listed on the AICS or are subject to a relevant exemption, permit, or assessment certificate.
<b>New Zealand Inventory of Chemicals</b>	All components are listed on the NZIoC or are subject to a relevant exemption, permit, or assessment certificate.
<b>US TSCA Inventory</b>	All components listed on inventory or are exempt.
<b>Canadian Domestic Substances List (DSL)</b>	All components listed on inventory or are exempt.

**Poisons Schedule number**

None Allocated

**International Agreements****Montreal Protocol - Ozone Depleting Substances:**

Does not apply.

**Stockholm Convention - Persistent Organic Pollutants:**

Does not apply

**Rotterdam Convention - Prior Informed Consent:**

Does not apply.

**Basel Convention - Hazardous Waste:**

Does not apply.

**16. Other information****Date of preparation or review****Revision Date:** 30-Apr-2020**Revision Note**

SDS sections updated:

2

**Full text of H-Statements referred to under sections 2 and 3**

None

**Additional information**

For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Safety Data Sheet for this or other Halliburton products, contact Chemical Stewardship at 1-580-251-4335.

**Key abbreviations or acronyms used**

bw – body weight

CAS – Chemical Abstracts Service

EC50 – Effective Concentration 50%

LC50 – Lethal Concentration 50%

LD50 – Lethal Dose 50%

LL50 – Lethal Loading 50%

mg/kg – milligram/kilogram

mg/L – milligram/liter

NOEC – No Observed Effect Concentration

OEL – Occupational Exposure Limit

PBT – Persistent Bioaccumulative and Toxic

ppm – parts per million

STEL – Short Term Exposure Limit

TWA – Time-Weighted Average

vPvB – very Persistent and very Bioaccumulative

h - hour

mg/m<sup>3</sup> - milligram/cubic meter

mm - millimeter

mmHg - millimeter mercury

w/w - weight/weight

d - day

**Key literature references and sources for data**[www.ChemADVISOR.com/](http://www.ChemADVISOR.com/)**Disclaimer Statement**

This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.

End of Safety Data Sheet



## SAFETY DATA SHEET

### CALCIUM CHLORIDE - POWDER

Revision Date: 24-Jan-2017

Revision Number: 26

#### 1. Product Identifier & Identity for the Chemical

**Statement of Hazardous Nature** Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

##### 1.1. Product Identifier

**Product Name** CALCIUM CHLORIDE - POWDER

##### Other means of Identification

**Synonyms** None  
**Hazardous Material Number:** HM001502

##### Recommended use of the chemical and restrictions on use

**Recommended Use** Accelerator  
**Uses advised against** No information available

##### Supplier's name, address and phone number

**Manufacturer/Supplier** Multi-Chem Mintech  
1 Ward Road  
East Rockingham  
WA 6168  
Australia  
  
Telephone Number: 61 (08) 9419 5300  
Fax Number: 61 (08) 9439 1055  
Emergency Telephone Number: + 61 1 800 686 951  
fdunexchem@halliburton.com

##### **E-mail Address**

##### Emergency phone number

+ 61 1 800 686 951  
Global Incident Response Access Code: 334305  
Contract Number: 14012

##### **Australian Poisons Information Centre**

24 Hour Service: - 13 11 26  
Police or Fire Brigade: - 000 (exchange): - 1100

#### 2. Hazard Identification

**Statement of Hazardous Nature** Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

##### Classification of the hazardous chemical

Serious Eye Damage/Irritation	Category 2 - H319
-------------------------------	-------------------

##### Label elements, including precautionary statements

##### **Hazard Pictograms**



**Signal Word** WARNING  
**Hazard Statements:** H319 - Causes serious eye irritation

**Precautionary Statements**

**Prevention** P264 - Wash face, hands and any exposed skin thoroughly after handling  
 P280 - Wear eye protection/face protection  
**Response** P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
 P337 + P313 - If eye irritation persists: Get medical advice/attention  
**Storage** None  
**Disposal** None

**Contains Substances** **CAS Number**  
 Calcium chloride, dihydrate 10035-04-8

**Other hazards which do not result in classification**

This substance is not considered to be persistent, bioaccumulating nor toxic (PBT).  
 This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

For the full text of the H-phrases mentioned in this Section, see Section 16

**3. Composition/information on Ingredients**

Substances	CAS Number	PERCENT (w/w)	GHS Classification - Australia
Calcium chloride, dihydrate	10035-04-8	60 - 100%	Eye Irrit. 2A (H319)

**4. First aid measures**

**Description of necessary first aid measures**

**Inhalation** If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.  
**Eyes** In case of contact, or suspected contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention immediately after flushing.  
**Skin** In case of contact, immediately flush skin with plenty of soap and water for at least 15 minutes. Get medical attention. Remove contaminated clothing and launder before reuse.  
**Ingestion** Do NOT induce vomiting. Give nothing by mouth. Obtain immediate medical attention.

**Symptoms caused by exposure**

Causes eye irritation. Causes mild skin irritation. May be harmful if swallowed. Causes eye irritation

**Medical Attention and Special Treatment**

**Notes to Physician** Treat symptomatically

**5. Fire Fighting Measures**

**Suitable extinguishing equipment**

**Suitable Extinguishing Media**

All standard fire fighting media

**Extinguishing media which must not be used for safety reasons**

None known.

**Specific hazards arising from the chemical**

**Special exposure hazards in a fire**

None anticipated

**Special protective equipment and precautions for fire fighters**

**Special protective equipment for firefighters**

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

**6. Accidental release measures**

**6.1. Personal precautions, protective equipment and emergency procedures**

Use appropriate protective equipment. Avoid creating and breathing dust. Avoid contact with skin, eyes and clothing. Ensure adequate ventilation.

**6.2. Environmental precautions**

Prevent from entering sewers, waterways, or low areas.

**6.3. Methods and material for containment and cleaning up**

Scoop up and remove.

**7. Handling and storage**

**7.1. Precautions for safe handling**

**Handling Precautions**

Use appropriate protective equipment. Avoid contact with eyes, skin, or clothing. Avoid creating or inhaling dust. Ensure adequate ventilation. Wash hands after use. Launder contaminated clothing before reuse.

**Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice.

**7.2. Conditions for safe storage, including any incompatibilities**

**Storage Information**

Store in a cool, dry location.

**Other Guidelines**

No information available

**8. Exposure Controls/Personal Protection**

**Control parameters - exposure standards, biological monitoring**

**Exposure Limits**

Substances	CAS Number	Australia NOHSC	ACGIH TLV-TWA
Calcium chloride, dihydrate	10035-04-8	Not applicable	Not applicable

**Appropriate engineering controls**

**Engineering Controls**

Use in a well ventilated area.

**Personal protective equipment (PPE)**

**Personal Protective Equipment**

If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.

<b>Respiratory Protection</b>	If engineering controls and work practices cannot keep exposure below occupational exposure limits or if exposure is unknown, wear a NIOSH certified, European Standard EN 149, AS/NZS 1715:2009, or equivalent respirator when using this product. Selection of and instruction on using all personal protective equipment, including respirators, should be performed by an Industrial Hygienist or other qualified professional. Dust/mist respirator. (N95, P2/P3)
<b>Hand Protection</b>	Normal work gloves.
<b>Skin Protection</b>	Normal work coveralls.
<b>Eye Protection</b>	Dust proof goggles.
<b>Other Precautions</b>	None known.
<b>Environmental Exposure Controls</b>	Do not allow material to contaminate ground water system

## 9. Physical and Chemical Properties

### 9.1. Information on basic physical and chemical properties

<b>Physical State:</b>	Solid	<b>Color</b>	White
<b>Odor:</b>	Odorless	<b>Odor Threshold:</b>	No information available

Property	Values
Remarks/ - Method	
<b>pH:</b>	10
<b>Freezing Point / Range</b>	No data available
<b>Melting Point / Range</b>	No data available
<b>Boiling Point / Range</b>	No data available
<b>Flash Point</b>	No data available
<b>Evaporation rate</b>	No data available
<b>Vapor Pressure</b>	-
<b>Vapor Density</b>	No data available
<b>Specific Gravity</b>	2.1
<b>Water Solubility</b>	Soluble in water
<b>Solubility in other solvents</b>	No data available
<b>Partition coefficient: n-octanol/water</b>	No data available
<b>Autoignition Temperature</b>	No data available
<b>Decomposition Temperature</b>	No data available
<b>Viscosity</b>	No data available
<b>Explosive Properties</b>	No information available
<b>Oxidizing Properties</b>	No information available

### 9.2. Other information

<b>Molecular Weight</b>	147.02 (g/mole)
<b>VOC Content (%)</b>	No data available

## 10. Stability and Reactivity

### 10.1. Reactivity

Not expected to be reactive.

### 10.2. Chemical stability

Stable

### 10.3. Possibility of hazardous reactions

Will Not Occur

### 10.4. Conditions to avoid

None anticipated

### 10.5. Incompatible materials

None known.

### 10.6. Hazardous decomposition products

None known.

## 11. Toxicological Information

### Information on routes of exposure

**Principle Route of Exposure** Eye or skin contact, inhalation.

**Symptoms related to exposure****Most Important Symptoms/Effects**

Causes eye irritation. Causes mild skin irritation. May be harmful if swallowed. Causes eye irritation

**Numerical measures of toxicity****Toxicology data for the components**

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Calcium chloride, dihydrate	10035-04-8	2301 mg/kg (Rat)	> 5000 mg/kg (Rabbit)	No data available

**Immediate, delayed and chronic health effects from exposure****Inhalation**

May cause mild respiratory irritation.

**Eye Contact**

Causes eye irritation.

**Skin Contact**

Causes mild skin irritation.

**Ingestion**

May be harmful if swallowed. Irritation of the mouth, throat, and stomach.

**Chronic Effects/Carcinogenicity** No data available to indicate product or components present at greater than 0.1% are chronic health hazards.

**Exposure Levels**

No data available

**Interactive effects**

Skin disorders.

**Data limitations**

No data available

Substances	CAS Number	Skin corrosion/irritation
Calcium chloride, dihydrate	10035-04-8	Causes mild skin irritation (Rabbit)

Substances	CAS Number	Serious eye damage/irritation
Calcium chloride, dihydrate	10035-04-8	May cause moderate to severe eye irritation. (Rabbit)

Substances	CAS Number	Skin Sensitization
Calcium chloride, dihydrate	10035-04-8	No data of sufficient quality are available.

Substances	CAS Number	Respiratory Sensitization
Calcium chloride, dihydrate	10035-04-8	No information available

Substances	CAS Number	Mutagenic Effects
Calcium chloride, dihydrate	10035-04-8	In vitro tests did not show mutagenic effects.

Substances	CAS Number	Carcinogenic Effects
Calcium chloride, dihydrate	10035-04-8	No information available

Substances	CAS Number	Reproductive toxicity
Calcium chloride, dihydrate	10035-04-8	Animal testing did not show any effects on fertility. Did not show teratogenic effects in animal experiments.

Substances	CAS Number	STOT - single exposure
Calcium chloride, dihydrate	10035-04-8	No significant toxicity observed in animal studies at concentration requiring classification.

Substances	CAS Number	STOT - repeated exposure
Calcium chloride, dihydrate	10035-04-8	No significant toxicity observed in animal studies at concentration requiring classification.

Substances	CAS Number	Aspiration hazard
Calcium chloride, dihydrate	10035-04-8	Not applicable

## 12. Ecological Information

### Ecotoxicity

#### Substance Ecotoxicity Data

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Calcium chloride, dihydrate	10035-04-8	EC50 (72h) 2900 mg/L (Pseudokirchnerella subcapitata) EC50 (72h) >4000 mg/L (Pseudokirchnerella subcapitata)	LC50 (96h) 4630 mg/L (Pimephales promelas)	NOEC 2000 mg/L (Activated sludge, industrial)	EC50 (48h) 1285 mg/L (Daphnia magna) EC16 (21d) 320 mg/L (Daphnia magna) ErC50 (21d) 610 mg/L (Daphnia magna) LC50 (48h) 1285 mg/L (Daphnia magna) LC50 (48h) 2400 mg/L (Daphnia magna)

### 12.2. Persistence and degradability

Substances	CAS Number	Persistence and Degradability
Calcium chloride, dihydrate	10035-04-8	The methods for determining biodegradability are not applicable to inorganic substances.

### 12.3. Bioaccumulative potential

Substances	CAS Number	Log Pow
Calcium chloride, dihydrate	10035-04-8	No information available

### 12.4. Mobility in soil

Substances	CAS Number	Mobility
Calcium chloride, dihydrate	10035-04-8	No information available

### 12.6. Other adverse effects

#### Endocrine Disruptor Information

This product does not contain any known or suspected endocrine disruptors

## 13. Disposal Considerations

### Safe handling and disposal methods

Bury in a licensed landfill according to federal, state, and local regulations.

### Disposal of any contaminated packaging

Follow all applicable national or local regulations. Contaminated packaging may be disposed of by: rendering packaging incapable of containing any substance, or treating packaging to remove residual contents, or treating packaging to make sure the residual contents are no longer hazardous, or by disposing of packaging into commercial waste collection.

### Environmental regulations

Not applicable

## 14. Transport Information

### Transportation Information

#### Australia ADG

UN Number	Not restricted
UN proper shipping name:	Not restricted
Transport Hazard Class(es):	Not applicable
Packing Group:	Not applicable
Environmental Hazards:	Not applicable

**IMDG/IMO**

UN Number	Not restricted
UN proper shipping name:	Not restricted
Transport Hazard Class(es):	Not applicable
Packing Group:	Not applicable
Environmental Hazards:	Not applicable

**IATA/CAO**

UN Number	Not restricted
UN proper shipping name:	Not restricted
Transport Hazard Class(es):	Not applicable
Packing Group:	Not applicable
Environmental Hazards:	Not applicable

**Special precautions during transport**

None

**HazChem Code**

None Allocated

<b>15. Regulatory Information</b>
-----------------------------------

**Safety, health and environmental regulations specific for the product****International Inventories**

**Australian AICS Inventory** All components are listed on the AICS or are subject to a relevant exemption, permit, or assessment certificate.

**New Zealand Inventory of Chemicals** All components are listed on the NZIoC or are subject to a relevant exemption, permit, or assessment certificate.

**EINECS (European Inventory of Existing Chemical Substances)** This product, and all its components, complies with EINECS

**US TSCA Inventory** All components listed on inventory or are exempt.

**Canadian Domestic Substances List (DSL)** All components listed on inventory or are exempt.

**Poisons Schedule number**

None Allocated

**International Agreements**

**Montreal Protocol - Ozone Depleting Substances:** Does not apply

**Stockholm Convention - Persistent Organic Pollutants:** Does not apply

**Rotterdam Convention - Prior Informed Consent:** Does not apply

**Basel Convention - Hazardous Waste:** Does not apply

<b>16. Other information</b>
------------------------------

**Date of preparation or review**

**Revision Date:** 24-Jan-2017

**Revision Note**

SDS sections updated: 2

**Full text of H-Statements referred to under sections 2 and 3**

H319 - Causes serious eye irritation

**Additional information**

For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Safety Data Sheet for this or other Halliburton products, contact Chemical Stewardship at 1-580-251-4335.

**Key abbreviations or acronyms used**

bw – body weight  
CAS – Chemical Abstracts Service  
EC50 – Effective Concentration 50%  
LC50 – Lethal Concentration 50%  
LD50 – Lethal Dose 50%  
LL50 – Lethal Loading 50%  
mg/kg – milligram/kilogram  
mg/L – milligram/liter  
NOEC – No Observed Effect Concentration  
OEL – Occupational Exposure Limit  
PBT – Persistent Bioaccumulative and Toxic  
ppm – parts per million  
STEL – Short Term Exposure Limit  
TWA – Time-Weighted Average  
vPvB – very Persistent and very Bioaccumulative  
h - hour  
mg/m<sup>3</sup> - milligram/cubic meter  
mm - millimeter  
mmHg - millimeter mercury  
w/w - weight/weight  
d - day

**Key literature references and sources for data**

[www.ChemADVISOR.com/](http://www.ChemADVISOR.com/)  
OSHA  
ECHA C&L  
NZ CCID

**Disclaimer Statement**

This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.

**End of Safety Data Sheet**



## SAFETY DATA SHEET

### CEMENT - CLASS G

Revision Date: 02-Aug-2018

Revision Number: 38

#### 1. Product Identifier & Identity for the Chemical

**Statement of Hazardous Nature** Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

##### 1.1. Product Identifier

**Product Name** CEMENT - CLASS G

##### Other means of Identification

**Synonyms** None  
**Hazardous Material Number:** HM001839

##### Recommended use of the chemical and restrictions on use

**Recommended Use** Cement  
**Uses advised against** No information available

##### Supplier's name, address and phone number

**Manufacturer/Supplier** Halliburton Australia Pty. Ltd.  
15 Marriott Road, Jandakot, WA 6164  
Australia  
ACN Number: 009 000 775  
Telephone Number: + 61 1 800 686 951  
Fax Number: 61 (08) 9455 5300  
**E-mail Address** fdunexchem@halliburton.com

##### Emergency phone number

+ 61 1 800 686 951  
Global Incident Response Access Code: 334305  
Contract Number: 14012

##### Australian Poisons Information Centre

24 Hour Service: - 13 11 26  
Police or Fire Brigade: - 000 (exchange): - 1100

#### 2. Hazard Identification

**Statement of Hazardous Nature** Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

##### Classification of the hazardous chemical

Skin Corrosion/Irritation	Category 2 - H315
Serious Eye Damage/Irritation	Category 1 - H318
Skin Sensitization	Category 1 - H317
Carcinogenicity	Category 1A - H350
Specific Target Organ Toxicity - (Single Exposure)	Category 3 - H335
Specific Target Organ Toxicity - (Repeated Exposure)	Category 2 - H373

##### Label elements, including precautionary statements

## Hazard Pictograms



## Signal Word

DANGER

## Hazard Statements:

H315 - Causes skin irritation  
 H317 - May cause an allergic skin reaction  
 H318 - Causes serious eye damage  
 H335 - May cause respiratory irritation  
 H350 - May cause cancer by inhalation  
 H373 - May cause damage to organs through prolonged or repeated exposure if inhaled

## Precautionary Statements

## Prevention

P201 - Obtain special instructions before use  
 P202 - Do not handle until all safety precautions have been read and understood  
 P260 - Do not breathe dust/fume/gas/mist/vapors/spray  
 P264 - Wash face, hands and any exposed skin thoroughly after handling  
 P271 - Use only outdoors or in a well-ventilated area  
 P272 - Contaminated work clothing should not be allowed out of the workplace  
 P280 - Wear protective gloves/eye protection/face protection  
 P281 - Use personal protective equipment as required

## Response

P302 + P352 - IF ON SKIN: Wash with plenty of water.  
 P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention  
 P362 + P364 - Take off contaminated clothing and wash before reuse  
 P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
 P312 - Call a POISON CENTER/doctor/physician if you feel unwell  
 P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
 P310 - Immediately call a POISON CENTER or doctor/physician  
 P308 + P313 - IF exposed or concerned: Get medical advice/attention  
 P314 - Get medical attention/advice if you feel unwell

## Storage

P403 + P233 - Store in a well-ventilated place. Keep container tightly closed  
 P405 - Store locked up

## Disposal

P501 - Dispose of contents/container in accordance with local/regional/national/international regulations

## Contains

## Substances

Portland cement  
 Crystalline silica, quartz

## CAS Number

65997-15-1  
 14808-60-7

**Other hazards which do not result in classification**

This substance is not considered to be persistent, bioaccumulating nor toxic (PBT).  
 This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

For the full text of the H-phrases mentioned in this Section, see Section 16

<b>3. Composition/information on Ingredients</b>
--

Substances	CAS Number	PERCENT (w/w)	GHS Classification - Australia
Portland cement	65997-15-1	60 - 100%	Skin Irrit. 2 (H315)

			Eye Corr. 1 (H318) Skin Sens. 1 (H317) STOT SE 3 (H335)
Crystalline silica, quartz	14808-60-7	1 - 5%	Carc. 1A (H350) STOT RE 1 (H372)

#### 4. First aid measures

##### Description of necessary first aid measures

<b>Inhalation</b>	If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.
<b>Eyes</b>	Immediately flush eyes with large amounts of water for at least 30 minutes. Seek prompt medical attention.
<b>Skin</b>	In case of contact, immediately flush skin with plenty of soap and water for at least 15 minutes. Get medical attention.
<b>Ingestion</b>	Under normal conditions, first aid procedures are not required.

##### Symptoms caused by exposure

Causes severe eye irritation which may damage tissue. Causes skin irritation. May cause allergic skin reaction. May cause respiratory irritation. Breathing crystalline silica can cause lung disease, including silicosis and lung cancer. Crystalline silica has also been associated with scleroderma and kidney disease.

##### Medical Attention and Special Treatment

**Notes to Physician** Treat symptomatically

#### 5. Fire Fighting Measures

##### Suitable extinguishing equipment

##### **Suitable Extinguishing Media**

None - does not burn.

##### **Extinguishing media which must not be used for safety reasons**

None known.

##### Specific hazards arising from the chemical

##### **Special exposure hazards in a fire**

Not applicable

##### Special protective equipment and precautions for fire fighters

##### **Special protective equipment for firefighters**

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

#### 6. Accidental release measures

##### 6.1. Personal precautions, protective equipment and emergency procedures

Use appropriate protective equipment. Avoid creating and breathing dust. Avoid contact with skin, eyes and clothing. Ensure adequate ventilation. Evacuate all persons from the area.

##### 6.2. Environmental precautions

Prevent from entering sewers, waterways, or low areas.

##### 6.3. Methods and material for containment and cleaning up

Collect using dustless method and hold for appropriate disposal. Consider possible toxic or fire hazards associated with contaminating substances and use appropriate methods for collection, storage and disposal.

#### 7. Handling and storage

##### 7.1. Precautions for safe handling

##### **Handling Precautions**

Avoid contact with eyes, skin, or clothing. This product contains quartz, cristobalite, and/or tridymite which may become airborne without a visible cloud. Avoid breathing dust. Avoid creating dusty conditions. Use only with adequate ventilation to keep exposure below recommended exposure limits. Wear a NIOSH certified, European Standard En 149, or equivalent respirator when using this product. Material is slippery when wet. Wash hands after use. Launder contaminated clothing before reuse.

**Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice.

**7.2. Conditions for safe storage, including any incompatibilities****Storage Information**

Store in a cool well ventilated area. Keep container closed when not in use. Store locked up. Store in a cool, dry location. Use good housekeeping in storage and work areas to prevent accumulation of dust. Close container when not in use. Product has a shelf life of 24 months.

**Other Guidelines**

No information available

## 8. Exposure Controls/Personal Protection

**Control parameters - exposure standards, biological monitoring****Exposure Limits**

Substances	CAS Number	Australia NOHSC	ACGIH TLV-TWA
Portland cement	65997-15-1	TWA: 10 mg/m <sup>3</sup>	TWA: 1 mg/m <sup>3</sup>
Crystalline silica, quartz	14808-60-7	TWA: 0.1 mg/m <sup>3</sup>	TWA: 0.025 mg/m <sup>3</sup>

**Appropriate engineering controls****Engineering Controls**

Use approved industrial ventilation and local exhaust as required to maintain exposures below applicable exposure limits.

**Personal protective equipment (PPE)****Personal Protective Equipment**

If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.

**Respiratory Protection**

Wear a NIOSH certified, European Standard EN 149 (FFP2/FFP3), AS/NZS 1715, or equivalent respirator when using this product.

**Hand Protection**

Impervious rubber gloves.

**Skin Protection**

Wear clothing appropriate for the work environment. Dusty clothing should be laundered before reuse. Use precautionary measures to avoid creating dust when removing or laundering clothing.

**Eye Protection**

Wear safety glasses or goggles to protect against exposure.

**Other Precautions**

Eyewash fountains and safety showers must be easily accessible.

**Environmental Exposure Controls**

Do not allow material to contaminate ground water system

## 9. Physical and Chemical Properties

**9.1. Information on basic physical and chemical properties**

**Physical State:** Solid

**Color:** Gray

**Odor:** Odorless

**Odor Threshold:** No information available

PropertyValues

Remarks/ - Method

**pH:**

12.4

**Freezing Point / Range**

No data available

**Melting Point / Range**

No data available

**Pour Point / Range**

No data available

**Boiling Point / Range**

No data available

**Flash Point**

No data available

**Evaporation rate**

No data available

**Vapor Pressure**

No data available

**Vapor Density**

No data available

**Specific Gravity**

3.14

<b>Water Solubility</b>	No data available
<b>Solubility in other solvents</b>	No data available
<b>Partition coefficient: n-octanol/water</b>	No data available
<b>Autoignition Temperature</b>	No data available
<b>Decomposition Temperature</b>	No data available
<b>Viscosity</b>	No data available
<b>Explosive Properties</b>	No information available
<b>Oxidizing Properties</b>	No information available

**9.2. Other information**

<b>VOC Content (%)</b>	No data available
------------------------	-------------------

## 10. Stability and Reactivity

**10.1. Reactivity**

Not expected to be reactive.

**10.2. Chemical stability**

Stable

**10.3. Possibility of hazardous reactions**

Will Not Occur

**10.4. Conditions to avoid**

Keep away from any contact with water.

**10.5. Incompatible materials**

Hydrofluoric acid.

**10.6. Hazardous decomposition products**

Amorphous silica may transform at elevated temperatures to tridymite (870 C) or cristobalite (1470 C).

## 11. Toxicological Information

**Information on routes of exposure**

**Principle Route of Exposure** Eye or skin contact, inhalation.

**Symptoms related to exposure****Most Important Symptoms/Effects**

Causes severe eye irritation which may damage tissue. Causes skin irritation. May cause allergic skin reaction. May cause respiratory irritation. Breathing crystalline silica can cause lung disease, including silicosis and lung cancer. Crystalline silica has also been associated with scleroderma and kidney disease.

**Toxicology data for the components**

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Portland cement	65997-15-1	> 2000 mg/kg (Rat)	> 2000 mg/kg	> 1 mg/L (Rat) 4h
Crystalline silica, quartz	14808-60-7	> 15000 mg/kg (human)	No data available	No data available

**Immediate, delayed and chronic health effects from exposure****Inhalation**

Causes moderate respiratory irritation. Inhaled crystalline silica in the form of quartz or cristobalite from occupational sources is carcinogenic to humans (IARC, Group 1). There is sufficient evidence in experimental animals for the carcinogenicity of tridymite (IARC, Group 2A).

Breathing silica dust may cause irritation of the nose, throat, and respiratory passages. Breathing silica dust may not cause noticeable injury or illness even though permanent lung damage may be occurring. Inhalation of dust may also have serious chronic health effects (See "Chronic Effects/Carcinogenicity" subsection below).

**Eye Contact**

Causes severe eye irritation which may damage tissue.

**Skin Contact**

Causes skin irritation. May cause alkali burns with confined contact. May cause an allergic skin reaction. Can dry skin.

**Ingestion**

Causes burns of the mouth, throat and stomach.

**Chronic Effects/Carcinogenicity** Silicosis: Excessive inhalation of respirable crystalline silica dust may cause a progressive, disabling, and sometimes-fatal lung disease called silicosis. Symptoms include cough, shortness of breath, wheezing, non-specific chest illness, and reduced pulmonary function. This disease is exacerbated by smoking. Individuals with silicosis are predisposed to develop tuberculosis.

Cancer Status: The International Agency for Research on Cancer (IARC) has determined that crystalline silica inhaled in the form of quartz or cristobalite from occupational sources can cause lung cancer in humans (Group 1 - carcinogenic to humans) and has determined that there is sufficient evidence in experimental animals for the carcinogenicity of tridymite (Group 2A - possible carcinogen to humans). Refer to IARC Monograph 68, Silica, Some Silicates and Organic Fibres (June 1997) in conjunction with the use of these minerals. The National Toxicology Program classifies respirable crystalline silica as "Known to be a human carcinogen". Refer to the 9th Report on Carcinogens (2000). The American Conference of Governmental Industrial Hygienists (ACGIH) classifies crystalline silica, quartz, as a suspected human carcinogen (A2). There is some evidence that breathing respirable crystalline silica or the disease silicosis is associated with an increased incidence of significant disease endpoints such as scleroderma (an immune system disorder manifested by scarring of the lungs, skin, and other internal organs) and kidney disease.

#### **Exposure Levels**

No data available

#### **Interactive effects**

Individuals with respiratory disease, including but not limited to asthma and bronchitis, or subject to eye irritation, should not be exposed to quartz dust.

#### **Data limitations**

No data available

Substances	CAS Number	Skin corrosion/irritation
Portland cement	65997-15-1	Irritating to skin. (Rabbit)
Crystalline silica, quartz	14808-60-7	Non-irritating to the skin

Substances	CAS Number	Serious eye damage/irritation
Portland cement	65997-15-1	Corrosive to eyes
Crystalline silica, quartz	14808-60-7	Non-irritating to the eye No information available

Substances	CAS Number	Skin Sensitization
Portland cement	65997-15-1	May cause sensitization by skin contact
Crystalline silica, quartz	14808-60-7	No information available.

Substances	CAS Number	Respiratory Sensitization
Portland cement	65997-15-1	No information available
Crystalline silica, quartz	14808-60-7	No information available

Substances	CAS Number	Mutagenic Effects
Portland cement	65997-15-1	No data of sufficient quality are available.
Crystalline silica, quartz	14808-60-7	Not regarded as mutagenic.

Substances	CAS Number	Carcinogenic Effects
Portland cement	65997-15-1	No data of sufficient quality are available.
Crystalline silica, quartz	14808-60-7	Contains crystalline silica which may cause silicosis, a delayed and progressive lung disease. The IARC and NTP have determined there is sufficient evidence in humans of the carcinogenicity of crystalline silica with repeated respiratory exposure.

Substances	CAS Number	Reproductive toxicity
------------	------------	-----------------------

Portland cement	65997-15-1	No data of sufficient quality are available.
Crystalline silica, quartz	14808-60-7	No information available

Substances	CAS Number	STOT - single exposure
Portland cement	65997-15-1	May cause respiratory irritation.
Crystalline silica, quartz	14808-60-7	No significant toxicity observed in animal studies at concentration requiring classification.

Substances	CAS Number	STOT - repeated exposure
Portland cement	65997-15-1	No data of sufficient quality are available.
Crystalline silica, quartz	14808-60-7	Causes damage to organs through prolonged or repeated exposure if inhaled: (Lungs)

Substances	CAS Number	Aspiration hazard
Portland cement	65997-15-1	Not applicable
Crystalline silica, quartz	14808-60-7	Not applicable

## 12. Ecological Information

### Ecotoxicity

#### Substance Ecotoxicity Data

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Portland cement	65997-15-1	No information available	No information available	No information available	No information available
Crystalline silica, quartz	14808-60-7	EC50(72 h)=440 mg/L (Pseudokirchneriella subcapitata)	LL0(96 h)=10000 mg/L (Danio rerio)	No information available	LL50(24 h)>10000 mg/L (Daphnia magna)

### 12.2. Persistence and degradability

Substances	CAS Number	Persistence and Degradability
Portland cement	65997-15-1	The methods for determining biodegradability are not applicable to inorganic substances.
Crystalline silica, quartz	14808-60-7	The methods for determining biodegradability are not applicable to inorganic substances.

### 12.3. Bioaccumulative potential

Substances	CAS Number	Bioaccumulation
Portland cement	65997-15-1	No information available
Crystalline silica, quartz	14808-60-7	No information available

### 12.4. Mobility in soil

Substances	CAS Number	Mobility
Portland cement	65997-15-1	No information available
Crystalline silica, quartz	14808-60-7	No information available

### 12.6. Other adverse effects

#### Endocrine Disruptor Information

This product does not contain any known or suspected endocrine disruptors

## 13. Disposal Considerations

### Safe handling and disposal methods

Bury in a licensed landfill according to federal, state, and local regulations. Substance should NOT be deposited into a sewage facility.

### Disposal of any contaminated packaging

Follow all applicable national or local regulations. Contaminated packaging may be disposed of by: rendering packaging incapable of containing any substance, or treating packaging to remove residual contents, or treating packaging to make sure the residual contents are no longer hazardous, or by disposing of packaging into commercial waste collection.

**Environmental regulations**

Not applicable

**14. Transport Information****Transportation Information****Australia ADG**

UN Number	Not restricted
UN proper shipping name:	Not restricted
Transport Hazard Class(es):	Not applicable
Packing Group:	Not applicable
Environmental Hazards:	Not applicable

**IMDG/IMO**

UN Number	Not restricted
UN proper shipping name:	Not restricted
Transport Hazard Class(es):	Not applicable
Packing Group:	Not applicable
Environmental Hazards:	Not applicable

**IATA/ICAO**

UN Number	Not restricted
UN proper shipping name:	Not restricted
Transport Hazard Class(es):	Not applicable
Packing Group:	Not applicable
Environmental Hazards:	Not applicable

**Special precautions during transport**

None

**HazChem Code**

None Allocated

**15. Regulatory Information****Safety, health and environmental regulations specific for the product****International Inventories****Australian AICS Inventory**

All components are listed on the AICS or are subject to a relevant exemption, permit, or assessment certificate.

**New Zealand Inventory of Chemicals**

All components are listed on the NZIoC or are subject to a relevant exemption, permit, or assessment certificate.

**US TSCA Inventory**

All components listed on inventory or are exempt.

**Canadian Domestic Substances List (DSL)**

All components listed on inventory or are exempt.

**Poisons Schedule number**

None Allocated

**International Agreements****Montreal Protocol - Ozone Depleting Substances:**

Does not apply.

**Stockholm Convention - Persistent Organic Pollutants:**

Does not apply.

**Rotterdam Convention - Prior Informed Consent:**

Does not apply.

**Basel Convention - Hazardous Waste:**

Does not apply.

**16. Other information****Date of preparation or review**



---

Revision Date: 02-Aug-2018

**Revision Note**

SDS sections updated:

2

**Full text of H-Statements referred to under sections 2 and 3**

H315 - Causes skin irritation

H317 - May cause an allergic skin reaction

H318 - Causes serious eye damage

H335 - May cause respiratory irritation

H350 - May cause cancer by inhalation

H372 - Causes damage to organs through prolonged or repeated exposure if inhaled

H373 - May cause damage to organs through prolonged or repeated exposure if inhaled

**Additional information**

For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Safety Data Sheet for this or other Halliburton products, contact Chemical Stewardship at 1-580-251-4335.

**Key abbreviations or acronyms used**

bw – body weight

CAS – Chemical Abstracts Service

EC50 – Effective Concentration 50%

LC50 – Lethal Concentration 50%

LD50 – Lethal Dose 50%

LL50 – Lethal Loading 50%

mg/kg – milligram/kilogram

mg/L – milligram/liter

NOEC – No Observed Effect Concentration

OEL – Occupational Exposure Limit

PBT – Persistent Bioaccumulative and Toxic

ppm – parts per million

STEL – Short Term Exposure Limit

TWA – Time-Weighted Average

vPvB – very Persistent and very Bioaccumulative

h - hour

mg/m<sup>3</sup> - milligram/cubic meter

mm - millimeter

mmHg - millimeter mercury

w/w - weight/weight

d - day

**Key literature references and sources for data**[www.ChemADVISOR.com/](http://www.ChemADVISOR.com/)

NZ CCID

**Disclaimer Statement**

This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.

**End of Safety Data Sheet**

## SAFETY DATA SHEET

### NF-6

Revision Date: 16-Aug-2016

Revision Number: 28

#### 1. Product Identifier & Identity for the Chemical

**Statement of Hazardous Nature** Non-Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

##### 1.1. Product Identifier

**Product Name** NF-6

##### Other means of Identification

**Synonyms** None  
**Hazardous Material Number:** HM001971

##### Recommended use of the chemical and restrictions on use

**Recommended Use** Defoamer  
**Uses advised against** No information available

##### Supplier's name, address and phone number

**Manufacturer/Supplier** Halliburton Australia Pty. Ltd.  
15 Marriott Road, Jandakot, WA 6164  
Australia  
ACN Number: 009 000 775  
Telephone Number: + 61 1 800 686 951  
Fax Number: 61 (08) 9455 5300  
**E-mail Address** fdunexchem@halliburton.com

##### Emergency phone number

+ 61 1 800 686 951  
Global Incident Response Access Code: 334305  
Contract Number: 14012

##### **Australian Poisons Information Centre**

24 Hour Service: - 13 11 26  
Police or Fire Brigade: - 000 (exchange): - 1100

#### 2. Hazard Identification

**Statement of Hazardous Nature** Non-Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

##### Classification of the hazardous chemical

Not classified

##### Label elements, including precautionary statements

##### **Hazard Pictograms**

**Signal Word** Not Hazardous

**Hazard Statements:** Not Classified

### Precautionary Statements

**Prevention** None  
**Response** None  
**Storage** None  
**Disposal** None

### Contains

#### Substances

Contains no hazardous substances in concentrations above cut-off values according to the competent authority

#### CAS Number

NA

### Other hazards which do not result in classification

This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).

This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

*For the full text of the H-phrases mentioned in this Section, see Section 16*

## 3. Composition/information on Ingredients

Substances	CAS Number	PERCENT (w/w)	GHS Classification - Australia
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	60 - 100%	Not Applicable

## 4. First aid measures

### Description of necessary first aid measures

**Inhalation** If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

**Eyes** In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.

**Skin** Wash with soap and water. Get medical attention if irritation persists.

**Ingestion** Do NOT induce vomiting. Give nothing by mouth. Obtain immediate medical attention.

### Symptoms caused by exposure

No significant hazards expected.

### Medical Attention and Special Treatment

**Notes to Physician** Treat symptomatically

## 5. Fire Fighting Measures

### Suitable extinguishing equipment

#### Suitable Extinguishing Media

Carbon dioxide, dry chemical, foam.

#### Extinguishing media which must not be used for safety reasons

None known.

### Specific hazards arising from the chemical

#### Special exposure hazards in a fire

Use water spray to cool fire exposed surfaces. Decomposition in fire may produce harmful gases.

### Special protective equipment and precautions for fire fighters

**Special protective equipment for firefighters**

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

## 6. Accidental release measures

**6.1. Personal precautions, protective equipment and emergency procedures**

Use appropriate protective equipment. Avoid contact with skin, eyes and clothing. Avoid breathing vapors. Ensure adequate ventilation.

**6.2. Environmental precautions**

Prevent from entering sewers, waterways, or low areas.

**6.3. Methods and material for containment and cleaning up**

Isolate spill and stop leak where safe. Contain spill with sand or other inert materials. Scoop up and remove.

## 7. Handling and storage

**7.1. Precautions for safe handling****Handling Precautions**

Avoid contact with eyes, skin, or clothing. Avoid breathing vapors. Ensure adequate ventilation. Wash hands after use. Launder contaminated clothing before reuse. Use appropriate protective equipment.

**Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice.

**7.2. Conditions for safe storage, including any incompatibilities****Storage Information**

Store away from oxidizers. Keep container closed when not in use.

**Other Guidelines**

No information available

## 8. Exposure Controls/Personal Protection

**Control parameters - exposure standards, biological monitoring****Exposure Limits**

Substances	CAS Number	Australia NOHSC	ACGIH TLV-TWA
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable

**Appropriate engineering controls****Engineering Controls**

A well ventilated area to control dust levels. Local exhaust ventilation should be used in areas without good cross ventilation.

**Personal protective equipment (PPE)****Personal Protective Equipment**

If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.

**Respiratory Protection**

If engineering controls and work practices cannot keep exposure below occupational exposure limits or if exposure is unknown, wear a NIOSH certified, European Standard EN 149, AS/NZS 1715:2009, or equivalent respirator when using this product. Selection of and instruction on using all personal protective equipment, including respirators, should be performed by an Industrial Hygienist or other qualified professional.  
Organic vapor respirator with a dust/mist filter. (A2P2/P3)

**Hand Protection**

Chemical-resistant protective gloves (EN 374) Suitable materials for longer, direct contact (recommended: protection index 6, corresponding to > 480 minutes permeation time as per EN 374): Polyvinylchloride gloves. (>= 0.7 mm thickness)  
This information is based on literature references and on information provided by glove manufacturers, or is derived by analogy with similar substances. Please note that in practice the working life of chemical-resistant protective gloves may be considerably shorter

	than the permeation time determined in accordance with EN 374 as a result of the many influencing factors (e.g. temperature). If signs of wear and tear are noticed then the gloves should be replaced. Manufacturer's directions for use should be observed because of great diversity of types.
<b>Skin Protection</b>	Normal work coveralls.
<b>Eye Protection</b>	Chemical goggles; also wear a face shield if splashing hazard exists.
<b>Other Precautions</b>	None known.
<b>Environmental Exposure Controls</b>	Do not allow material to contaminate ground water system

## 9. Physical and Chemical Properties

### 9.1. Information on basic physical and chemical properties

<b>Physical State:</b>	Liquid	<b>Color</b>	Yellow
<b>Odor:</b>	Mild	<b>Odor Threshold:</b>	No information available

<u>Property</u>	<u>Values</u>
<u>Remarks/ - Method</u>	
<b>pH:</b>	No data available
<b>Freezing Point / Range</b>	No data available
<b>Melting Point / Range</b>	No data available
<b>Boiling Point / Range</b>	182 °C / 360 °F
<b>Flash Point</b>	> 170 °C / > 340 °F
<b>Evaporation rate</b>	No data available
<b>Vapor Pressure</b>	No data available
<b>Vapor Density</b>	No data available
<b>Specific Gravity</b>	0.93
<b>Water Solubility</b>	Dispersible
<b>Solubility in other solvents</b>	No data available
<b>Partition coefficient: n-octanol/water</b>	No data available
<b>Autoignition Temperature</b>	385 °C / 725 °F
<b>Decomposition Temperature</b>	No data available
<b>Viscosity</b>	No data available
<b>Explosive Properties</b>	No information available
<b>Oxidizing Properties</b>	No information available

### 9.2. Other information

<b>VOC Content (%)</b>	No data available
<b>Liquid Density</b>	7.70 lbs/gal

## 10. Stability and Reactivity

### 10.1. Reactivity

Not expected to be reactive.

### 10.2. Chemical stability

Stable

### 10.3. Possibility of hazardous reactions

Will Not Occur

### 10.4. Conditions to avoid

None anticipated

### 10.5. Incompatible materials

Strong oxidizers.

### 10.6. Hazardous decomposition products

Hydrocarbons. Carbon monoxide and carbon dioxide.

## 11. Toxicological Information

### Information on routes of exposure

**Principle Route of Exposure** Eye or skin contact, inhalation.

### Symptoms related to exposure

**Most Important Symptoms/Effects**

No significant hazards expected.

### Numerical measures of toxicity

#### Toxicology data for the components

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No data available	No data available	No data available

#### Immediate, delayed and chronic health effects from exposure

##### **Product Information**

Under certain conditions of use, some of the product ingredients may cause the following:

##### **Inhalation**

May cause mild respiratory irritation.

##### **Eye Contact**

None known.

##### **Skin Contact**

None known.

##### **Ingestion**

May cause abdominal pain, vomiting, nausea, and diarrhea.

**Chronic Effects/Carcinogenicity** No data available to indicate product or components present at greater than 0.1% are chronic health hazards.

#### Exposure Levels

No data available

#### Interactive effects

None known.

#### Data limitations

No data available

## 12. Ecological Information

#### Ecotoxicity

##### **Product Ecotoxicity Data**

##### **Substance Ecotoxicity Data**

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available	No information available	No information available	No information available

#### 12.2. Persistence and degradability

Substances	CAS Number	Persistence and Degradability
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

### 12.3. Bioaccumulative potential

Substances	CAS Number	Log Pow
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

### 12.4. Mobility in soil

Substances	CAS Number	Mobility
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

### 12.6. Other adverse effects

#### **Endocrine Disruptor Information**

This product does not contain any known or suspected endocrine disruptors

## 13. Disposal Considerations

### Safe handling and disposal methods

Incineration recommended in approved incinerator according to federal, state, and local regulations. Substance should NOT be deposited into a sewage facility.

### Disposal of any contaminated packaging

Follow all applicable national or local regulations. Contaminated packaging may be disposed of by: rendering packaging incapable of containing any substance, or treating packaging to remove residual contents, or treating packaging to make sure the residual contents are no longer hazardous, or by disposing of packaging into commercial waste collection.

### Environmental regulations

Not applicable

## 14. Transport Information

### Transportation Information

#### Australia ADG

UN Number	Not restricted
UN proper shipping name:	Not restricted
Transport Hazard Class(es):	Not applicable
Packing Group:	Not applicable
Environmental Hazards:	Not applicable

#### IMDG/IMO

UN Number	Not restricted
UN proper shipping name:	Not restricted
Transport Hazard Class(es):	Not applicable
Packing Group:	Not applicable
Environmental Hazards:	Not applicable

#### IATA/ICAO

UN Number	Not restricted
UN proper shipping name:	Not restricted
Transport Hazard Class(es):	Not applicable
Packing Group:	Not applicable
Environmental Hazards:	Not applicable

### Special precautions during transport

None

**HazChem Code**

None Allocated

<b>15. Regulatory Information</b>
-----------------------------------

**Safety, health and environmental regulations specific for the product****International Inventories****Australian AICS Inventory**

All components are listed on the AICS or are subject to a relevant exemption, permit, or assessment certificate.

**New Zealand Inventory of Chemicals**

All components are listed on the NZIoC or are subject to a relevant exemption, permit, or assessment certificate.

**EINECS (European Inventory of Existing Chemical Substances)**

This product, and all its components, complies with EINECS

**US TSCA Inventory**

All components listed on inventory or are exempt.

**Canadian Domestic Substances List (DSL)**

All components listed on inventory or are exempt.

**Poisons Schedule number**

None Allocated

**International Agreements****Montreal Protocol - Ozone Depleting Substances:**

Does not apply

**Stockholm Convention - Persistent Organic Pollutants:**

Does not apply

**Rotterdam Convention - Prior Informed Consent:**

Does not apply

**Basel Convention - Hazardous Waste:**

Does not apply

<b>16. Other information</b>
------------------------------

**Date of preparation or review****Revision Date:** 16-Aug-2016**Revision Note**

SDS sections updated: 2

**Full text of H-Statements referred to under sections 2 and 3**

None

**Additional information**

For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Safety Data Sheet for this or other Halliburton products, contact Chemical Stewardship at 1-580-251-4335.

**Key abbreviations or acronyms used**

bw – body weight

CAS – Chemical Abstracts Service

EC50 – Effective Concentration 50%

LC50 – Lethal Concentration 50%

LD50 – Lethal Dose 50%

LL50 – Lethal Loading 50%

mg/kg – milligram/kilogram

mg/L – milligram/liter

NOEC – No Observed Effect Concentration

OEL – Occupational Exposure Limit

PBT – Persistent Bioaccumulative and Toxic

ppm – parts per million



STEL – Short Term Exposure Limit  
TWA – Time-Weighted Average  
vPvB – very Persistent and very Bioaccumulative  
h - hour  
mg/m<sup>3</sup> - milligram/cubic meter  
mm - millimeter  
mmHg - millimeter mercury  
w/w - weight/weight  
d - day

**Key literature references and sources for data**

[www.ChemADVISOR.com/](http://www.ChemADVISOR.com/)  
NZ CCID  
Cosmetic Ingredient Review

**Disclaimer Statement**

This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.

**End of Safety Data Sheet**

## SAFETY DATA SHEET

### D-AIR 3000L

Revision Date: 07-Nov-2019

Revision Number: 31

#### 1. Product Identifier & Identity for the Chemical

**Statement of Hazardous Nature** Non-Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

##### 1.1. Product Identifier

**Product Name** D-AIR 3000L

##### Other means of Identification

**Synonyms** None

**Hazardous Material Number:** HM003191

##### Recommended use of the chemical and restrictions on use

**Recommended Use** Defoamer

**Uses advised against** No information available

##### Supplier's name, address and phone number

**Manufacturer/Supplier** Halliburton Australia Pty. Ltd.  
15 Marriott Road, Jandakot, WA 6164  
Australia  
ACN Number: 009 000 775  
Telephone Number: + 61 1 800 686 951  
Fax Number: 61 (08) 9455 5300  
**E-mail Address** fdunexchem@halliburton.com

##### Emergency phone number

+ 61 1 800 686 951

Global Incident Response Access Code: 334305

Contract Number: 14012

##### **Australian Poisons Information Centre**

24 Hour Service: - 13 11 26

Police or Fire Brigade: - 000 (exchange): - 1100

#### 2. Hazard Identification

**Statement of Hazardous Nature** Non-Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

##### Classification of the hazardous chemical

Not classified

##### Label elements, including precautionary statements

##### **Hazard Pictograms**

**Signal Word** Not Hazardous

**Hazard Statements:** Not Classified

**Precautionary Statements**

**Prevention** None  
**Response** None  
**Storage** None  
**Disposal** None

**Contains**

**Substances**

Alkenes, C15-C18

**CAS Number**

93762-80-2

**Other hazards which do not result in classification**

This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).

This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

*For the full text of the H-phrases mentioned in this Section, see Section 16*

### 3. Composition/information on Ingredients

Substances	CAS Number	PERCENT (w/w)	GHS Classification - Australia
Alkenes, C15-C18	93762-80-2	60 - 100%	Asp. Tox. 1 (H304) Skin haz. Repeated exp. Yes (AUH066)

### 4. First aid measures

**Description of necessary first aid measures**

**Inhalation** If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

**Eyes** In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.

**Skin** Wash with soap and water. Get medical attention if irritation persists.

**Ingestion** Get medical attention! If vomiting occurs, keep head lower than hips to prevent aspiration. Rinse mouth. Never give anything by mouth to an unconscious person.

**Symptoms caused by exposure**

No significant hazards expected.

**Medical Attention and Special Treatment**

**Notes to Physician** Treat symptomatically

### 5. Fire Fighting Measures

**Suitable extinguishing equipment**

**Suitable Extinguishing Media**

Water fog, carbon dioxide, foam, dry chemical.

**Extinguishing media which must not be used for safety reasons**

None known.

**Specific hazards arising from the chemical**

**Special exposure hazards in a fire**

Decomposition in fire may produce harmful gases.

**Special protective equipment and precautions for fire fighters****Special protective equipment for firefighters**

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

## 6. Accidental release measures

**6.1. Personal precautions, protective equipment and emergency procedures**

Use appropriate protective equipment. Avoid contact with skin, eyes and clothing. Avoid breathing vapors. Ensure adequate ventilation.

**6.2. Environmental precautions**

Prevent from entering sewers, waterways, or low areas.

**6.3. Methods and material for containment and cleaning up**

Isolate spill and stop leak where safe. Contain spill with sand or other inert materials. Scoop up and remove.

## 7. Handling and storage

**7.1. Precautions for safe handling****Handling Precautions**

Use appropriate protective equipment. Avoid contact with eyes, skin, or clothing. Avoid breathing vapors. Ensure adequate ventilation. Wash hands after use. Launder contaminated clothing before reuse.

**Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice.

**7.2. Conditions for safe storage, including any incompatibilities****Storage Information**

Store away from oxidizers. Keep container closed when not in use. Product has a shelf life of 24 months.

**Other Guidelines**

No information available

## 8. Exposure Controls/Personal Protection

**Control parameters - exposure standards, biological monitoring****Exposure Limits**

Substances	CAS Number	Australia NOHSC	ACGIH TLV-TWA
Alkenes, C15-C18	93762-80-2	Not applicable	Not applicable

**Appropriate engineering controls**

**Engineering Controls** Use in a well ventilated area.

**Personal protective equipment (PPE)**

**Personal Protective Equipment** If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.

**Respiratory Protection** Not normally necessary.

**Hand Protection** None known.

**Skin Protection** Normal work coveralls.

**Eye Protection** Wear safety glasses or goggles to protect against exposure.

**Other Precautions** None known.

**Environmental Exposure Controls** Do not allow material to contaminate ground water system

## 9. Physical and Chemical Properties

**9.1. Information on basic physical and chemical properties**

**Physical State:** Liquid  
**Odor:** Hydrocarbon  
**Color:** Opaque  
**Odor Threshold:** No information available

<u>Property</u>	<u>Values</u>
Remarks/ - Method	
<b>pH:</b>	5.5-7.9
<b>Freezing Point / Range</b>	No data available
<b>Melting Point / Range</b>	No data available
<b>Pour Point / Range</b>	No data available
<b>Boiling Point / Range</b>	No data available
<b>Flash Point</b>	> 121 °C / > 249.8 °F (PMCC)
<b>Evaporation rate</b>	No data available
<b>Vapor Pressure</b>	No data available
<b>Vapor Density</b>	No data available
<b>Specific Gravity</b>	0.92
<b>Water Solubility</b>	Insoluble in water
<b>Solubility in other solvents</b>	No data available
<b>Partition coefficient: n-octanol/water</b>	No data available
<b>Autoignition Temperature</b>	No data available
<b>Decomposition Temperature</b>	No data available
<b>Viscosity</b>	No data available
<b>Explosive Properties</b>	No information available
<b>Oxidizing Properties</b>	No information available
<b>9.2. Other information</b>	
<b>VOC Content (%)</b>	No data available

## 10. Stability and Reactivity

### 10.1. Reactivity

Not expected to be reactive.

### 10.2. Chemical stability

Stable

### 10.3. Possibility of hazardous reactions

Will Not Occur

### 10.4. Conditions to avoid

None anticipated

### 10.5. Incompatible materials

Strong oxidizers.

### 10.6. Hazardous decomposition products

Carbon monoxide and carbon dioxide.

## 11. Toxicological Information

### Information on routes of exposure

**Principle Route of Exposure** Eye or skin contact, inhalation.

### Symptoms related to exposure

#### **Most Important Symptoms/Effects**

No significant hazards expected.

### Toxicology data for the components

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Alkenes, C15-C18	93762-80-2	> 5000 mg/kg (Rat) (similar substance)	> 2000 mg/kg (Rat) (similar substance)	> 2.1 mg/L (Rat)

### Immediate, delayed and chronic health effects from exposure

**Inhalation** None known.  
**Eye Contact** May cause mild eye irritation.  
**Skin Contact** May cause mild skin irritation.

**Ingestion** May cause abdominal pain, vomiting, nausea, and diarrhea.

**Chronic Effects/Carcinogenicity** No data available to indicate product or components present at greater than 0.1% are chronic health hazards.

**Exposure Levels**

No data available

**Interactive effects**

None known.

**Data limitations**

No data available

Substances	CAS Number	Skin corrosion/irritation
Alkenes, C15-C18	93762-80-2	Not irritating to skin in rabbits. (similar substances)

Substances	CAS Number	Serious eye damage/irritation
Alkenes, C15-C18	93762-80-2	Non-irritating to rabbit's eye (similar substances)

Substances	CAS Number	Skin Sensitization
Alkenes, C15-C18	93762-80-2	Did not cause sensitization on laboratory animals (similar substances)

Substances	CAS Number	Respiratory Sensitization
Alkenes, C15-C18	93762-80-2	No information available

Substances	CAS Number	Mutagenic Effects
Alkenes, C15-C18	93762-80-2	In vitro tests did not show mutagenic effects. (similar substances)

Substances	CAS Number	Carcinogenic Effects
Alkenes, C15-C18	93762-80-2	No information available

Substances	CAS Number	Reproductive toxicity
Alkenes, C15-C18	93762-80-2	Animal testing did not show any effects on fertility. Did not show teratogenic effects in animal experiments. (similar substances)

Substances	CAS Number	STOT - single exposure
Alkenes, C15-C18	93762-80-2	No significant toxicity observed in animal studies at concentration requiring classification. (similar substances)

Substances	CAS Number	STOT - repeated exposure
Alkenes, C15-C18	93762-80-2	No information available

Substances	CAS Number	Aspiration hazard
Alkenes, C15-C18	93762-80-2	Aspiration into the lungs may cause chemical pneumonitis including coughing, difficulty breathing, wheezing, coughing up blood and pneumonia, which can be fatal.

## 12. Ecological Information

**Ecotoxicity**

**Substance Ecotoxicity Data**

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Alkenes, C15-C18	93762-80-2	EC50 (72h) > 1000 mg/L (Selenastrum capicomutum) (similar substance)	LL50 (96h) > 1000 mg/L (Oncorhynchus mykiss) (similar substance) LL50 (96h) > 10000 mg/L (Scophthalmus maximus) (similar substance)	No information available	EC50 (48h) > 1000 mg/L (Daphnia magna) (similar substance)

**12.2. Persistence and degradability**

Substances	CAS Number	Persistence and Degradability
Alkenes, C15-C18	93762-80-2	Readily biodegradable (77 - 81% @ 28d)

**12.3. Bioaccumulative potential**

Substances	CAS Number	Bioaccumulation
Alkenes, C15-C18	93762-80-2	> 7

**12.4. Mobility in soil**

Substances	CAS Number	Mobility
Alkenes, C15-C18	93762-80-2	KOC >5

**12.6. Other adverse effects****Endocrine Disruptor Information**

This product does not contain any known or suspected endocrine disruptors

## 13. Disposal Considerations

**Safe handling and disposal methods**

Disposal should be made in accordance with federal, state, and local regulations. Incineration recommended in approved incinerator according to federal, state, and local regulations.

**Disposal of any contaminated packaging**

Follow all applicable national or local regulations.

**Environmental regulations**

Not applicable

## 14. Transport Information

**Transportation Information****Australia ADG**

UN Number	Not restricted
UN proper shipping name:	Not restricted
Transport Hazard Class(es):	Not applicable
Packing Group:	Not applicable
Environmental Hazards:	Not applicable

**IMDG/IMO**

UN Number	Not restricted
UN proper shipping name:	Not restricted
Transport Hazard Class(es):	Not applicable
Packing Group:	Not applicable
Environmental Hazards:	Not applicable

**IATA/ICAO**

UN Number	Not restricted
UN proper shipping name:	Not restricted
Transport Hazard Class(es):	Not applicable
Packing Group:	Not applicable
Environmental Hazards:	Not applicable

**Special precautions during transport**

None

**HazChem Code**

None Allocated

## 15. Regulatory Information

### Safety, health and environmental regulations specific for the product

#### International Inventories

##### **Australian AICS Inventory**

All components are listed on the AICS or are subject to a relevant exemption, permit, or assessment certificate.

##### **New Zealand Inventory of Chemicals**

All components are listed on the NZIoC or are subject to a relevant exemption, permit, or assessment certificate.

##### **US TSCA Inventory**

All components listed on inventory or are exempt.

##### **Canadian Domestic Substances List (DSL)**

All components listed on inventory or are exempt.

#### Poisons Schedule number

None Allocated

#### International Agreements

**Montreal Protocol - Ozone Depleting Substances:**

Does not apply.

**Stockholm Convention - Persistent Organic Pollutants:**

Does not apply

**Rotterdam Convention - Prior Informed Consent:**

Does not apply.

**Basel Convention - Hazardous Waste:**

Does not apply.

## 16. Other information

### Date of preparation or review

**Revision Date:** 07-Nov-2019

#### **Revision Note**

SDS sections updated:

2

#### **Full text of H-Statements referred to under sections 2 and 3**

H304 - May be fatal if swallowed and enters airways

EUH066 - Repeated exposure may cause skin dryness or cracking

#### **Additional information**

For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Safety Data Sheet for this or other Halliburton products, contact Chemical Stewardship at 1-580-251-4335.

#### Key abbreviations or acronyms used

bw – body weight

CAS – Chemical Abstracts Service

EC50 – Effective Concentration 50%

LC50 – Lethal Concentration 50%

LD50 – Lethal Dose 50%

LL50 – Lethal Loading 50%

mg/kg – milligram/kilogram

mg/L – milligram/liter

NOEC – No Observed Effect Concentration

OEL – Occupational Exposure Limit

PBT – Persistent Bioaccumulative and Toxic

ppm – parts per million

STEL – Short Term Exposure Limit

TWA – Time-Weighted Average

vPvB – very Persistent and very Bioaccumulative

h - hour



mg/m<sup>3</sup> - milligram/cubic meter  
mm - millimeter  
mmHg - millimeter mercury  
w/w - weight/weight  
d - day

**Key literature references and sources for data**

[www.ChemADVISOR.com/](http://www.ChemADVISOR.com/)  
NZ CCID  
OSHA  
ECHA C&L

**Disclaimer Statement**

This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.

**End of Safety Data Sheet**

## SAFETY DATA SHEET

### D-AIR 3000

Revision Date: 23-Jun-2016

Revision Number: 11

#### 1. Product Identifier & Identity for the Chemical

**Statement of Hazardous Nature** Non-Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

##### 1.1. Product Identifier

**Product Name** D-AIR 3000

##### Other means of Identification

**Synonyms** None  
**Hazardous Material Number:** HM003192

##### Recommended use of the chemical and restrictions on use

**Recommended Use** Defoamer  
**Uses advised against** No information available

##### Supplier's name, address and phone number

**Manufacturer/Supplier** Halliburton Australia Pty. Ltd.  
15 Marriott Road  
Jandakot  
WA 6164  
Australia  
  
ACN Number: 009 000 775  
Telephone Number: + 61 1 800 686 951  
Fax Number: 61 (08) 9455 5300  
**E-mail Address** fdunexchem@halliburton.com

##### Emergency phone number

+ 61 1 800 686 951

##### **Australian Poisons Information Centre**

24 Hour Service: - 13 11 26  
Police or Fire Brigade: - 000 (exchange): - 1100

#### 2. Hazard Identification

**Statement of Hazardous Nature** Non-Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

##### Classification of the hazardous chemical

Not classified

##### Label elements, including precautionary statements

##### **Hazard pictograms**

**Signal Word** Not Hazardous

**Hazard Statements:** Not Classified

**Precautionary Statements**

**Prevention** None  
**Response** None  
**Storage** None  
**Disposal** None

**Contains**

**Substances**

Contains no hazardous substances in concentrations above cut-off values according to the competent authority

**CAS Number**

NA

**Other hazards which do not result in classification**

None known

*For the full text of the H-phrases mentioned in this Section, see Section 16*

### 3. Composition/information on Ingredients

Substances	CAS Number	PERCENT (w/w)	GHS Classification - Australia
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	60 - 100%	Not Applicable

### 4. First aid measures

**Description of necessary first aid measures**

**Inhalation** If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.  
**Eyes** In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.  
**Skin** Wash with soap and water. Get medical attention if irritation persists.  
**Ingestion** Under normal conditions, first aid procedures are not required.

**Symptoms caused by exposure**

No significant hazards expected.

**Medical Attention and Special Treatment**

**Notes to Physician** Treat symptomatically

### 5. Fire Fighting Measures

**Suitable extinguishing equipment**

**Suitable Extinguishing Media**

Water fog, carbon dioxide, foam, dry chemical.

**Extinguishing media which must not be used for safety reasons**

None known.

**Specific hazards arising from the chemical**

**Special exposure hazards in a fire**

Decomposition in fire may produce harmful gases.

**Special protective equipment and precautions for fire fighters**

**Special protective equipment for firefighters**

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

## 6. Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Use appropriate protective equipment.

### 6.2. Environmental precautions

Prevent from entering sewers, waterways, or low areas.

### 6.3. Methods and material for containment and cleaning up

Scoop up and remove.

## 7. Handling and storage

### 7.1. Precautions for safe handling

#### Handling Precautions

Avoid contact with eyes, skin, or clothing. Avoid creating or inhaling dust.

#### Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

### 7.2. Conditions for safe storage, including any incompatibilities

#### Storage Information

Store away from oxidizers. Keep container closed when not in use. Product has a shelf life of 36 months.

#### Other Guidelines

No information available

## 8. Exposure Controls/Personal Protection

### Control parameters - exposure standards, biological monitoring

#### Exposure Limits

Substances	CAS Number	Australia NOHSC	ACGIH TLV-TWA
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable

### Appropriate engineering controls

#### Engineering Controls

Use in a well ventilated area.

### Personal protective equipment (PPE)

#### Personal Protective Equipment

If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.

#### Respiratory Protection

Not normally necessary.

#### Hand Protection

Impervious rubber gloves.

#### Skin Protection

Normal work coveralls.

#### Eye Protection

Wear safety glasses or goggles to protect against exposure.

#### Other Precautions

None known.

#### Environmental Exposure Controls

No information available

## 9. Physical and Chemical Properties

### 9.1. Information on basic physical and chemical properties

**Physical State:** Solid

**Color:** Tan

**Odor:** Hydrocarbon

**Odor Threshold:** No information available

Property

Values

Remarks/ - Method

<b>pH:</b>	7.25-9
<b>Freezing Point / Range</b>	No data available
<b>Melting Point / Range</b>	No data available
<b>Boiling Point / Range</b>	No data available
<b>Flash Point</b>	No data available
<b>Evaporation rate</b>	No data available
<b>Vapor Pressure</b>	No data available
<b>Vapor Density</b>	No data available
<b>Specific Gravity</b>	1.8
<b>Water Solubility</b>	Insoluble in water
<b>Solubility in other solvents</b>	No data available
<b>Partition coefficient: n-octanol/water</b>	No data available
<b>Autoignition Temperature</b>	No data available
<b>Decomposition Temperature</b>	No data available
<b>Viscosity</b>	No data available
<b>Explosive Properties</b>	No information available
<b>Oxidizing Properties</b>	No information available

9.2. Other information

**VOC Content (%)** No data available

## 10. Stability and Reactivity

10.1. Reactivity

Not expected to be reactive.

10.2. Chemical stability

Stable

10.3. Possibility of hazardous reactions

Will Not Occur

10.4. Conditions to avoid

None anticipated

10.5. Incompatible materials

Strong oxidizers.

10.6. Hazardous decomposition products

Carbon monoxide and carbon dioxide.

## 11. Toxicological Information

Information on routes of exposure

**Principle Route of Exposure** Eye or skin contact, inhalation.

Symptoms related to exposure**Most Important Symptoms/Effects**

No significant hazards expected.

Numerical measures of toxicityToxicology data for the components

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No data available	No data available	No data available

Immediate, delayed and chronic health effects from exposure

**Inhalation** None known.

**Eye Contact** None known.

**Skin Contact** None known.

**Ingestion** None known.

**Chronic Effects/Carcinogenicity** No data available to indicate product or components present at greater than 0.1% are chronic health hazards.

**Exposure Levels**

No data available

**Interactive effects**

None known.

**Data limitations**

No data available

## 12. Ecological Information

**Ecotoxicity**

**Product Ecotoxicity Data**

No data available

**Substance Ecotoxicity Data**

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available	No information available	No information available	No information available

**12.2. Persistence and degradability**

Substances	CAS Number	Persistence and Degradability
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

**12.3. Bioaccumulative potential**

Substances	CAS Number	Log Pow
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

**12.4. Mobility in soil**

Substances	CAS Number	Mobility
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

**12.6. Other adverse effects**

**Endocrine Disruptor Information**

This product does not contain any known or suspected endocrine disruptors

### 13. Disposal Considerations

#### Safe handling and disposal methods

Disposal should be made in accordance with federal, state, and local regulations.

#### Disposal of any contaminated packaging

Follow all applicable national or local regulations.

#### Environmental regulations

Not applicable

### 14. Transport Information

#### Transportation Information

<b>UN Number</b>	Not restricted
<b>UN proper shipping name:</b>	Not restricted
<b>Transport Hazard Class(es):</b>	Not applicable
<b>Packing Group:</b>	Not applicable
<b>Environmental Hazards:</b>	Not applicable

#### Special precautions during transport

None

#### HazChem Code

None Allocated

### 15. Regulatory Information

#### Safety, health and environmental regulations specific for the product

#### International Inventories

<b>Australian AICS Inventory</b>	All components are listed on the AICS or are subject to a relevant exemption, permit, or assessment certificate.
<b>New Zealand Inventory of Chemicals</b>	All components are listed on the NZIoC or are subject to a relevant exemption, permit, or assessment certificate.
<b>EINECS (European Inventory of Existing Chemical Substances)</b>	This product, and all its components, complies with EINECS
<b>US TSCA Inventory</b>	All components listed on inventory or are exempt.
<b>Canadian Domestic Substances List (DSL)</b>	All components listed on inventory or are exempt.

#### Poisons Schedule number

None Allocated

#### International Agreements

<b>Montreal Protocol - Ozone Depleting Substances:</b>	Does not apply
<b>Stolkhom Convention - Persistent Organic Pollutants:</b>	Does not apply
<b>Rotterdam Convention - Prior Informed Consent:</b>	Does not apply
<b>Basel Convention - Hazardous Waste:</b>	Does not apply

### 16. Other information

#### Date of preparation or review

**Revision Date:** 23-Jun-2016

**Revision Note**

---

SDS sections updated: 2

**Full text of H-Statements referred to under sections 2 and 3**

None

**Additional information**

For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Safety Data Sheet for this or other Halliburton products, contact Chemical Stewardship at 1-580-251-4335.

**Key abbreviations or acronyms used**

bw – body weight  
CAS – Chemical Abstracts Service  
EC50 – Effective Concentration 50%  
LC50 – Lethal Concentration 50%  
LD50 – Lethal Dose 50%  
LL50 – Lethal Loading 50%  
mg/kg – milligram/kilogram  
mg/L – milligram/liter  
NOEC – No Observed Effect Concentration  
OEL – Occupational Exposure Limit  
PBT – Persistent Bioaccumulative and Toxic  
ppm – parts per million  
STEL – Short Term Exposure Limit  
TWA – Time-Weighted Average  
vPvB – very Persistent and very Bioaccumulative  
h - hour  
mg/m<sup>3</sup> - milligram/cubic meter  
mm - millimeter  
mmHg - millimeter mercury  
w/w - weight/weight  
d - day

**Key literature references and sources for data**

[www.ChemADVISOR.com/](http://www.ChemADVISOR.com/)

**Disclaimer Statement**

This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.

**End of Safety Data Sheet**



## SAFETY DATA SHEET

### TUNED SPACER E+

Revision Date: 08-Jan-2019

Revision Number: 40

#### 1. Product Identifier & Identity for the Chemical

**Statement of Hazardous Nature** Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

##### 1.1. Product Identifier

**Product Name** TUNED SPACER E+

##### Other means of Identification

**Synonyms** None  
**Hazardous Material Number:** HM003335

##### Recommended use of the chemical and restrictions on use

**Recommended Use** Cement Spacer  
**Uses advised against** No information available

##### Supplier's name, address and phone number

**Manufacturer/Supplier** Halliburton Australia Pty. Ltd.  
15 Marriott Road, Jandakot, WA 6164  
Australia  
ACN Number: 009 000 775  
Telephone Number: + 61 1 800 686 951  
Fax Number: 61 (08) 9455 5300  
**E-mail Address** fdunexchem@halliburton.com

##### Emergency phone number

+ 61 1 800 686 951  
Global Incident Response Access Code: 334305  
Contract Number: 14012

##### Australian Poisons Information Centre

24 Hour Service: - 13 11 26  
Police or Fire Brigade: - 000 (exchange): - 1100

#### 2. Hazard Identification

**Statement of Hazardous Nature** Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

##### Classification of the hazardous chemical

Carcinogenicity	Category 1A - H350
Specific Target Organ Toxicity - (Repeated Exposure)	Category 2 - H373

##### Label elements, including precautionary statements

##### Hazard Pictograms

**Signal Word**

DANGER

**Hazard Statements:**

H350 - May cause cancer by inhalation  
 H373 - May cause damage to organs through prolonged or repeated exposure if inhaled

**Precautionary Statements****Prevention**

P201 - Obtain special instructions before use  
 P202 - Do not handle until all safety precautions have been read and understood  
 P260 - Do not breathe dust/fume/gas/mist/vapors/spray  
 P281 - Use personal protective equipment as required

**Response**

P308 + P313 - IF exposed or concerned: Get medical advice/attention  
 P314 - Get medical attention/advice if you feel unwell

**Storage**

P405 - Store locked up

**Disposal**

P501 - Dispose of contents/container in accordance with local/regional/national/international regulations

**Contains****Substances**

Crystalline silica, quartz

**CAS Number**

14808-60-7

**Other hazards which do not result in classification**

This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).

This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

*For the full text of the H-phrases mentioned in this Section, see Section 16*

### 3. Composition/information on Ingredients

Substances	CAS Number	PERCENT (w/w)	GHS Classification - Australia
Crystalline silica, quartz	14808-60-7	1 - 5%	Carc. 1A (H350) STOT RE 1 (H372)

### 4. First aid measures

**Description of necessary first aid measures****Inhalation**

If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

**Eyes**

In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.

**Skin**

Wash with soap and water. Get medical attention if irritation persists.

**Ingestion**

Under normal conditions, first aid procedures are not required.

**Symptoms caused by exposure**

Breathing crystalline silica can cause lung disease, including silicosis and lung cancer. Crystalline silica has also been associated with scleroderma and kidney disease.

**Medical Attention and Special Treatment****Notes to Physician**

Treat symptomatically

## 5. Fire Fighting Measures

### Suitable extinguishing equipment

#### **Suitable Extinguishing Media**

Water fog, carbon dioxide, foam, dry chemical.

#### **Extinguishing media which must not be used for safety reasons**

None known.

### Specific hazards arising from the chemical

#### **Special exposure hazards in a fire**

Decomposition in fire may produce harmful gases.

### Special protective equipment and precautions for fire fighters

#### **Special protective equipment for firefighters**

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

## 6. Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Use appropriate protective equipment. Avoid creating and breathing dust.

### 6.2. Environmental precautions

None known.

### 6.3. Methods and material for containment and cleaning up

Collect using dustless method and hold for appropriate disposal. Consider possible toxic or fire hazards associated with contaminating substances and use appropriate methods for collection, storage and disposal.

## 7. Handling and storage

### 7.1. Precautions for safe handling

#### **Handling Precautions**

This product contains quartz, cristobalite, and/or tridymite which may become airborne without a visible cloud. Avoid breathing dust. Avoid creating dusty conditions. Use only with adequate ventilation to keep exposure below recommended exposure limits. Wear a NIOSH certified, European Standard En 149, or equivalent respirator when using this product. Material is slippery when wet.

#### **Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice.

### 7.2. Conditions for safe storage, including any incompatibilities

#### **Storage Information**

Use good housekeeping in storage and work areas to prevent accumulation of dust. Close container when not in use. Do not reuse empty container.

#### **Other Guidelines**

No information available

## 8. Exposure Controls/Personal Protection

### Control parameters - exposure standards, biological monitoring

#### **Exposure Limits**

Substances	CAS Number	Australia NOHSC	ACGIH TLV-TWA
Crystalline silica, quartz	14808-60-7	TWA: 0.1 mg/m <sup>3</sup>	TWA: 0.025 mg/m <sup>3</sup>

### Appropriate engineering controls

#### **Engineering Controls**

Use approved industrial ventilation and local exhaust as required to maintain exposures below applicable exposure limits.

### Personal protective equipment (PPE)

<b>Personal Protective Equipment</b>	If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.
<b>Respiratory Protection</b>	Wear a NIOSH certified, European Standard EN 149 (FFP2/FFP3), AS/NZS 1715, or equivalent respirator when using this product.
<b>Hand Protection</b>	Normal work gloves.
<b>Skin Protection</b>	Wear clothing appropriate for the work environment. Dusty clothing should be laundered before reuse. Use precautionary measures to avoid creating dust when removing or laundering clothing.
<b>Eye Protection</b>	Wear safety glasses or goggles to protect against exposure.
<b>Other Precautions</b>	None known.
<b>Environmental Exposure Controls</b>	No information available

## 9. Physical and Chemical Properties

### 9.1. Information on basic physical and chemical properties

<b>Physical State:</b>	Solid	<b>Color</b>	White to light straw
<b>Odor:</b>	Odorless	<b>Odor Threshold:</b>	No information available

<u>Property</u>	<u>Values</u>
Remarks/ - Method	
<b>pH:</b>	No data available
<b>Freezing Point / Range</b>	No data available
<b>Melting Point / Range</b>	No data available
<b>Pour Point / Range</b>	No data available
<b>Boiling Point / Range</b>	No data available
<b>Flash Point</b>	No data available
<b>Evaporation rate</b>	No data available
<b>Vapor Pressure</b>	No data available
<b>Vapor Density</b>	No data available
<b>Specific Gravity</b>	1.88 - 2.05
<b>Water Solubility</b>	Soluble in water
<b>Solubility in other solvents</b>	No data available
<b>Partition coefficient: n-octanol/water</b>	No data available
<b>Autoignition Temperature</b>	No data available
<b>Decomposition Temperature</b>	No data available
<b>Viscosity</b>	No data available
<b>Explosive Properties</b>	No information available
<b>Oxidizing Properties</b>	No information available

### 9.2. Other information

<b>VOC Content (%)</b>	No data available
------------------------	-------------------

## 10. Stability and Reactivity

### 10.1. Reactivity

Not expected to be reactive.

### 10.2. Chemical stability

Stable

### 10.3. Possibility of hazardous reactions

Will Not Occur

### 10.4. Conditions to avoid

None anticipated

### 10.5. Incompatible materials

Strong oxidizers.

### 10.6. Hazardous decomposition products

Oxides of sulfur, Carbon monoxide and carbon dioxide. Amorphous silica may transform at elevated temperatures to tridymite (870 C) or cristobalite (1470 C).

## 11. Toxicological Information

### Information on routes of exposure

**Principle Route of Exposure** Eye or skin contact, inhalation.

### Symptoms related to exposure

#### **Most Important Symptoms/Effects**

Breathing crystalline silica can cause lung disease, including silicosis and lung cancer. Crystalline silica has also been associated with scleroderma and kidney disease.

### Toxicology data for the components

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Crystalline silica, quartz	14808-60-7	> 15000 mg/kg (human)	No data available	No data available

### Immediate, delayed and chronic health effects from exposure

#### **Inhalation**

Inhaled crystalline silica in the form of quartz or cristobalite from occupational sources is carcinogenic to humans (IARC, Group 1). There is sufficient evidence in experimental animals for the carcinogenicity of tridymite (IARC, Group 2A).

Breathing silica dust may cause irritation of the nose, throat, and respiratory passages. Breathing silica dust may not cause noticeable injury or illness even though permanent lung damage may be occurring. Inhalation of dust may also have serious chronic health effects (See "Chronic Effects/Carcinogenicity" subsection below).

#### **Eye Contact**

May cause mechanical irritation to eye.

#### **Skin Contact**

None known.

#### **Ingestion**

None known.

#### **Chronic Effects/Carcinogenicity**

**Silicosis:** Excessive inhalation of respirable crystalline silica dust may cause a progressive, disabling, and sometimes-fatal lung disease called silicosis. Symptoms include cough, shortness of breath, wheezing, non-specific chest illness, and reduced pulmonary function. This disease is exacerbated by smoking. Individuals with silicosis are predisposed to develop tuberculosis.

**Cancer Status:** The International Agency for Research on Cancer (IARC) has determined that crystalline silica inhaled in the form of quartz or cristobalite from occupational sources can cause lung cancer in humans (Group 1 - carcinogenic to humans) and has determined that there is sufficient evidence in experimental animals for the carcinogenicity of tridymite (Group 2A - possible carcinogen to humans). Refer to IARC Monograph 68, Silica, Some Silicates and Organic Fibres (June 1997) in conjunction with the use of these minerals. The National Toxicology Program classifies respirable crystalline silica as "Known to be a human carcinogen". Refer to the 9th Report on Carcinogens (2000). The American Conference of Governmental Industrial Hygienists (ACGIH) classifies crystalline silica, quartz, as a suspected human carcinogen (A2). There is some evidence that breathing respirable crystalline silica or the disease silicosis is associated with an increased incidence of significant disease endpoints such as scleroderma (an immune system disorder manifested by scarring of the lungs, skin, and other internal organs) and kidney disease.

### Exposure Levels

No data available

### Interactive effects

Individuals with respiratory disease, including but not limited to asthma and bronchitis, or subject to eye irritation, should not be exposed to quartz dust.

**Data limitations**

No data available

<b>Substances</b>	<b>CAS Number</b>	<b>Skin corrosion/irritation</b>
Crystalline silica, quartz	14808-60-7	Non-irritating to the skin
<b>Substances</b>	<b>CAS Number</b>	<b>Serious eye damage/irritation</b>
Crystalline silica, quartz	14808-60-7	Non-irritating to the eye No information available
<b>Substances</b>	<b>CAS Number</b>	<b>Skin Sensitization</b>
Crystalline silica, quartz	14808-60-7	No information available.
<b>Substances</b>	<b>CAS Number</b>	<b>Respiratory Sensitization</b>
Crystalline silica, quartz	14808-60-7	No information available
<b>Substances</b>	<b>CAS Number</b>	<b>Mutagenic Effects</b>
Crystalline silica, quartz	14808-60-7	Not regarded as mutagenic.
<b>Substances</b>	<b>CAS Number</b>	<b>Carcinogenic Effects</b>
Crystalline silica, quartz	14808-60-7	Contains crystalline silica which may cause silicosis, a delayed and progressive lung disease. The IARC and NTP have determined there is sufficient evidence in humans of the carcinogenicity of crystalline silica with repeated respiratory exposure.
<b>Substances</b>	<b>CAS Number</b>	<b>Reproductive toxicity</b>
Crystalline silica, quartz	14808-60-7	No information available
<b>Substances</b>	<b>CAS Number</b>	<b>STOT - single exposure</b>
Crystalline silica, quartz	14808-60-7	No significant toxicity observed in animal studies at concentration requiring classification.
<b>Substances</b>	<b>CAS Number</b>	<b>STOT - repeated exposure</b>
Crystalline silica, quartz	14808-60-7	Causes damage to organs through prolonged or repeated exposure if inhaled: (Lungs)
<b>Substances</b>	<b>CAS Number</b>	<b>Aspiration hazard</b>
Crystalline silica, quartz	14808-60-7	Not applicable

## 12. Ecological Information

**Ecotoxicity****Substance Ecotoxicity Data**

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Crystalline silica, quartz	14808-60-7	EC50(72 h)=440 mg/L (Pseudokirchneriella subcapitata)	LL0(96 h)=10000 mg/L (Danio rerio)	No information available	LL50(24 h)>10000 mg/L (Daphnia magna)

**12.2. Persistence and degradability**

Expected to be readily biodegradable

Substances	CAS Number	Persistence and Degradability
Crystalline silica, quartz	14808-60-7	The methods for determining biodegradability are not applicable to inorganic substances.

**12.3. Bioaccumulative potential**

Substances	CAS Number	Bioaccumulation
Crystalline silica, quartz	14808-60-7	No information available

**12.4. Mobility in soil**

Substances	CAS Number	Mobility
Crystalline silica, quartz	14808-60-7	No information available

**12.6. Other adverse effects****Endocrine Disruptor Information**

This product does not contain any known or suspected endocrine disruptors

<b>13. Disposal Considerations</b>
------------------------------------

**Safe handling and disposal methods**

Bury in a licensed landfill according to federal, state, and local regulations.

**Disposal of any contaminated packaging**

Follow all applicable national or local regulations.

**Environmental regulations**

Not applicable

<b>14. Transport Information</b>
----------------------------------

**Transportation Information****Australia ADG**

<b>UN Number</b>	Not restricted
<b>UN proper shipping name:</b>	Not restricted
<b>Transport Hazard Class(es):</b>	Not applicable
<b>Packing Group:</b>	Not applicable
<b>Environmental Hazards:</b>	Not applicable

**IMDG/IMO**

<b>UN Number</b>	Not restricted
<b>UN proper shipping name:</b>	Not restricted
<b>Transport Hazard Class(es):</b>	Not applicable
<b>Packing Group:</b>	Not applicable
<b>Environmental Hazards:</b>	Not applicable

**IATA/ICAO**

<b>UN Number</b>	Not restricted
<b>UN proper shipping name:</b>	Not restricted
<b>Transport Hazard Class(es):</b>	Not applicable
<b>Packing Group:</b>	Not applicable
<b>Environmental Hazards:</b>	Not applicable

**Special precautions during transport**

None

**HazChem Code**

None Allocated

<b>15. Regulatory Information</b>
-----------------------------------

**Safety, health and environmental regulations specific for the product****International Inventories****Australian AICS Inventory**

All components are listed on the AICS or are subject to a relevant exemption, permit, or assessment certificate.

**New Zealand Inventory of Chemicals**

All components are listed on the NZIoC or are subject to a relevant exemption, permit, or assessment certificate.

**US TSCA Inventory**

All components listed on inventory or are exempt.

**Canadian Domestic Substances List (DSL)**

All components listed on inventory or are exempt.

**Poisons Schedule number**

---

None Allocated

**International Agreements**

<b>Montreal Protocol - Ozone Depleting Substances:</b>	Does not apply.
<b>Stockholm Convention - Persistent Organic Pollutants:</b>	Does not apply
<b>Rotterdam Convention - Prior Informed Consent:</b>	Does not apply.
<b>Basel Convention - Hazardous Waste:</b>	Does not apply.

<b>16. Other information</b>
------------------------------

**Date of preparation or review**

**Revision Date:** 08-Jan-2019

**Revision Note**

SDS sections updated:  
2

**Full text of H-Statements referred to under sections 2 and 3**

H350 - May cause cancer by inhalation

H372 - Causes damage to organs through prolonged or repeated exposure if inhaled

H373 - May cause damage to organs through prolonged or repeated exposure if inhaled

**Additional information**

For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Safety Data Sheet for this or other Halliburton products, contact Chemical Stewardship at 1-580-251-4335.

**Key abbreviations or acronyms used**

bw – body weight

CAS – Chemical Abstracts Service

EC50 – Effective Concentration 50%

LC50 – Lethal Concentration 50%

LD50 – Lethal Dose 50%

LL50 – Lethal Loading 50%

mg/kg – milligram/kilogram

mg/L – milligram/liter

NOEC – No Observed Effect Concentration

OEL – Occupational Exposure Limit

PBT – Persistent Bioaccumulative and Toxic

ppm – parts per million

STEL – Short Term Exposure Limit

TWA – Time-Weighted Average

vPvB – very Persistent and very Bioaccumulative

h - hour

mg/m<sup>3</sup> - milligram/cubic meter

mm - millimeter

mmHg - millimeter mercury

w/w - weight/weight

d - day

**Key literature references and sources for data**

[www.ChemADVISOR.com/](http://www.ChemADVISOR.com/)

**Disclaimer Statement**

This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.



---

**End of Safety Data Sheet**

## SAFETY DATA SHEET

### GASSTOP EXP

Revision Date: 01-Jul-2016

Revision Number: 19

#### 1. Product Identifier & Identity for the Chemical

**Statement of Hazardous Nature** Non-Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

##### 1.1. Product Identifier

**Product Name** GASSTOP EXP

##### Other means of Identification

**Synonyms** None  
**Hazardous Material Number:** HM004586

##### Recommended use of the chemical and restrictions on use

**Recommended Use** Fluid Loss Additive  
**Uses advised against** No information available

##### Supplier's name, address and phone number

**Manufacturer/Supplier** Halliburton Australia Pty. Ltd.  
15 Marriott Road  
Jandakot  
WA 6164  
Australia  
  
ACN Number: 009 000 775  
Telephone Number: + 61 1 800 686 951  
Fax Number: 61 (08) 9455 5300  
E-mail Address fdunexchem@halliburton.com

##### Emergency phone number

+ 61 1 800 686 951

##### **Australian Poisons Information Centre**

24 Hour Service: - 13 11 26  
Police or Fire Brigade: - 000 (exchange): - 1100

#### 2. Hazard Identification

**Statement of Hazardous Nature** Non-Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

##### Classification of the hazardous chemical

Not classified

##### Label elements, including precautionary statements

##### **Hazard pictograms**

**Signal Word** Not Hazardous

**Hazard Statements:** Not Classified

**Precautionary Statements**

**Prevention** None  
**Response** None  
**Storage** None  
**Disposal** None

**Contains**

**Substances**

Highly refined mineral oil

**CAS Number**

Proprietary

**Other hazards which do not result in classification**

None known

For the full text of the H-phrases mentioned in this Section, see Section 16

### 3. Composition/information on Ingredients

Substances	CAS Number	PERCENT (w/w)	GHS Classification - Australia
Highly refined mineral oil	Proprietary	30 - 60%	Asp. Tox. 1 (H304) Aquatic Chronic 4 (H413)

### 4. First aid measures

**Description of necessary first aid measures**

**Inhalation** If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult. Not a hazard under normal use conditions.

**Eyes** In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.

**Skin** Wash with soap and water. Get medical attention if irritation persists. Remove contaminated clothing and discard.

**Ingestion** Get medical attention! If vomiting occurs, keep head lower than hips to prevent aspiration. Rinse mouth. Never give anything by mouth to an unconscious person.

**Symptoms caused by exposure**

No significant hazards expected.

**Medical Attention and Special Treatment**

**Notes to Physician** Treat symptomatically

### 5. Fire Fighting Measures

**Suitable extinguishing equipment**

**Suitable Extinguishing Media**

Water fog, carbon dioxide, foam, dry chemical.

**Extinguishing media which must not be used for safety reasons**

Do NOT spray pool fires directly with water. A solid stream of water directed into hot burning liquid can cause splattering.

**Specific hazards arising from the chemical**

**Special exposure hazards in a fire**

Use water spray to cool fire exposed surfaces. Closed containers may explode in fire. Decomposition in fire may produce harmful gases.

**Special protective equipment and precautions for fire fighters****Special protective equipment for firefighters**

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

## 6. Accidental release measures

**6.1. Personal precautions, protective equipment and emergency procedures**

Use appropriate protective equipment. Avoid contact with skin, eyes and clothing. Avoid breathing vapors. Ensure adequate ventilation.

**6.2. Environmental precautions**

Prevent from entering sewers, waterways, or low areas.

**6.3. Methods and material for containment and cleaning up**

Isolate spill and stop leak where safe. Contain spill with sand or other inert materials. Scoop up and remove.

## 7. Handling and storage

**7.1. Precautions for safe handling****Handling Precautions**

Use appropriate protective equipment. Avoid contact with eyes, skin, or clothing. Avoid breathing vapors. Ensure adequate ventilation. Wash hands after use. Launder contaminated clothing before reuse.

**Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice.

**7.2. Conditions for safe storage, including any incompatibilities****Storage Information**

Store away from oxidizers. Keep container closed when not in use. Store in a well ventilated area. Store between 40.5 F (4.7 C) and 120.5 F (49 C).

**Other Guidelines**

No information available

## 8. Exposure Controls/Personal Protection

**Control parameters - exposure standards, biological monitoring****Exposure Limits**

Substances	CAS Number	Australia NOHSC	ACGIH TLV-TWA
Highly refined mineral oil	Proprietary	TWA: 5 mg/m <sup>3</sup>	TWA: 5 mg/m <sup>3</sup>

**Appropriate engineering controls**

**Engineering Controls** Use in a well ventilated area.

**Personal protective equipment (PPE)**

<b>Personal Protective Equipment</b>	If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.
<b>Respiratory Protection</b>	Not normally needed. But if significant exposures are possible then the following respirator is recommended: Dust/mist respirator. (N95, P2/P3)
<b>Hand Protection</b>	Chemical-resistant protective gloves (EN 374)
<b>Skin Protection</b>	Rubber apron.
<b>Eye Protection</b>	Chemical goggles; also wear a face shield if splashing hazard exists.
<b>Other Precautions</b>	None known.
<b>Environmental Exposure Controls</b>	No information available

## 9. Physical and Chemical Properties

**9.1. Information on basic physical and chemical properties**

**Physical State:** Liquid  
**Color:** Yellowish  
**Odor:** Mild  
**Odor Threshold:** No information available

<u>Property</u>	<u>Values</u>
Remarks/ - Method	
<b>pH:</b>	No data available
<b>Freezing Point / Range</b>	< -9 °C
<b>Melting Point / Range</b>	No data available
<b>Boiling Point / Range</b>	301 - 427 °C
<b>Flash Point</b>	185 °C / 365 °F ASTM D 92
<b>Upper flammability limit</b>	7%
<b>Lower flammability limit</b>	1%
<b>Evaporation rate</b>	No data available
<b>Vapor Pressure</b>	< 0.1 mmHg
<b>Vapor Density</b>	> 10 (air = 1)
<b>Specific Gravity</b>	1.057
<b>Water Solubility</b>	Insoluble in water
<b>Solubility in other solvents</b>	No data available
<b>Partition coefficient: n-octanol/water</b>	No data available
<b>Autoignition Temperature</b>	360 °C / 680 °F
<b>Decomposition Temperature</b>	No data available
<b>Viscosity</b>	No data available
<b>Explosive Properties</b>	No information available
<b>Oxidizing Properties</b>	No information available

**9.2. Other information**

**VOC Content (%)** No data available

<b>10. Stability and Reactivity</b>
-------------------------------------

**10.1. Reactivity**

Not expected to be reactive.

**10.2. Chemical stability**

Stable

**10.3. Possibility of hazardous reactions**

Will Not Occur

**10.4. Conditions to avoid**

None anticipated

**10.5. Incompatible materials**

Strong oxidizers.

**10.6. Hazardous decomposition products**

Carbon monoxide and carbon dioxide.

<b>11. Toxicological Information</b>
--------------------------------------

**Information on routes of exposure**

**Principle Route of Exposure** Eye or skin contact, inhalation. Ingestion.

**Symptoms related to exposure****Most Important Symptoms/Effects**

No significant hazards expected.

**Numerical measures of toxicity****Toxicology data for the components**

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Highly refined mineral oil	Proprietary	> 2000 mg/kg (Rat) >5000 mg/kg (Rat) (similar substance)	> 15000 mg/kg (Rodent) > 2000 mg/kg (Rabbit) (similar substance)	> 0.210 mg/L (Rat) (similar substance)

**Immediate, delayed and chronic health effects from exposure**

<b>Product Information</b>	Under certain conditions of use, some of the product ingredients may cause the following:
<b>Inhalation</b>	May cause mild respiratory irritation.
<b>Eye Contact</b>	May cause mild eye irritation.
<b>Skin Contact</b>	May cause mild skin irritation.
<b>Ingestion</b>	Aspiration into the lungs may cause chemical pneumonitis including coughing, difficulty breathing, wheezing, coughing up blood and pneumonia, which can be fatal.

**Chronic Effects/Carcinogenicity** No data available to indicate product or components present at greater than 0.1% are chronic health hazards.

**Exposure Levels**

No data available

**Interactive effects**

None known.

**Data limitations**

No data available

Substances	CAS Number	Skin corrosion/irritation
Highly refined mineral oil		Non-irritating to the skin (similar substances)
Substances	CAS Number	Serious eye damage/irritation
Highly refined mineral oil		Non-irritating to the eye (similar substances)
Substances	CAS Number	Skin Sensitization
Highly refined mineral oil		Not confirmed to cause skin or respiratory sensitization. (similar substances)
Substances	CAS Number	Respiratory Sensitization
Highly refined mineral oil		No information available
Substances	CAS Number	Mutagenic Effects
Highly refined mineral oil		In vitro tests did not show mutagenic effects. (similar substances)
Substances	CAS Number	Carcinogenic Effects
Highly refined mineral oil		Did not show carcinogenic effects in animal experiments (similar substances)
Substances	CAS Number	Reproductive toxicity
Highly refined mineral oil		No information available
Substances	CAS Number	STOT - single exposure
Highly refined mineral oil		No significant toxicity observed in animal studies at concentration requiring classification. (similar substances)
Substances	CAS Number	STOT - repeated exposure
Highly refined mineral oil		No significant toxicity observed in animal studies at concentration requiring classification. (similar substances)
Substances	CAS Number	Aspiration hazard
Highly refined mineral oil		Aspiration into the lungs may cause chemical pneumonitis including coughing, difficulty breathing, wheezing, coughing up blood and pneumonia, which can be fatal.

## 12. Ecological Information

**Ecotoxicity****Product Ecotoxicity Data**

No data available

**Substance Ecotoxicity Data**

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Highly refined mineral oil	Proprietary	No information available	LC50 (96h) >1000 mg/L (Oncorhynchus mykiss) LC50 (96h) > 100 mg/L (Lepomis macrochirus)	No information available	No information available

**12.2. Persistence and degradability**

Substances	CAS Number	Persistence and Degradability
Highly refined mineral oil	Proprietary	(15 - 35% @ 28d)

**12.3. Bioaccumulative potential**

Substances	CAS Number	Log Pow
Highly refined mineral oil	Proprietary	5.71

**12.4. Mobility in soil**

Substances	CAS Number	Mobility
Highly refined mineral oil	Proprietary	KOC > 3

**12.6. Other adverse effects**

**Endocrine Disruptor Information**

This product does not contain any known or suspected endocrine disruptors

**13. Disposal Considerations**

**Safe handling and disposal methods**

Disposal should be made in accordance with federal, state, and local regulations. Incineration recommended in approved incinerator according to federal, state, and local regulations.

**Disposal of any contaminated packaging**

Follow all applicable national or local regulations. Contaminated packaging may be disposed of by: rendering packaging incapable of containing any substance, or treating packaging to remove residual contents, or treating packaging to make sure the residual contents are no longer hazardous, or by disposing of packaging into commercial waste collection.

**Environmental regulations**

Not applicable

**14. Transport Information**

**Transportation Information**

**Australia ADG**

UN Number: Not restricted  
 UN proper shipping name: Not restricted  
 Transport Hazard Class(es): Not applicable  
 Packing Group: Not applicable  
 Environmental Hazards: Not applicable

**IMDG/IMO**

UN Number: Not restricted  
 UN proper shipping name: Not restricted  
 Transport Hazard Class(es): Not applicable  
 Packing Group: Not applicable  
 Environmental Hazards: Not applicable

**IATA/ICAO**

UN Number: Not restricted  
 UN proper shipping name: Not restricted  
 Transport Hazard Class(es): Not applicable

**Packing Group:** Not applicable  
**Environmental Hazards:** Not applicable

**Special precautions during transport**

None

**HazChem Code**

None Allocated

**15. Regulatory Information****Safety, health and environmental regulations specific for the product****International Inventories**

**Australian AICS Inventory** All components are listed on the AICS or are subject to a relevant exemption, permit, or assessment certificate.

**New Zealand Inventory of Chemicals** All components are listed on the NZIoC or are subject to a relevant exemption, permit, or assessment certificate.

**EINECS (European Inventory of Existing Chemical Substances)** This product, and all its components, complies with EINECS

**US TSCA Inventory** All components listed on inventory or are exempt.

**Canadian Domestic Substances List (DSL)** All components listed on inventory or are exempt.

**Poisons Schedule number**

None Allocated

**International Agreements**

<b>Montreal Protocol - Ozone Depleting Substances:</b>	Does not apply
<b>Stolkhom Convention - Persistent Organic Pollutants:</b>	Does not apply
<b>Rotterdam Convention - Prior Informed Consent:</b>	Does not apply
<b>Basel Convention - Hazardous Waste:</b>	Does not apply

**16. Other information****Date of preparation or review****Revision Date:** 01-Jul-2016**Revision Note**

SDS sections updated: 2

**Full text of H-Statements referred to under sections 2 and 3**

None

**Additional information**

For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Safety Data Sheet for this or other Halliburton products, contact Chemical Stewardship at 1-580-251-4335.

**Key abbreviations or acronyms used**

bw – body weight  
 CAS – Chemical Abstracts Service  
 EC50 – Effective Concentration 50%  
 LC50 – Lethal Concentration 50%  
 LD50 – Lethal Dose 50%  
 LL50 – Lethal Loading 50%  
 mg/kg – milligram/kilogram  
 mg/L – milligram/liter



NOEC – No Observed Effect Concentration  
OEL – Occupational Exposure Limit  
PBT – Persistent Bioaccumulative and Toxic  
ppm – parts per million  
STEL – Short Term Exposure Limit  
TWA – Time-Weighted Average  
vPvB – very Persistent and very Bioaccumulative  
h - hour  
mg/m<sup>3</sup> - milligram/cubic meter  
mm - millimeter  
mmHg - millimeter mercury  
w/w - weight/weight  
d - day

**Key literature references and sources for data**

[www.ChemADVISOR.com/](http://www.ChemADVISOR.com/)

NZ CCID

BIBRA

OSHA

SIDS

**Disclaimer Statement**

This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.

**End of Safety Data Sheet**

## SAFETY DATA SHEET

### CFR-8L

Revision Date: 24-Apr-2018

Revision Number: 21

#### 1. Product Identifier & Identity for the Chemical

**Statement of Hazardous Nature** Non-Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

##### 1.1. Product Identifier

**Product Name** CFR-8L

##### Other means of Identification

**Synonyms** None  
**Hazardous Material Number:** HM005627

##### Recommended use of the chemical and restrictions on use

**Recommended Use** Cement Dispersant  
**Uses advised against** No information available

##### Supplier's name, address and phone number

**Manufacturer/Supplier** Halliburton Australia Pty. Ltd.  
15 Marriott Road, Jandakot, WA 6164  
Australia  
ACN Number: 009 000 775  
Telephone Number: + 61 1 800 686 951  
Fax Number: 61 (08) 9455 5300  
**E-mail Address** fdunexchem@halliburton.com

##### Emergency phone number

+ 61 1 800 686 951  
Global Incident Response Access Code: 334305  
Contract Number: 14012

##### **Australian Poisons Information Centre**

24 Hour Service: - 13 11 26  
Police or Fire Brigade: - 000 (exchange): - 1100

#### 2. Hazard Identification

**Statement of Hazardous Nature** Non-Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

##### Classification of the hazardous chemical

Not classified

##### Label elements, including precautionary statements

##### **Hazard Pictograms**

**Signal Word** Not Hazardous

**Hazard Statements:** Not Classified

**Precautionary Statements**

<b>Prevention</b>	None
<b>Response</b>	None
<b>Storage</b>	None
<b>Disposal</b>	None

**Contains****Substances**

Contains no hazardous substances in concentrations above cut-off values according to the competent authority

**CAS Number**

NA

**Other hazards which do not result in classification**

This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).

This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

For the full text of the H-phrases mentioned in this Section, see Section 16

<b>3. Composition/information on Ingredients</b>
--

Substances	CAS Number	PERCENT (w/w)	GHS Classification - Australia
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	60 - 100%	Not classified

<b>4. First aid measures</b>
------------------------------

**Description of necessary first aid measures**

<b>Inhalation</b>	If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.
<b>Eyes</b>	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.
<b>Skin</b>	Wash with soap and water. Get medical attention if irritation persists.
<b>Ingestion</b>	Under normal conditions, first aid procedures are not required.

**Symptoms caused by exposure**

No significant hazards expected.

**Medical Attention and Special Treatment**

**Notes to Physician** Treat symptomatically

<b>5. Fire Fighting Measures</b>
----------------------------------

**Suitable extinguishing equipment****Suitable Extinguishing Media**

Water fog, carbon dioxide, foam, dry chemical.

**Extinguishing media which must not be used for safety reasons**

None known.

**Specific hazards arising from the chemical****Special exposure hazards in a fire**

Decomposition in fire may produce harmful gases.

**Special protective equipment and precautions for fire fighters****Special protective equipment for firefighters**

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

## 6. Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Use appropriate protective equipment. Avoid contact with skin, eyes and clothing. Avoid breathing vapors. Ensure adequate ventilation.

### 6.2. Environmental precautions

Prevent from entering sewers, waterways, or low areas.

### 6.3. Methods and material for containment and cleaning up

Isolate spill and stop leak where safe. Contain spill with sand or other inert materials. Scoop up and remove.

## 7. Handling and storage

### 7.1. Precautions for safe handling

#### **Handling Precautions**

Avoid contact with eyes, skin, or clothing. Avoid breathing vapors. Ensure adequate ventilation. Wash hands after use. Launder contaminated clothing before reuse. Use appropriate protective equipment.

#### **Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice.

### 7.2. Conditions for safe storage, including any incompatibilities

#### **Storage Information**

Store away from oxidizers. Keep container closed when not in use.

#### **Other Guidelines**

No information available

## 8. Exposure Controls/Personal Protection

### Control parameters - exposure standards, biological monitoring

#### **Exposure Limits**

Substances	CAS Number	Australia NOHSC	ACGIH TLV-TWA
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable

### Appropriate engineering controls

**Engineering Controls** Use in a well ventilated area.

### Personal protective equipment (PPE)

**Personal Protective Equipment** If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.

**Respiratory Protection** Not normally necessary.

**Hand Protection**

Nitrile gloves.

**Skin Protection**

Normal work coveralls.

**Eye Protection**

Wear safety glasses or goggles to protect against exposure.

**Other Precautions**

None known.

**Environmental Exposure Controls**

Do not allow material to contaminate ground water system

## 9. Physical and Chemical Properties

### 9.1. Information on basic physical and chemical properties

**Physical State:** Liquid

**Color:** Brown-black

**Odor:** Characteristic

**Odor Threshold:** No information available

<u>Property</u>	<u>Values</u>
<u>Remarks/ - Method</u>	
<b>pH:</b>	9 - 11.3
<b>Freezing Point / Range</b>	-7 °C
<b>Melting Point / Range</b>	No data available
<b>Boiling Point / Range</b>	100 °C / 212 °F
<b>Flash Point</b>	No data available
<b>Evaporation rate</b>	No data available
<b>Vapor Pressure</b>	< 18 mmHg
<b>Vapor Density</b>	No data available
<b>Specific Gravity</b>	1.17 - 1.2
<b>Water Solubility</b>	Soluble in water
<b>Solubility in other solvents</b>	No data available
<b>Partition coefficient: n-octanol/water</b>	No data available
<b>Autoignition Temperature</b>	No data available
<b>Decomposition Temperature</b>	No data available
<b>Viscosity</b>	No data available
<b>Explosive Properties</b>	No information available
<b>Oxidizing Properties</b>	No information available
<b>9.2. Other information</b>	
<b>VOC Content (%)</b>	No data available

## 10. Stability and Reactivity

### 10.1. Reactivity

Not expected to be reactive.

### 10.2. Chemical stability

Stable

### 10.3. Possibility of hazardous reactions

Will Not Occur

### 10.4. Conditions to avoid

None anticipated

### 10.5. Incompatible materials

Strong oxidizers.

### 10.6. Hazardous decomposition products

Oxides of sulfur.

## 11. Toxicological Information

### Information on routes of exposure

**Principle Route of Exposure** Eye or skin contact, inhalation.

### Symptoms related to exposure

#### **Most Important Symptoms/Effects**

No significant hazards expected.

### Toxicology data for the components

<b>Substances</b>	<b>CAS Number</b>	<b>LD50 Oral</b>	<b>LD50 Dermal</b>	<b>LC50 Inhalation</b>
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No data available	No data available	No data available

### Immediate, delayed and chronic health effects from exposure

**Inhalation** May cause mild respiratory irritation.  
**Eye Contact** May cause mechanical irritation to eye.  
**Skin Contact** None known.

**Ingestion** May cause abdominal pain, vomiting, nausea, and diarrhea.

**Chronic Effects/Carcinogenicity** No data available to indicate product or components present at greater than 0.1% are chronic health hazards.

**Exposure Levels**

No data available

**Interactive effects**

None known.

**Data limitations**

No data available

## 12. Ecological Information

**Ecotoxicity**

**Substance Ecotoxicity Data**

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available	No information available	No information available	No information available

**12.2. Persistence and degradability**

Substances	CAS Number	Persistence and Degradability
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

**12.3. Bioaccumulative potential**

Substances	CAS Number	Log Pow
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

**12.4. Mobility in soil**

Substances	CAS Number	Mobility
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

**12.6. Other adverse effects**

No information available

**Endocrine Disruptor Information**

This product does not contain any known or suspected endocrine disruptors

### 13. Disposal Considerations

**Safe handling and disposal methods**

Disposal should be made in accordance with federal, state, and local regulations.

**Disposal of any contaminated packaging**

Follow all applicable national or local regulations.

**Environmental regulations**

Not applicable

### 14. Transport Information

**Transportation Information**

**Australia ADG**

UN Number	Not restricted
UN proper shipping name:	Not restricted
Transport Hazard Class(es):	Not applicable
Packing Group:	Not applicable
Environmental Hazards:	Not applicable

**IMDG/IMO**

UN Number	Not restricted
UN proper shipping name:	Not restricted
Transport Hazard Class(es):	Not applicable
Packing Group:	Not applicable
Environmental Hazards:	Not applicable

**IATA/ICAO**

UN Number	Not restricted
UN proper shipping name:	Not restricted
Transport Hazard Class(es):	Not applicable
Packing Group:	Not applicable
Environmental Hazards:	Not applicable

**Special precautions during transport**

None

**HazChem Code**

None Allocated

### 15. Regulatory Information

**Safety, health and environmental regulations specific for the product**

**International Inventories**

<b>Australian AICS Inventory</b>	All components are listed on the AICS or are subject to a relevant exemption, permit, or assessment certificate.
<b>New Zealand Inventory of Chemicals</b>	Product contains one or more components not listed on inventory.
<b>EINECS (European Inventory of Existing Chemical Substances)</b>	This product, and all its components, complies with EINECS
<b>US TSCA Inventory</b>	Product contains one or more components not listed on the inventory.
<b>Canadian Domestic Substances List (DSL)</b>	Product contains one or more components not listed on the inventory.

**Poisons Schedule number**

None Allocated

**International Agreements****Montreal Protocol - Ozone Depleting Substances:**

Does not apply.

**Stockholm Convention - Persistent Organic Pollutants:**

Does not apply.

**Rotterdam Convention - Prior Informed Consent:**

Does not apply.

**Basel Convention - Hazardous Waste:**

Does not apply.

**16. Other information****Date of preparation or review****Revision Date:** 24-Apr-2018**Revision Note**

SDS sections updated:

2

**Full text of H-Statements referred to under sections 2 and 3**

None

**Additional information**

For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Safety Data Sheet for this or other Halliburton products, contact Chemical Stewardship at 1-580-251-4335.

**Key abbreviations or acronyms used**

bw – body weight

CAS – Chemical Abstracts Service

EC50 – Effective Concentration 50%

LC50 – Lethal Concentration 50%

LD50 – Lethal Dose 50%

LL50 – Lethal Loading 50%

mg/kg – milligram/kilogram

mg/L – milligram/liter

NOEC – No Observed Effect Concentration

OEL – Occupational Exposure Limit

PBT – Persistent Bioaccumulative and Toxic

ppm – parts per million

STEL – Short Term Exposure Limit

TWA – Time-Weighted Average

vPvB – very Persistent and very Bioaccumulative

h - hour

mg/m<sup>3</sup> - milligram/cubic meter

mm - millimeter

mmHg - millimeter mercury

w/w - weight/weight

d - day

**Key literature references and sources for data**[www.ChemADVISOR.com/](http://www.ChemADVISOR.com/)**Disclaimer Statement**

This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.

**End of Safety Data Sheet**



## SAFETY DATA SHEET

### LATEX 3000

Revision Date: 17-Feb-2016

Revision Number: 15

#### 1. Product Identifier & Identity for the Chemical

**Statement of Hazardous Nature** Non-Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

##### 1.1. Product Identifier

**Product Name** LATEX 3000

##### Other means of Identification

**Synonyms** None  
**Product Code:** HM006737

##### Recommended use of the chemical and restrictions on use

**Recommended Use** Fluid Loss Additive

**Uses advised against** No information available

##### Supplier's name, address and phone number

**Manufacturer/Supplier** Halliburton Australia Pty. Ltd.  
15 Marriott Road  
Jandakot  
WA 6164  
Australia  
  
ACN Number: 009 000 775  
Telephone Number: + 61 1 800 686 951  
Fax Number: 61 (08) 9455 5300  
**E-mail Address** fdunexchem@halliburton.com

##### Emergency phone number

+ 61 1 800 686 951

##### **Australian Poisons Information Centre**

24 Hour Service: - 13 11 26  
Police or Fire Brigade: - 000 (exchange): - 1100

#### 2. Hazard Identification

**Statement of Hazardous Nature** Non-Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

##### Classification of the hazardous chemical

Not classified

##### Label elements, including precautionary statements

**Hazard pictograms**

**Signal Word** Not Hazardous

**Hazard Statements** Not Classified

**Precautionary Statements**

**Prevention** None

**Response** None

**Storage** None

**Disposal** None

**Contains**

**Substances**

Contains no hazardous substances in concentrations above cut-off values according to the competent authority

**CAS Number**

NA

**Other hazards which do not result in classification**

This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).

This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

**Australia Classification**

For the full text of the H-phrases mentioned in this Section, see Section 16

**Classification** Not Classified

**Risk Phrases** None

### 3. Composition/information on Ingredients

Substances	CAS Number	PERCENT (w/w)	GHS Classification - Australia
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	60 - 100%	Not Applicable

### 4. First aid measures

**Description of necessary first aid measures**

**Inhalation** If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

**Eyes** In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.

**Skin** Wash with soap and water. Get medical attention if irritation persists.

**Ingestion** Get medical attention! If vomiting occurs, keep head lower than hips to prevent aspiration. Rinse mouth. Never give anything by mouth to an unconscious person.

**Symptoms caused by exposure**

No significant hazards expected.

**Medical Attention and Special Treatment**

**Notes to Physician** Treat symptomatically

### 5. Fire Fighting Measures

**Suitable extinguishing equipment**

**Suitable Extinguishing Media**

Water fog, carbon dioxide, foam, dry chemical.

**Extinguishing media which must not be used for safety reasons**

None known.

**Specific hazards arising from the chemical****Special exposure hazards in a fire**

Use water spray to cool fire exposed surfaces. Closed containers may explode in fire. Decomposition in fire may produce harmful gases.

**Special protective equipment and precautions for fire fighters****Special protective equipment for firefighters**

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

<b>6. Accidental release measures</b>
---------------------------------------

**6.1. Personal precautions, protective equipment and emergency procedures**

Use appropriate protective equipment. Avoid contact with skin, eyes and clothing. Avoid breathing vapors. Ensure adequate ventilation.

**6.2. Environmental precautions**

Prevent from entering sewers, waterways, or low areas.

**6.3. Methods and material for containment and cleaning up**

Isolate spill and stop leak where safe. Contain spill with sand or other inert materials. Scoop up and remove.

<b>7. Handling and storage</b>
--------------------------------

**7.1. Precautions for safe handling****Handling Precautions**

Avoid contact with eyes, skin, or clothing. Avoid breathing vapors. Avoid breathing mist. Ensure adequate ventilation. Material is slippery underfoot. Wash hands after use. Launder contaminated clothing before reuse. Use appropriate protective equipment.

**Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice.

**7.2. Conditions for safe storage, including any incompatibilities****Storage Information**

Store in a cool well ventilated area. Keep container closed when not in use.

**Other Guidelines**

No information available

<b>8. Exposure Controls/Personal Protection</b>
---

**Control parameters - exposure standards, biological monitoring****Exposure Limits**

Substances	CAS Number	Australia NOHSC	ACGIH TLV-TWA
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable

**Appropriate engineering controls****Engineering Controls**

Trace amounts of monomers may be released during use of this material. Use in a well ventilated area. Local exhaust ventilation should be used in areas without good cross ventilation.

**Personal protective equipment (PPE)****Personal Protective Equipment**

If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.

**Respiratory Protection**

If engineering controls and work practices cannot keep exposure below occupational exposure limits or if exposure is unknown, wear a NIOSH certified, European Standard EN

149, AS/NZS 1715:2009, or equivalent respirator when using this product. Selection of and instruction on using all personal protective equipment, including respirators, should be performed by an Industrial Hygienist or other qualified professional.  
Not normally necessary.

<b>Hand Protection</b>	None known.
<b>Skin Protection</b>	Normal work coveralls.
<b>Eye Protection</b>	Chemical goggles; also wear a face shield if splashing hazard exists.
<b>Other Precautions</b>	None known.
<b>Environmental Exposure Controls</b>	Do not allow material to contaminate ground water system

## 9. Physical and Chemical Properties

### 9.1. Information on basic physical and chemical properties

<b>Physical State:</b>	Liquid	<b>Color</b>	Milky white
<b>Odor:</b>	Mild	<b>Odor Threshold:</b>	No information available

<u>Property</u>	<u>Values</u>
Remarks/ - Method	
<b>pH:</b>	6.0 - 7.5
<b>Freezing Point / Range</b>	0 °C
<b>Melting Point / Range</b>	No data available
<b>Boiling Point / Range</b>	100 °C / 212 °F
<b>Flash Point</b>	No data available
<b>Evaporation rate</b>	< 1
<b>Vapor Pressure</b>	17
<b>Vapor Density</b>	<1
<b>Specific Gravity</b>	1.03
<b>Water Solubility</b>	Miscible with water
<b>Solubility in other solvents</b>	No data available
<b>Partition coefficient: n-octanol/water</b>	No data available
<b>Autoignition Temperature</b>	No data available
<b>Decomposition Temperature</b>	No data available
<b>Viscosity</b>	No data available
<b>Explosive Properties</b>	No information available
<b>Oxidizing Properties</b>	No information available

### 9.2. Other information

<b>Molecular Weight</b>	> 600
<b>VOC Content (%)</b>	46-48 (0.0003 lbs/gal)
<b>Liquid Density</b>	8.61 lbs/gal

## 10. Stability and Reactivity

### 10.1. Reactivity

Not expected to be reactive.

### 10.2. Chemical stability

Stable

### 10.3. Possibility of hazardous reactions

Will Not Occur

### 10.4. Conditions to avoid

None anticipated

### 10.5. Incompatible materials

Strong oxidizers.

### 10.6. Hazardous decomposition products

1,3-Butadiene. Styrene.

## 11. Toxicological Information

### Information on routes of exposure

**Principle Route of Exposure** Eye and skin contact.

**Symptoms related to exposure****Most Important Symptoms/Effects**

No significant hazards expected.

**Numerical measures of toxicity****Toxicology data for the components**

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No data available	No data available	No data available

**Immediate, delayed and chronic health effects from exposure****Product Information**

Under certain conditions of use, some of the product ingredients may cause the following:

**Inhalation**

Not a likely route of exposure.

**Eye Contact**

May cause mild eye irritation.

**Skin Contact**

Prolonged or repeated contact may cause slight skin irritation.

**Ingestion**

No adverse health effects are expected from swallowing.

**Chronic Effects/Carcinogenicity** No data available to indicate product or components present at greater than 0.1% are chronic health hazards.

**Exposure Levels**

No data available

**Interactive effects**

None known.

**Data limitations**

No data available

<b>12. Ecological Information</b>
-----------------------------------

**Ecotoxicity****Product Ecotoxicity Data**

No data available

**Substance Ecotoxicity Data**

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available	No information available	No information available	No information available

**12.2. Persistence and degradability**

Substances	CAS Number	Persistence and Degradability
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

**12.3. Bioaccumulative potential**

Substances	CAS Number	Log Pow
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

**12.4. Mobility in soil**

Substances	CAS Number	Mobility
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

**12.6. Other adverse effects****Endocrine Disruptor Information**

This product does not contain any known or suspected endocrine disruptors

## 13. Disposal Considerations

**Safe handling and disposal methods**

Disposal should be made in accordance with federal, state, and local regulations.

**Disposal of any contaminated packaging**

Follow all applicable national or local regulations.

**Environmental regulations**

Not applicable

## 14. Transport Information

**Transportation Information**

<b>UN Number</b>	Not restricted
<b>UN proper shipping name</b>	Not restricted
<b>Transport Hazard Class(es)</b>	Not applicable
<b>Packing Group:</b>	Not applicable
<b>Environmental Hazards</b>	Not applicable

**Special precautions during transport**

None

**HazChem Code**

None Allocated

## 15. Regulatory Information

**Safety, health and environmental regulations specific for the product****International Inventories****Australian AICS Inventory**

Product contains one or more components not listed on inventory.

**New Zealand Inventory of Chemicals**

All components are listed on the AICS or are subject to a relevant exemption, permit, or assessment certificate.

**EINECS (European Inventory of**

This product, and all its components, complies with EINECS

**Existing Chemical Substances)****US TSCA Inventory**

All components listed on inventory or are exempt.

**Canadian Domestic Substances List (DSL)** Product contains one or more components not listed on the inventory.**Poisons Schedule number**

None Allocated

**International Agreements****Montreal Protocol - Ozone Depleting Substances:**

Does not apply

**Stolkhom Convention - Persistent Organic Pollutants:**

Does not apply

**Rotterdam Convention - Prior Informed Consent:**

Does not apply

**Basel Convention - Hazardous Waste:**

Does not apply

**16. Other information****Date of preparation or review****Revision Date:** 17-Feb-2016**Revision Note**

SDS sections updated: 2

**Full text of R-phrases referred to under Sections 2 and 3**

None

**Full text of H-Statements referred to under sections 2 and 3**

None

**Additional information**

For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Safety Data Sheet for this or other Halliburton products, contact Chemical Stewardship at 1-580-251-4335.

**Key abbreviations or acronyms used**

bw – body weight

CAS – Chemical Abstracts Service

EC50 – Effective Concentration 50%

LC50 – Lethal Concentration 50%

LD50 – Lethal Dose 50%

LL50 – Lethal Loading 50%

mg/kg – milligram/kilogram

mg/L – milligram/liter

NOEC – No Observed Effect Concentration

OEL – Occupational Exposure Limit

PBT – Persistent Bioaccumulative and Toxic

ppm – parts per million

STEL – Short Term Exposure Limit

TWA – Time-Weighted Average

vPvB – very Persistent and very Bioaccumulative

h - hour

mg/m<sup>3</sup> - milligram/cubic meter

mm - millimeter

mmHg - millimeter mercury

w/w - weight/weight

d - day

**Key literature references and sources for data**

www.ChemADVISOR.com/

NZ CCID

**Disclaimer Statement**

This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.

**End of Safety Data Sheet**



## SAFETY DATA SHEET

### TUNED SPACER III CONCENTRATE

Revision Date: 05-Jul-2016

Revision Number: 3

#### 1. Product Identifier & Identity for the Chemical

**Statement of Hazardous Nature** Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Dangerous Goods according to the criteria of ADG.

##### 1.1. Product Identifier

**Product Name** TUNED SPACER III CONCENTRATE

##### Other means of Identification

**Synonyms** None  
**Hazardous Material Number:** HM007129

##### Recommended use of the chemical and restrictions on use

**Recommended Use** Cement Additive  
**Uses advised against** No information available

##### Supplier's name, address and phone number

**Manufacturer/Supplier** Halliburton Australia Pty. Ltd.  
15 Marriott Road, Jandakot, WA 6164  
Australia  
ACN Number: 009 000 775  
Telephone Number: + 61 1 800 686 951  
Fax Number: 61 (08) 9455 5300  
**E-mail Address** fdunexchem@halliburton.com

##### Emergency phone number

+ 61 1 800 686 951  
Global Incident Response Access Code: 334305  
Contract Number: 14012

##### Australian Poisons Information Centre

24 Hour Service: - 13 11 26  
Police or Fire Brigade: - 000 (exchange): - 1100

#### 2. Hazard Identification

**Statement of Hazardous Nature** Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Dangerous Goods according to the criteria of ADG.

##### Classification of the hazardous chemical

Skin Corrosion/Irritation	Category 2 - H315
Serious Eye Damage/Irritation	Category 2 - H319
Acute Aquatic Toxicity	Category 2 - H401
Chronic Aquatic Toxicity	Category 2 - H411

##### Label elements, including precautionary statements

##### Hazard Pictograms

**Signal Word**

WARNING

**Hazard Statements:**

H315 - Causes skin irritation  
 H319 - Causes serious eye irritation  
 H401 - Toxic to aquatic life  
 H411 - Toxic to aquatic life with long lasting effects

**Precautionary Statements****Prevention**

P264 - Wash face, hands and any exposed skin thoroughly after handling  
 P273 - Avoid release to the environment

**Response**

P280 - Wear protective gloves/eye protection/face protection  
 P302 + P352 - IF ON SKIN: Wash with plenty of water.  
 P332 + P313 - If skin irritation occurs: Get medical advice/attention  
 P362 + P364 - Take off contaminated clothing and wash before reuse  
 P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
 P337 + P313 - If eye irritation persists: Get medical advice/attention  
 P391 - Collect spillage

**Storage**

None

**Disposal**

P501 - Dispose of contents/container in accordance with local/regional/national/international regulations

**Contains****Substances**

Ethoxylated nonylphenol

**CAS Number**

Proprietary

**Other hazards which do not result in classification**

None known

*For the full text of the H-phrases mentioned in this Section, see Section 16*

### 3. Composition/information on Ingredients

Substances	CAS Number	PERCENT (w/w)	GHS Classification - Australia
Ethoxylated nonylphenol	Proprietary	60 - 100%	Skin Irrit. 2 (H315) Eye Irrit. 2A (H319) Aquatic Acute 2 (H401) Aquatic Chronic 2 (H411)

### 4. First aid measures

**Description of necessary first aid measures****Inhalation**

If inhaled, move victim to fresh air and seek medical attention.

**Eyes**

In case of contact, or suspected contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention immediately after flushing.

**Skin**

In case of contact, immediately flush skin with plenty of soap and water for at least 15 minutes. Get medical attention. Remove contaminated clothing and launder before reuse.

**Ingestion**

Do NOT induce vomiting. Give nothing by mouth. Obtain immediate medical

attention.

**Symptoms caused by exposure**

Causes skin irritation. Causes eye irritation.

**Medical Attention and Special Treatment**

**Notes to Physician** Treat symptomatically

## 5. Fire Fighting Measures

**Suitable extinguishing equipment**

**Suitable Extinguishing Media**

Water fog, carbon dioxide, foam, dry chemical.

**Extinguishing media which must not be used for safety reasons**

None known.

**Specific hazards arising from the chemical**

**Special exposure hazards in a fire**

Decomposition in fire may produce harmful gases.

**Special protective equipment and precautions for fire fighters**

**Special protective equipment for firefighters**

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

## 6. Accidental release measures

**6.1. Personal precautions, protective equipment and emergency procedures**

Use appropriate protective equipment.

**6.2. Environmental precautions**

Prevent from entering sewers, waterways, or low areas.

**6.3. Methods and material for containment and cleaning up**

Isolate spill and stop leak where safe. Contain spill with sand or other inert materials. Scoop up and remove.

## 7. Handling and storage

**7.1. Precautions for safe handling**

**Handling Precautions**

Avoid breathing vapors. Avoid contact with eyes, skin, or clothing. Wear appropriate respirator when opening containers. Wash hands after use. Launder contaminated clothing before reuse.

**Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice.

**7.2. Conditions for safe storage, including any incompatibilities**

**Storage Information**

Store away from oxidizers. Store in a cool well ventilated area. Keep container closed when not in use. Product has a shelf life of 12 months.

**Other Guidelines**

No information available

## 8. Exposure Controls/Personal Protection

**Control parameters - exposure standards, biological monitoring**

**Exposure Limits**

Substances	CAS Number	Australia NOHSC	ACGIH TLV-TWA
Ethoxylated nonylphenol	Proprietary	Not applicable	Not applicable

**Appropriate engineering controls****Engineering Controls**

Use in a well ventilated area. Local exhaust ventilation should be used in areas without good cross ventilation.

**Personal protective equipment (PPE)****Personal Protective Equipment**

If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.

**Respiratory Protection**

Organic vapor respirator.

**Hand Protection**

Impervious rubber gloves.

**Skin Protection**

Rubber apron.

**Eye Protection**

Chemical goggles; also wear a face shield if splashing hazard exists.

**Other Precautions**

None known.

**Environmental Exposure Controls**

No information available

## 9. Physical and Chemical Properties

**9.1. Information on basic physical and chemical properties**

**Physical State:** Liquid

**Color:** Clear colorless to pale yellow

**Odor:** Mild aromatic

**Odor Threshold:** No information available

PropertyValues

Remarks/ - Method

**pH:**

5-7

**Freezing Point / Range**

-18 °C

**Melting Point / Range**

No data available

**Boiling Point / Range**

> 250 °C

**Flash Point**

> 172 °C / 200 °F PMCC

**Evaporation rate**

< 0.01

**Vapor Pressure**

< 0.1

**Vapor Density**

> 1

**Specific Gravity**

1.02

**Water Solubility**

No data available

**Solubility in other solvents**

No data available

**Partition coefficient: n-octanol/water**

No data available

**Autoignition Temperature**

No data available

**Decomposition Temperature**

No data available

**Viscosity**

No data available

**Explosive Properties**

No information available

**Oxidizing Properties**

No information available

**9.2. Other information****VOC Content (%)**

No data available

## 10. Stability and Reactivity

**10.1. Reactivity**

Not expected to be reactive.

**10.2. Chemical stability**

Stable

**10.3. Possibility of hazardous reactions**

Will Not Occur

**10.4. Conditions to avoid**

None anticipated

**10.5. Incompatible materials**

Strong acids. Strong alkalis. Strong oxidizers.

**10.6. Hazardous decomposition products**

Toxic fumes. Carbon monoxide and carbon dioxide.

## 11. Toxicological Information

### Information on routes of exposure

**Principle Route of Exposure** Eye or skin contact, inhalation.

### Symptoms related to exposure

#### **Most Important Symptoms/Effects**

Causes skin irritation. Causes eye irritation.

**LD50 Oral:** > 2500 mg/kg; (Rat)

**LD50 Dermal:** 2830 mg/kg; (Rabbit)

### Toxicology data for the components

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Ethoxylated nonylphenol	Proprietary	4290 mg/kg bw (rat) (similar substance)	2500 mg/kg-bw (Mammal) (similar substance)	No data of sufficient quality are available

### Immediate, delayed and chronic health effects from exposure

**Inhalation** May cause respiratory irritation.

**Eye Contact** Causes eye irritation.

**Skin Contact** Causes moderate skin irritation.

**Ingestion** Irritation of the mouth, throat, and stomach. May cause abdominal pain, vomiting, nausea, and diarrhea.

**Chronic Effects/Carcinogenicity** May contain ethylene oxide in the headspace of the drum. Ethylene oxide is a cancer and reproductive hazard.

### Exposure Levels

No data available

### Interactive effects

Skin disorders. Lung disorders.

### Data limitations

No data available

Substances	CAS Number	Skin corrosion/irritation
Ethoxylated nonylphenol		Causes skin irritation. (Rabbit)

Substances	CAS Number	Serious eye damage/irritation
Ethoxylated nonylphenol		Causes moderate eye irritation (Rabbit)

Substances	CAS Number	Skin Sensitization
Ethoxylated nonylphenol		Patch test on human volunteers did not demonstrate sensitization properties

Substances	CAS Number	Respiratory Sensitization
Ethoxylated nonylphenol		No information available

Substances	CAS Number	Mutagenic Effects
Ethoxylated nonylphenol		In vivo tests did not show mutagenic effects. (similar substances)

Substances	CAS Number	Carcinogenic Effects
Ethoxylated nonylphenol		Did not show carcinogenic effects in animal experiments (similar substances)

Substances	CAS Number	Reproductive toxicity
Ethoxylated nonylphenol		No data of sufficient quality are available.

Substances	CAS Number	STOT - single exposure
Ethoxylated nonylphenol		No information available

Substances	CAS Number	STOT - repeated exposure
Ethoxylated nonylphenol		No significant toxicity observed in animal studies at concentration requiring classification.

Substances	CAS Number	Aspiration hazard
Ethoxylated nonylphenol		Not applicable

## 12. Ecological Information

### Ecotoxicity

#### Substance Ecotoxicity Data

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Ethoxylated nonylphenol	Proprietary	EC50 (48 h) 12 mg/L (Selenastrum capricornutum)	LC50 (96 h) 5 mg/L (Danio Rerio) LC50 (96 h) 1.6 mg/L (Pimephales promelas) LOEC (21 d) 0.05 mg/L (Gasterosteus aculeatus)	No information available	No information available

### 12.2. Persistence and degradability

Substances	CAS Number	Persistence and Degradability
Ethoxylated nonylphenol	Proprietary	Not readily biodegradable

### 12.3. Bioaccumulative potential

Substances	CAS Number	Log Pow
Ethoxylated nonylphenol	Proprietary	No information available

### 12.4. Mobility in soil

Substances	CAS Number	Mobility
Ethoxylated nonylphenol	Proprietary	No information available

### 12.6. Other adverse effects

#### Endocrine Disruptor Information

Substances	EU - Endocrine Disruptors Candidate List	Ethoxylated nonylphenol	Group III

## 13. Disposal Considerations

### Safe handling and disposal methods

Disposal should be made in accordance with federal, state, and local regulations.

### Disposal of any contaminated packaging

Follow all applicable national or local regulations.

### Environmental regulations

Not applicable

## 14. Transport Information

### Transportation Information

#### Australia ADG

UN Number	UN3082
UN proper shipping name:	Environmentally Hazardous Substance, Liquid, N.O.S. (Contains Ethoxylated Nonylphenol)
Transport Hazard Class(es):	9
Packing Group:	III

**Environmental Hazards:** Marine Pollutant

**IMDG/IMO**

**UN Number** UN3082  
**UN proper shipping name:** Environmentally Hazardous Substance, Liquid, N.O.S. (Contains Ethoxylated Nonylphenol)  
**Transport Hazard Class(es):** 9  
**Packing Group:** III  
**Environmental Hazards:** Marine Pollutant  
**EMS:** EmS F-A, S-F

**IATA/ICAO**

**UN Number** UN3082  
**UN proper shipping name:** Environmentally Hazardous Substance, Liquid, N.O.S. (Contains Ethoxylated Nonylphenol)  
**Transport Hazard Class(es):** 9  
**Packing Group:** III  
**Environmental Hazards:** Marine Pollutant

**Special precautions during transport**

None

**HazChem Code**

•3Z

## 15. Regulatory Information

**Safety, health and environmental regulations specific for the product****International Inventories****Australian AICS Inventory**

All components are listed on the AICS or are subject to a relevant exemption, permit, or assessment certificate.

**New Zealand Inventory of Chemicals**

All components are listed on the NZIoC or are subject to a relevant exemption, permit, or assessment certificate.

**EINECS (European Inventory of Existing Chemical Substances)**

This product, and all its components, complies with EINECS

**US TSCA Inventory**

All components listed on inventory or are exempt.

**Canadian Domestic Substances List (DSL)**

All components listed on inventory or are exempt.

**Poisons Schedule number**

None Allocated

**International Agreements****Montreal Protocol - Ozone Depleting Substances:**

Does not apply

**Stockholm Convention - Persistent Organic Pollutants:**

Does not apply

**Rotterdam Convention - Prior Informed Consent:**

Does not apply

**Basel Convention - Hazardous Waste:**

Does not apply

## 16. Other information

**Date of preparation or review****Revision Date:**

05-Jul-2016

**Revision Note**

SDS sections updated:

2

**Full text of H-Statements referred to under sections 2 and 3**

H315 - Causes skin irritation

H319 - Causes serious eye irritation

H401 - Toxic to aquatic life

---

H411 - Toxic to aquatic life with long lasting effects

**Additional information**

For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Safety Data Sheet for this or other Halliburton products, contact Chemical Stewardship at 1-580-251-4335.

**Key abbreviations or acronyms used**

bw – body weight

CAS – Chemical Abstracts Service

EC50 – Effective Concentration 50%

LC50 – Lethal Concentration 50%

LD50 – Lethal Dose 50%

LL50 – Lethal Loading 50%

mg/kg – milligram/kilogram

mg/L – milligram/liter

NOEC – No Observed Effect Concentration

OEL – Occupational Exposure Limit

PBT – Persistent Bioaccumulative and Toxic

ppm – parts per million

STEL – Short Term Exposure Limit

TWA – Time-Weighted Average

vPvB – very Persistent and very Bioaccumulative

h - hour

mg/m<sup>3</sup> - milligram/cubic meter

mm - millimeter

mmHg - millimeter mercury

w/w - weight/weight

d - day

**Key literature references and sources for data**

[www.ChemADVISOR.com/](http://www.ChemADVISOR.com/)

**Disclaimer Statement**

This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.

**End of Safety Data Sheet**



## SAFETY DATA SHEET

### SA-1015

Revision Date: 28-Jan-2020

Revision Number: 24

#### 1. Product Identifier & Identity for the Chemical

**Statement of Hazardous Nature** Non-Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

##### 1.1. Product Identifier

**Product Name** SA-1015

##### Other means of Identification

**Synonyms** None

**Hazardous Material Number:** HM007221

##### Recommended use of the chemical and restrictions on use

**Recommended Use** Suspending Agent

**Uses advised against** No information available

##### Supplier's name, address and phone number

**Manufacturer/Supplier** Halliburton Australia Pty. Ltd.  
15 Marriott Road, Jandakot, WA 6164  
Australia  
ACN Number: 009 000 775  
Telephone Number: + 61 1 800 686 951  
Fax Number: 61 (08) 9455 5300  
**E-mail Address** fdunexchem@halliburton.com

##### Emergency phone number

+ 61 1 800 686 951

Global Incident Response Access Code: 334305

Contract Number: 14012

##### **Australian Poisons Information Centre**

24 Hour Service: - 13 11 26

Police or Fire Brigade: - 000 (exchange): - 1100

#### 2. Hazard Identification

**Statement of Hazardous Nature** Non-Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

##### Classification of the hazardous chemical

Not classified

##### Label elements, including precautionary statements

##### **Hazard Pictograms**

**Signal Word** Not Hazardous

**Hazard Statements:** Not Classified

**Precautionary Statements**

**Prevention** None  
**Response** None  
**Storage** None  
**Disposal** None

**Contains**

**Substances** CAS Number  
 Contains no hazardous substances in concentrations above cut-off values according to the competent authority NA

**Other hazards which do not result in classification**

Dust can form an explosive mixture in air  
 This substance is not considered to be persistent, bioaccumulating nor toxic (PBT).  
 This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

*For the full text of the H-phrases mentioned in this Section, see Section 16*

### 3. Composition/information on Ingredients

Substances	CAS Number	PERCENT (w/w)	GHS Classification - Australia
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	60 - 100%	Not classified

### 4. First aid measures

**Description of necessary first aid measures**

**Inhalation** Move person to fresh air.  
**Eyes** In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.  
**Skin** Wash with soap and water. Get medical attention if irritation persists.  
**Ingestion** Under normal conditions, first aid procedures are not required.

**Symptoms caused by exposure**

No significant hazards expected.

**Medical Attention and Special Treatment**

**Notes to Physician** Treat symptomatically

### 5. Fire Fighting Measures

**Suitable extinguishing equipment**

**Suitable Extinguishing Media**

Water fog, carbon dioxide, foam, dry chemical.

**Extinguishing media which must not be used for safety reasons**

None known.

**Specific hazards arising from the chemical**

**Special exposure hazards in a fire**

Decomposition in fire may produce harmful gases. Organic dust in the presence of an ignition source can be explosive in high concentrations. Good housekeeping practices are required to minimize this potential.

**Special protective equipment and precautions for fire fighters**

**Special protective equipment for firefighters**

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

## 6. Accidental release measures

**6.1. Personal precautions, protective equipment and emergency procedures**

Use appropriate protective equipment. Avoid creating and breathing dust. Ensure adequate ventilation. Avoid contact with skin, eyes and clothing.

**6.2. Environmental precautions**

Prevent from entering sewers, waterways, or low areas.

**6.3. Methods and material for containment and cleaning up**

Isolate spill and stop leak where safe. Scoop up and remove. Do NOT spread spilled product with water.

## 7. Handling and storage

**7.1. Precautions for safe handling****Handling Precautions**

Avoid contact with eyes, skin, or clothing. Avoid creating or inhaling dust. Avoid dust accumulations. Ensure adequate ventilation. Wash hands after use. Launder contaminated clothing before reuse. Use appropriate protective equipment. Slippery when wet.

**Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice.

**7.2. Conditions for safe storage, including any incompatibilities****Storage Information**

Store away from oxidizers. Keep container closed when not in use. Store in a dry location.

**Other Guidelines**

No information available

## 8. Exposure Controls/Personal Protection

**Control parameters - exposure standards, biological monitoring****Exposure Limits**

Substances	CAS Number	Australia NOHSC	ACGIH TLV-TWA
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	Not applicable	Not applicable

**Appropriate engineering controls****Engineering Controls**

Use in a well ventilated area.

**Personal protective equipment (PPE)****Personal Protective Equipment**

If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.

**Respiratory Protection**

If engineering controls and work practices cannot keep exposure below occupational exposure limits or if exposure is unknown, wear a NIOSH certified, European Standard EN 149, AS/NZS 1715:2009, or equivalent respirator when using this product. Selection of and instruction on using all personal protective equipment, including respirators, should be performed by an Industrial Hygienist or other qualified professional.

**Hand Protection**

Use gloves which are suitable for the chemicals present in this product as well as other environmental factors in the workplace.

**Skin Protection**

Wear impervious protective clothing, including boots, gloves, lab coat, apron, rain jacket, pants or coverall, as appropriate, to prevent skin contact.

**Eye Protection**

Wear safety glasses or goggles to protect against exposure.

**Other Precautions**

None known.

**Environmental Exposure Controls**

Do not allow material to contaminate ground water system.

## 9. Physical and Chemical Properties

### 9.1. Information on basic physical and chemical properties

**Physical State:** Powder      **Color:** White to tan  
**Odor:** Slight      **Odor Threshold:** No information available

<u>Property</u>	<u>Values</u>
Remarks/ - Method	
<b>pH:</b>	7 (1%)
<b>Freezing Point / Range</b>	No data available
<b>Melting Point / Range</b>	No data available
<b>Pour Point / Range</b>	No data available
<b>Boiling Point / Range</b>	No data available
<b>Flash Point</b>	> 93 °C / > 200 °F (PMCC)
<b>Evaporation rate</b>	No data available
<b>Vapor Pressure</b>	No data available
<b>Vapor Density</b>	No data available
<b>Specific Gravity</b>	No data available
<b>Water Solubility</b>	Forms gel
<b>Solubility in other solvents</b>	No data available
<b>Partition coefficient: n-octanol/water</b>	No data available
<b>Autoignition Temperature</b>	204 °C / 400 °F
<b>Decomposition Temperature</b>	No data available
<b>Viscosity</b>	No data available
<b>Explosive Properties</b>	No information available
<b>Oxidizing Properties</b>	No information available

### 9.2. Other information

**VOC Content (%)** No data available

## 10. Stability and Reactivity

### 10.1. Reactivity

Not expected to be reactive.

### 10.2. Chemical stability

Stable

### 10.3. Possibility of hazardous reactions

Will Not Occur

### 10.4. Conditions to avoid

Keep away from heat, sparks and flame.

### 10.5. Incompatible materials

Strong oxidizers.

### 10.6. Hazardous decomposition products

Carbon monoxide and carbon dioxide.

## 11. Toxicological Information

### Information on routes of exposure

**Principle Route of Exposure** Eye and skin contact.

### Symptoms related to exposure

#### Most Important Symptoms/Effects

No significant hazards expected.

### Toxicology data for the components

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Contains no hazardous	NA	No data available	No data available	No data available

substances in concentrations above cut-off values according to the competent authority				
--	--	--	--	--

**Immediate, delayed and chronic health effects from exposure**

<b>Inhalation</b>	May cause mild respiratory irritation.
<b>Eye Contact</b>	May cause mechanical irritation to eye.
<b>Skin Contact</b>	Not irritating to skin in rabbits.
<b>Ingestion</b>	May cause abdominal pain, vomiting, nausea, and diarrhea.

**Chronic Effects/Carcinogenicity** No data available to indicate product or components present at greater than 0.1% are chronic health hazards.

**Exposure Levels**

No data available

**Interactive effects**

None known.

**Data limitations**

No data available

## 12. Ecological Information

**Ecotoxicity****Substance Ecotoxicity Data**

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available	No information available	No information available	No information available

**12.2. Persistence and degradability**

Substances	CAS Number	Persistence and Degradability
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

**12.3. Bioaccumulative potential**

Substances	CAS Number	Bioaccumulation
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

**12.4. Mobility in soil**

Substances	CAS Number	Mobility
Contains no hazardous substances in concentrations above cut-off values according to the competent authority	NA	No information available

**12.6. Other adverse effects****Endocrine Disruptor Information**

This product does not contain any known or suspected endocrine disruptors

<b>13. Disposal Considerations</b>
------------------------------------

**Safe handling and disposal methods**

Follow all applicable community, national or regional regulations regarding waste management methods. Substance should NOT be deposited into a sewage facility.

**Disposal of any contaminated packaging**

Follow all applicable national or local regulations. Contaminated packaging may be disposed of by: rendering packaging incapable of containing any substance, or treating packaging to remove residual contents, or treating packaging to make sure the residual contents are no longer hazardous, or by disposing of packaging into commercial waste collection.

**Environmental regulations**

Not applicable

<b>14. Transport Information</b>
----------------------------------

**Transportation Information****Australia ADG**

UN Number	Not restricted
UN proper shipping name:	Not restricted
Transport Hazard Class(es):	Not applicable
Packing Group:	Not applicable
Environmental Hazards:	Not applicable

**IMDG/IMO**

UN Number	Not restricted
UN proper shipping name:	Not restricted
Transport Hazard Class(es):	Not applicable
Packing Group:	Not applicable
Environmental Hazards:	Not applicable

**IATA/ICAO**

UN Number	Not restricted
UN proper shipping name:	Not restricted
Transport Hazard Class(es):	Not applicable
Packing Group:	Not applicable
Environmental Hazards:	Not applicable

**Special precautions during transport**

None

**HazChem Code**

None Allocated

<b>15. Regulatory Information</b>
-----------------------------------

**Safety, health and environmental regulations specific for the product**

**International Inventories****Australian AICS Inventory**

All components are listed on the AICS or are subject to a relevant exemption, permit, or assessment certificate.

**New Zealand Inventory of Chemicals**

All components are listed on the NZIoC or are subject to a relevant exemption, permit, or assessment certificate.

**US TSCA Inventory**

All components listed on inventory or are exempt.

**Canadian Domestic Substances List (DSL)**

All components listed on inventory or are exempt.

**Poisons Schedule number**

None Allocated

**International Agreements****Montreal Protocol - Ozone Depleting Substances:**

Does not apply.

**Stockholm Convention - Persistent Organic Pollutants:**

Does not apply

**Rotterdam Convention - Prior Informed Consent:**

Does not apply.

**Basel Convention - Hazardous Waste:**

Does not apply.

## 16. Other information

**Date of preparation or review**

**Revision Date:** 28-Jan-2020

**Revision Note**

SDS sections updated:

2

**Full text of H-Statements referred to under sections 2 and 3**

None

**Additional information**

For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Safety Data Sheet for this or other Halliburton products, contact Chemical Stewardship at 1-580-251-4335.

**Key abbreviations or acronyms used**

bw – body weight

CAS – Chemical Abstracts Service

EC50 – Effective Concentration 50%

LC50 – Lethal Concentration 50%

LD50 – Lethal Dose 50%

LL50 – Lethal Loading 50%

mg/kg – milligram/kilogram

mg/L – milligram/liter

NOEC – No Observed Effect Concentration

OEL – Occupational Exposure Limit

PBT – Persistent Bioaccumulative and Toxic

ppm – parts per million

STEL – Short Term Exposure Limit

TWA – Time-Weighted Average

vPvB – very Persistent and very Bioaccumulative

h - hour

mg/m<sup>3</sup> - milligram/cubic meter

mm - millimeter

mmHg - millimeter mercury

w/w - weight/weight

d - day

**Key literature references and sources for data**

www.ChemADVISOR.com/  
NZ CCID

**Disclaimer Statement**

This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.

**End of Safety Data Sheet**



## SAFETY DATA SHEET

### CEMENT - CLASS G + 35% SSA-1

Revision Date: 27-Jun-2016

Revision Number: 23

#### 1. Product Identifier & Identity for the Chemical

**Statement of Hazardous Nature** Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

##### 1.1. Product Identifier

**Product Name** CEMENT - CLASS G + 35% SSA-1

##### Other means of Identification

**Synonyms** None  
**Hazardous Material Number:** HM004641

##### Recommended use of the chemical and restrictions on use

**Recommended Use** Cement  
**Uses advised against** No information available

##### Supplier's name, address and phone number

**Manufacturer/Supplier** Halliburton Australia Pty. Ltd.  
15 Marriott Road  
Jandakot  
WA 6164  
Australia  
  
ACN Number: 009 000 775  
Telephone Number: + 61 1 800 686 951  
Fax Number: 61 (08) 9455 5300  
**E-mail Address** fdunexchem@halliburton.com

##### Emergency phone number

+ 61 1 800 686 951

##### **Australian Poisons Information Centre**

24 Hour Service: - 13 11 26  
Police or Fire Brigade: - 000 (exchange): - 1100

#### 2. Hazard Identification

**Statement of Hazardous Nature** Hazardous according to the criteria of the 3rd Revised Edition of the Globally Harmonised System of Classification and Labelling of Chemicals (GHS), Non-Dangerous Goods according to the criteria of ADG.

##### Classification of the hazardous chemical

Skin Corrosion/Irritation	Category 2 - H315
Serious Eye Damage/Irritation	Category 1 - H318
Skin Sensitization	Category 1 - H317
Carcinogenicity	Category 2 - H351
Specific Target Organ Toxicity - (Single Exposure)	Category 3 - H335
Specific Target Organ Toxicity - (Repeated Exposure)	Category 1 - H372

##### Label elements, including precautionary statements

**Hazard pictograms****Signal Word**

Danger

**Hazard Statements:**

H315 - Causes skin irritation  
 H317 - May cause an allergic skin reaction  
 H318 - Causes serious eye damage  
 H335 - May cause respiratory irritation  
 H351 - Suspected of causing cancer  
 H372 - Causes damage to organs through prolonged or repeated exposure

**Precautionary Statements****Prevention**

P201 - Obtain special instructions before use  
 P202 - Do not handle until all safety precautions have been read and understood  
 P260 - Do not breathe dust/fume/gas/mist/vapors/spray  
 P264 - Wash face, hands and any exposed skin thoroughly after handling  
 P270 - Do not eat, drink or smoke when using this product  
 P271 - Use only outdoors or in a well-ventilated area  
 P272 - Contaminated work clothing should not be allowed out of the workplace  
 P280 - Wear protective gloves/protective clothing  
 P281 - Use personal protective equipment as required

**Response**

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water  
 P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention  
 P362 - Take off contaminated clothing and wash before reuse  
 P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing  
 P312 - Call a POISON CENTER/doctor/physician if you feel unwell  
 P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
 P310 - Immediately call a POISON CENTER or doctor/physician  
 P308 + P313 - IF exposed or concerned: Get medical advice/attention  
 P314 - Get medical attention/advice if you feel unwell

**Storage**

P403 + P233 - Store in a well-ventilated place. Keep container tightly closed  
 P405 - Store locked up

**Disposal**

P501 - Dispose of contents/container in accordance with local/regional/national/international regulations

**Contains****Substances**

Portland cement  
 Crystalline silica, quartz

**CAS Number**

65997-15-1  
 14808-60-7

**Other hazards which do not result in classification**

This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).  
 This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

*For the full text of the H-phrases mentioned in this Section, see Section 16*

### 3. Composition/information on Ingredients

Substances	CAS Number	PERCENT (w/w)	GHS Classification - Australia
Portland cement	65997-15-1	60 - 100%	Skin Irrit. 2 (H315) Eye Corr. 1 (H318) Skin Sens. 1 (H317) STOT SE 3 (H335)
Crystalline silica, quartz	14808-60-7	30 - 60%	Carc. 2 (H351) STOT RE 1 (H372)

#### 4. First aid measures

##### Description of necessary first aid measures

<b>Inhalation</b>	If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.
<b>Eyes</b>	Immediately flush eyes with large amounts of water for at least 30 minutes. Seek prompt medical attention.
<b>Skin</b>	In case of contact, immediately flush skin with plenty of soap and water for at least 15 minutes. Get medical attention.
<b>Ingestion</b>	Under normal conditions, first aid procedures are not required.

##### Symptoms caused by exposure

Causes severe eye irritation which may damage tissue. Causes skin irritation. May cause allergic skin reaction. Breathing crystalline silica can cause lung disease, including silicosis and lung cancer. Crystalline silica has also been associated with scleroderma and kidney disease.

##### Medical Attention and Special Treatment

**Notes to Physician** Treat symptomatically

#### 5. Fire Fighting Measures

##### Suitable extinguishing equipment

##### **Suitable Extinguishing Media**

None - does not burn.

##### **Extinguishing media which must not be used for safety reasons**

None known.

##### Specific hazards arising from the chemical

##### **Special exposure hazards in a fire**

Not applicable

##### Special protective equipment and precautions for fire fighters

##### **Special protective equipment for firefighters**

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

#### 6. Accidental release measures

##### 6.1. Personal precautions, protective equipment and emergency procedures

Use appropriate protective equipment. Avoid creating and breathing dust.

##### 6.2. Environmental precautions

Prevent from entering sewers, waterways, or low areas.

##### 6.3. Methods and material for containment and cleaning up

Collect using dustless method and hold for appropriate disposal. Consider possible toxic or fire hazards associated with contaminating substances and use appropriate methods for collection, storage and disposal.

#### 7. Handling and storage

**7.1. Precautions for safe handling****Handling Precautions**

Avoid contact with eyes, skin, or clothing. This product contains quartz, cristobalite, and/or tridymite which may become airborne without a visible cloud. Avoid breathing dust. Avoid creating dusty conditions. Use only with adequate ventilation to keep exposure below recommended exposure limits. Wear a NIOSH certified, European Standard En 149, or equivalent respirator when using this product. Material is slippery when wet.

**Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice.

**7.2. Conditions for safe storage, including any incompatibilities****Storage Information**

Store in a cool, dry location. Use good housekeeping in storage and work areas to prevent accumulation of dust. Close container when not in use. Product has a shelf life of 24 months.

**Other Guidelines**

No information available

## 8. Exposure Controls/Personal Protection

**Control parameters - exposure standards, biological monitoring****Exposure Limits**

Substances	CAS Number	Australia NOHSC	ACGIH TLV-TWA
Portland cement	65997-15-1	TWA: 10 mg/m <sup>3</sup>	TWA: 1 mg/m <sup>3</sup>
Crystalline silica, quartz	14808-60-7	TWA: 0.1 mg/m <sup>3</sup>	TWA: 0.025 mg/m <sup>3</sup>

**Appropriate engineering controls****Engineering Controls**

Use approved industrial ventilation and local exhaust as required to maintain exposures below applicable exposure limits.

**Personal protective equipment (PPE)****Personal Protective Equipment**

If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.

**Respiratory Protection**

Wear a NIOSH certified, European Standard EN 149 (FFP2/FFP3), AS/NZS 1715, or equivalent respirator when using this product.

**Hand Protection**

Normal work gloves.

**Skin Protection**

Wear clothing appropriate for the work environment. Dusty clothing should be laundered before reuse. Use precautionary measures to avoid creating dust when removing or laundering clothing.

**Eye Protection**

Wear safety glasses or goggles to protect against exposure: Dust proof goggles.

**Other Precautions**

Eyewash fountains and safety showers must be easily accessible.

**Environmental Exposure Controls**

No information available

## 9. Physical and Chemical Properties

**9.1. Information on basic physical and chemical properties**

**Physical State:** Solid

**Color:** Gray

**Odor:** Odorless

**Odor Threshold:** No information available

PropertyValues

Remarks/ - Method

**pH:**

12.4

**Freezing Point / Range**

No data available

**Melting Point / Range**

No data available

**Boiling Point / Range**

No data available

**Flash Point**

No data available

**Evaporation rate**

No data available

**Vapor Pressure**

No data available

**Vapor Density**

No data available

**Specific Gravity**

No data available

<b>Water Solubility</b>	Insoluble in water
<b>Solubility in other solvents</b>	No data available
<b>Partition coefficient: n-octanol/water</b>	No data available
<b>Autoignition Temperature</b>	No data available
<b>Decomposition Temperature</b>	No data available
<b>Viscosity</b>	No data available
<b>Explosive Properties</b>	No information available
<b>Oxidizing Properties</b>	No information available

**9.2. Other information**

<b>VOC Content (%)</b>	No data available
------------------------	-------------------

## 10. Stability and Reactivity

**10.1. Reactivity**

Not expected to be reactive.

**10.2. Chemical stability**

Stable

**10.3. Possibility of hazardous reactions**

Will Not Occur

**10.4. Conditions to avoid**

Keep away from any contact with water.

**10.5. Incompatible materials**

Hydrofluoric acid.

**10.6. Hazardous decomposition products**

Amorphous silica may transform at elevated temperatures to tridymite (870 C) or cristobalite (1470 C).

## 11. Toxicological Information

**Information on routes of exposure**

**Principle Route of Exposure** Eye or skin contact, inhalation.

**Symptoms related to exposure****Most Important Symptoms/Effects**

Causes severe eye irritation which may damage tissue. Causes skin irritation. May cause allergic skin reaction. Breathing crystalline silica can cause lung disease, including silicosis and lung cancer. Crystalline silica has also been associated with scleroderma and kidney disease.

**Numerical measures of toxicity****Toxicology data for the components**

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Portland cement	65997-15-1	> 2000 mg/kg (Rat)	> 2000 mg/kg	> 1 mg/L (Rat) 4h
Crystalline silica, quartz	14808-60-7	> 15000 mg/kg (human)	No information available	No data available

**Immediate, delayed and chronic health effects from exposure****Inhalation**

Inhaled crystalline silica in the form of quartz or cristobalite from occupational sources is carcinogenic to humans (IARC, Group 1). There is sufficient evidence in experimental animals for the carcinogenicity of tridymite (IARC, Group 2A).

Breathing silica dust may cause irritation of the nose, throat, and respiratory passages. Breathing silica dust may not cause noticeable injury or illness even though permanent lung damage may be occurring. Inhalation of dust may also have serious chronic health effects (See "Chronic Effects/Carcinogenicity" subsection below).

**Eye Contact**

Causes severe eye irritation. Will damage tissue.

**Skin Contact**

Causes skin irritation. Can dry skin. May cause alkali burns with confined contact. May cause an allergic skin reaction.

**Ingestion**

None known.

**Chronic Effects/Carcinogenicity** Silicosis: Excessive inhalation of respirable crystalline silica dust may cause a progressive, disabling, and sometimes-fatal lung disease called silicosis. Symptoms include cough, shortness of breath, wheezing, non-specific chest illness, and reduced pulmonary function. This disease is exacerbated by smoking. Individuals with silicosis are predisposed to develop tuberculosis.

Cancer Status: The International Agency for Research on Cancer (IARC) has determined that crystalline silica inhaled in the form of quartz or cristobalite from occupational sources can cause lung cancer in humans (Group 1 - carcinogenic to humans) and has determined that there is sufficient evidence in experimental animals for the carcinogenicity of tridymite (Group 2A - possible carcinogen to humans). Refer to IARC Monograph 68, Silica, Some Silicates and Organic Fibres (June 1997) in conjunction with the use of these minerals. The National Toxicology Program classifies respirable crystalline silica as "Known to be a human carcinogen". Refer to the 9th Report on Carcinogens (2000). The American Conference of Governmental Industrial Hygienists (ACGIH) classifies crystalline silica, quartz, as a suspected human carcinogen (A2). There is some evidence that breathing respirable crystalline silica or the disease silicosis is associated with an increased incidence of significant disease endpoints such as scleroderma (an immune system disorder manifested by scarring of the lungs, skin, and other internal organs) and kidney disease.

#### Exposure Levels

No data available

#### Interactive effects

Individuals with respiratory disease, including but not limited to asthma and bronchitis, or subject to eye irritation, should not be exposed to quartz dust.

#### Data limitations

No data available

Substances	CAS Number	Skin corrosion/irritation
Portland cement	65997-15-1	Irritating to skin. (Rabbit)
Crystalline silica, quartz	14808-60-7	Non-irritating to the skin

Substances	CAS Number	Serious eye damage/irritation
Portland cement	65997-15-1	Corrosive to eyes
Crystalline silica, quartz	14808-60-7	Mechanical irritation of the eyes is possible. No information available

Substances	CAS Number	Skin Sensitization
Portland cement	65997-15-1	May cause sensitization by skin contact
Crystalline silica, quartz	14808-60-7	No information available.

Substances	CAS Number	Respiratory Sensitization
Portland cement	65997-15-1	No information available
Crystalline silica, quartz	14808-60-7	No information available

Substances	CAS Number	Mutagenic Effects
Portland cement	65997-15-1	No data of sufficient quality are available.
Crystalline silica, quartz	14808-60-7	Not regarded as mutagenic.

Substances	CAS Number	Carcinogenic Effects
Portland cement	65997-15-1	No data of sufficient quality are available.
Crystalline silica, quartz	14808-60-7	Contains crystalline silica which may cause silicosis, a delayed and progressive lung disease. The IARC and NTP have determined there is sufficient evidence in humans of the carcinogenicity of crystalline silica with repeated respiratory exposure. Based on available scientific evidence, this substance is a threshold carcinogen with a mode of action involving indirect genotoxicity secondary to

		lung injury.
<b>Substances</b>	<b>CAS Number</b>	<b>Reproductive toxicity</b>
Portland cement	65997-15-1	No data of sufficient quality are available.
Crystalline silica, quartz	14808-60-7	No information available
<b>Substances</b>	<b>CAS Number</b>	<b>STOT - single exposure</b>
Portland cement	65997-15-1	May cause respiratory irritation.
Crystalline silica, quartz	14808-60-7	No significant toxicity observed in animal studies at concentration requiring classification.
<b>Substances</b>	<b>CAS Number</b>	<b>STOT - repeated exposure</b>
Portland cement	65997-15-1	No data of sufficient quality are available.
Crystalline silica, quartz	14808-60-7	Causes damage to organs through prolonged or repeated exposure if inhaled: (Lungs)
<b>Substances</b>	<b>CAS Number</b>	<b>Aspiration hazard</b>
Portland cement	65997-15-1	Not applicable
Crystalline silica, quartz	14808-60-7	Not applicable

## 12. Ecological Information

### Ecotoxicity

#### **Product Ecotoxicity Data**

No data available

#### **Substance Ecotoxicity Data**

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Portland cement	65997-15-1	No information available	No information available	No information available	No information available
Crystalline silica, quartz	14808-60-7	EC50 (72 h) =440 mg/L (Selenastrum capricornutum)	LL0 (96 h) =10000 mg/L (Danio rerio)	No information available	LL50 (24 h) >10000 mg/L (Daphnia magna)

### 12.2. Persistence and degradability

Substances	CAS Number	Persistence and Degradability
Portland cement	65997-15-1	The methods for determining biodegradability are not applicable to inorganic substances.
Crystalline silica, quartz	14808-60-7	The methods for determining biodegradability are not applicable to inorganic substances.

### 12.3. Bioaccumulative potential

Substances	CAS Number	Log Pow
Portland cement	65997-15-1	No information available
Crystalline silica, quartz	14808-60-7	No information available

### 12.4. Mobility in soil

Substances	CAS Number	Mobility
Portland cement	65997-15-1	No information available
Crystalline silica, quartz	14808-60-7	No information available

### 12.6. Other adverse effects

#### **Endocrine Disruptor Information**

This product does not contain any known or suspected endocrine disruptors

## 13. Disposal Considerations

### Safe handling and disposal methods

Bury in a licensed landfill according to federal, state, and local regulations.

**Disposal of any contaminated packaging**

Follow all applicable national or local regulations.

**Environmental regulations**

Not applicable

**14. Transport Information****Transportation Information**

<b>UN Number</b>	Not restricted
<b>UN proper shipping name:</b>	Not restricted
<b>Transport Hazard Class(es):</b>	Not applicable
<b>Packing Group:</b>	Not applicable
<b>Environmental Hazards:</b>	Not applicable

**Special precautions during transport**

None

**HazChem Code**

None Allocated

**15. Regulatory Information****Safety, health and environmental regulations specific for the product****International Inventories**

<b>Australian AICS Inventory</b>	All components are listed on the AICS or are subject to a relevant exemption, permit, or assessment certificate.
----------------------------------	--

<b>New Zealand Inventory of Chemicals</b>	All components are listed on the NZIoC or are subject to a relevant exemption, permit, or assessment certificate.
---	---

<b>EINECS (European Inventory of Existing Chemical Substances)</b>	This product, and all its components, complies with EINECS
--	--

<b>US TSCA Inventory</b>	All components listed on inventory or are exempt.
--------------------------	---

<b>Canadian Domestic Substances List (DSL)</b>	All components listed on inventory or are exempt.
--	---

**Poisons Schedule number**

None Allocated

**International Agreements**

<b>Montreal Protocol - Ozone Depleting Substances:</b>	Does not apply
<b>Stolkhom Convention - Persistent Organic Pollutants:</b>	Does not apply
<b>Rotterdam Convention - Prior Informed Consent:</b>	Does not apply
<b>Basel Convention - Hazardous Waste:</b>	Does not apply

**16. Other information****Date of preparation or review**

<b>Revision Date:</b>	27-Jun-2016
-----------------------	-------------

**Revision Note**

SDS sections updated: 2

**Full text of H-Statements referred to under sections 2 and 3**

H315 - Causes skin irritation  
H317 - May cause an allergic skin reaction  
H318 - Causes serious eye damage  
H335 - May cause respiratory irritation  
H351 - Suspected of causing cancer if inhaled



---

H372 - Causes damage to organs through prolonged or repeated exposure if inhaled

**Additional information**

For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Safety Data Sheet for this or other Halliburton products, contact Chemical Stewardship at 1-580-251-4335.

**Key abbreviations or acronyms used**

bw – body weight  
CAS – Chemical Abstracts Service  
EC50 – Effective Concentration 50%  
LC50 – Lethal Concentration 50%  
LD50 – Lethal Dose 50%  
LL50 – Lethal Loading 50%  
mg/kg – milligram/kilogram  
mg/L – milligram/liter  
NOEC – No Observed Effect Concentration  
OEL – Occupational Exposure Limit  
PBT – Persistent Bioaccumulative and Toxic  
ppm – parts per million  
STEL – Short Term Exposure Limit  
TWA – Time-Weighted Average  
vPvB – very Persistent and very Bioaccumulative  
h - hour  
mg/m<sup>3</sup> - milligram/cubic meter  
mm - millimeter  
mmHg - millimeter mercury  
w/w - weight/weight  
d - day

**Key literature references and sources for data**

[www.ChemADVISOR.com/](http://www.ChemADVISOR.com/)

**Disclaimer Statement**

This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.

**End of Safety Data Sheet**



## Safety Data Sheet LT Liquid Extender B38

### 1. Identification of the substance/mixture and of the company/undertaking

#### 1.1 Product identifier

**Product name** LT Liquid Extender B38  
**Product code** B038

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** Used as a cementing additive in oilfield applications

**Uses advised against** Consumer use

#### 1.3 Details of the supplier of the safety data sheet

##### **Supplier**

Schlumberger Oilfield Australia Pty Ltd  
ABN: 74 002 459 225  
ACN: 002 459 225  
256 St. Georges Terrace, Perth WA 6000  
+47 5157 7424

SDS@slb.com

#### 1.4 Emergency Telephone Number

**Emergency telephone** - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 595 3518

### 2. Hazards Identification

#### 2.1 Classification of the substance or mixture

##### **GHS Classification**

**Health hazards** Not classified

**Environmental hazards** Not classified

**Physical Hazards** Not classified

#### 2.2 Label elements

##### **Signal word**

None

**Hazard Statements**

This product is not classified as hazardous therefore no (H) hazard statements assigned.

**Precautionary statements**

This product is not classified as hazardous therefore has no (P) precautionary statements assigned.

-

**Contains**

Non-crystalline silica

Ethylene Glycol

**2.3 Other hazards**

Not classified as PBT/vPvB by current EU criteria

**Australian statement of hazardous/dangerous nature**

Classified as Non-Hazardous according to the criteria of NOHSC.  
NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

**3. Composition/information on Ingredients****3.1 Substances**

Not applicable

**3.2 Mixtures**

Chemical Name	EC No	CAS No	Weight-%
Silicon Dioxide	Listed	7631-86-9	10-30
Ethylene Glycol	203-473-3	107-21-1	1-5

**Comments**

The product contains other ingredients which do not contribute to the overall classification.

**4. First Aid Measures****4.1 First aid measures****Inhalation**

If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

**Ingestion**

Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.

**Skin contact**

Wash skin thoroughly with soap and water. Get medical attention if irritation persists.

**Eye Contact**

Promptly wash eyes with lots of water while lifting eye lids. Remove contact lenses, if worn. Get medical attention if any discomfort continues.

**4.2. Most important symptoms and effects, both acute and delayed****General advice**

The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible.

**Symptoms****Inhalation**

Please see Section 11. Toxicological Information for further information.

---

<b>Ingestion</b>	Please see Section 11. Toxicological Information for further information.
<b>Skin contact</b>	Please see Section 11. Toxicological Information for further information.
<b>Eye contact</b>	Please see Section 11. Toxicological Information for further information.

#### **4.3 Indication of any immediate medical attention and special treatment needed**

<b>Notes to physician</b>	Treat symptomatically.
---------------------------	------------------------

### **5. Fire-Fighting Measures**

#### **5.1 Extinguishing media**

##### **Suitable extinguishing media**

Water Fog, Alcohol Foam, CO<sub>2</sub>, Dry Chemical.

##### **Extinguishing media which must not be used for safety reasons**

Do not use water jet.

#### **5.2. Special hazards arising from the substance or mixture**

##### **Unusual fire and explosion hazards**

None known.

##### **Hazardous combustion products**

Thermal decomposition can lead to release of irritating and toxic gases and vapors Carbon oxides (CO<sub>x</sub>).

#### **5.3 Advice for firefighters**

##### **Special protective equipment for fire-fighters**

As in any fire, wear self-contained breathing apparatus and full protective gear.

##### **Special Fire-Fighting Procedures**

Containers close to fire should be removed immediately or cooled with water.

### **6. Accidental Release Measures**

#### **6.1. Personal precautions, protective equipment and emergency procedures**

Use personal protective equipment. See also section 8.

#### **6.2 Environmental precautions**

The product should not be allowed to enter drains, water courses or the soil.

##### **Environmental exposure controls**

Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

#### **6.3 Methods and material for containment and cleaning up**

##### **Methods for containment**

Prevent further leakage or spillage if safe to do so. Dike far ahead of liquid spill for later disposal.

##### **Methods for cleaning up**

Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. After cleaning, flush away traces with water.

#### 6.4 Reference to other sections

See section 13 for more information.

## 7. Handling and Storage

### 7.1 Precautions for safe handling

#### Handling

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Do not breathe vapors or spray mist. Avoid spills and splashing during use.

#### Hygiene Measures

Use good work and personal hygiene practices to avoid exposure. When using do not smoke, eat or drink. Wash hands and face before breaks and immediately after handling the product Remove contaminated clothing

### 7.2 Conditions for safe storage, including any incompatibilities

<b>Technical measures/precautions</b>	Ensure adequate ventilation. Keep airborne concentrations below exposure limits.
<b>Storage precautions</b>	Keep containers tightly closed in a dry, cool and well-ventilated place Store at ambient conditions Avoid excessive heat for prolonged periods of time.
<b>Storage class</b>	Chemical storage.
<b>Packaging materials</b>	Use specially constructed containers only.

## 8. Exposure Controls/Personal Protection

### 8.1 Control parameters

**Exposure limits** Because this product is a liquid, the dust-related Workplace Exposure Limits for the components do not apply.

#### Component Information

Chemical Name	Arabic	Australia	Egypt
Non-crystalline silica	Not determined	2mg/m <sup>3</sup> TWArespirable dust	Not determined
Ethylene Glycol	Not determined	40ppmSTELvapour 104mg/m <sup>3</sup> STELvapour 10mg/m <sup>3</sup> TWAparticulate 20ppmTWA vapour 52mg/m <sup>3</sup> TWA vapour	39.4 ppm Ceiling 100 mg/m <sup>3</sup> Ceiling
Chemical Name	India	Indonesian	Japan
Non-crystalline silica	10 mg/m <sup>3</sup> TWA	Not determined	Not determined
Ethylene Glycol	Not determined	100 mg/m <sup>3</sup> STEL	Not determined
Chemical Name	Kazakhstan	Kuwait	New Zealand
Non-crystalline silica	1 mg/m <sup>3</sup> MAC 2 mg/m <sup>3</sup> MAC	6.0 mg/m <sup>3</sup> TWA	Not determined
Ethylene Glycol	5 mg/m <sup>3</sup> MAC	125 mg/m <sup>3</sup> TWA 50.0 ppm TWA 100 mg/m <sup>3</sup> STEL	50 ppm Ceiling mist and vapour 127 mg/m <sup>3</sup> Ceiling mist and vapour
Chemical Name	Malaysia	Philippines	Russia
Non-crystalline silica	Not determined	Not determined	3 mg/m <sup>3</sup> STEL 6 mg/m <sup>3</sup> STEL 1 mg/m <sup>3</sup> TWA 2 mg/m <sup>3</sup> TWA Fibrogenic substance also vitreous,

			in the form of disintegration aerosol 1177 Fibrogenic substance in the form of condensation aerosol, containing $\geq 10\%$ Silicon dioxide 1175, 1176
Ethylene Glycol	39.4 ppm Ceiling aerosol 100 mg/m <sup>3</sup> Ceiling aerosol	Not determined	10 mg/m <sup>3</sup> STEL 5 mg/m <sup>3</sup> TWA
<b>Chemical Name</b>	<b>Thailand</b>	<b>Vietnam</b>	<b>Turkey</b>
Non-crystalline silica	Not determined	Not determined	Not determined
Ethylene Glycol	Not determined	10 mg/m <sup>3</sup> TWA 60 mg/m <sup>3</sup> TWA 20 mg/m <sup>3</sup> STEL 125 mg/m <sup>3</sup> STEL	40 ppm STEL 104 mg/m <sup>3</sup> STEL Skin 20 ppm TWA 52 mg/m <sup>3</sup> TWA

## 8.2 Exposure controls

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

### Engineering Controls

Ensure adequate ventilation Mechanical ventilation or local exhaust ventilation is required.

### Personal protective equipment

#### Eye protection

Use eye protection according to EN 166, designed to protect against liquid splashes Safety glasses with side-shields Tightly fitting safety goggles

#### Hand protection

Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Impervious gloves made of: Nitrile Rubber Butyl Rubber gloves  
Break through time >480 minutes  
Glove thickness 0.7 mm

#### Respiratory protection

Be aware that liquid may penetrate the gloves. Frequent change is advisable.

In case of insufficient ventilation wear suitable respiratory equipment Respirator with combination filter for vapour/particulate (EN 141) Type A/P2 At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used.

#### Skin and body protection

Wear suitable protective clothing Eye wash and emergency shower must be available at the work place.

#### Hygiene Measures

Wash hands before breaks and immediately after handling the product Remove and wash contaminated clothing before re-use



### 8.2.3 Environmental exposure controls

#### Environmental exposure

Use appropriate containment to avoid environmental contamination See section 6 for more information

## 9. Physical and Chemical Properties

### 9.1 Information on basic physical and chemical properties

**Physical state** Liquid  
**Appearance** Transparent

Odor	Characteristic
Color	Water-white - Milky white
Odor threshold	Not applicable

<u>Property</u>	<u>Values</u>	<u>Remarks</u>
pH	9.0 - 10.5	@ 25 °C
pH @ dilution	No information available	
Melting / freezing point	< -7 °C / 20 °F	
Boiling point/range	100 °C / 212 °F	
Flash point	No information available	
Evaporation rate (BuAc =1)	No information available	
Flammability (solid, gas)	Not applicable	
Flammability Limit in Air		
Upper flammability limit	Not applicable	
Lower flammability limit	Not applicable	
Vapor pressure	No information available	
Vapor density	No information available	
Specific gravity	No information available	
Bulk density	No information available	
Relative density	1.20 - 1.23	@ 20°C.
Water solubility	Soluble	
Solubility in other solvents	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Kinematic viscosity	No information available	
Dynamic viscosity	250 mPa s	
log Pow	No information available	
Explosive properties	No information available	
Oxidizing properties	No information available	

### 9.2 Other information

Pour point	No information available
Molecular weight	No information available
VOC content(%)	No information available
Density	No information available

### Comments

The data listed above are typical physical and chemical properties and should not be construed as product specification.

## 10. Stability and Reactivity

### 10.1 Reactivity

No specific reactivity hazards associated with this product.

### 10.2 Chemical stability

Stable under normal temperature conditions and recommended use.

### 10.3 Possibility of Hazardous Reactions

#### **Hazardous polymerization**

Hazardous polymerization does not occur.

### 10.4 Conditions to avoid

Avoid excessive heat for prolonged periods of time. Store at ambient conditions.

### 10.5 Incompatible materials

No materials to be especially mentioned.

#### 10.6 Hazardous decomposition products

See Section 5.2.

## 11. Toxicological Information

### 11.1 Information on toxicological effects

#### Acute toxicity

<b>Inhalation</b>	Inhalation of vapors in high concentration may cause irritation of respiratory system.
<b>Eye contact</b>	May cause slight irritation.
<b>Skin contact</b>	Prolonged contact may cause redness and irritation. Components of the product may be absorbed into the body through the skin.
<b>Ingestion</b>	Ingestion may cause stomach discomfort.
<b>Unknown acute toxicity</b>	Not applicable.

#### Toxicology data for the components

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Non-crystalline silica	= 7900 mg/kg ( Rat )	> 2000 mg/kg ( Rabbit )	> 2.2 mg/L ( Rat ) 1 h
Ethylene Glycol	= 7712 mg/kg (Rat) ECHA Data	> 3500 mg/kg (Mouse) ECHA Data	> 2.5 mg/l (Rat) 6 hour ECHA Data

<b>Sensitization</b>	This product does not contain any components suspected to be sensitizing.
<b>Mutagenic effects</b>	This product does not contain any known or suspected mutagens.
<b>Carcinogenicity</b>	This product does not contain any known or suspected carcinogens.
<b>Reproductive toxicity</b>	This product does not contain any known or suspected reproductive hazards.
<b>Routes of Exposure</b>	Skin contact. Inhalation. Ingestion. Eye contact.
<b>Routes of entry</b>	Inhalation. Skin absorption.
<b>Specific target organ toxicity - Single exposure</b>	Not classified
<b>Specific target organ toxicity - Repeated exposure</b>	Not classified.
<b>Aspiration hazard</b>	Not applicable.
<b>Other information</b>	Key literature references and sources for data. See Section 16 for more information.

## 12. Ecological Information



**12.1 Toxicity**

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment. Large amounts will affect pH and harm aquatic organisms

**Toxicity to algae**

This product is not considered toxic to algae. See component information below.

**Toxicity to fish**

This product is not considered toxic to fish. See component information below.

**Toxicity to daphnia and other aquatic invertebrates**

This product is not considered toxic to invertebrates. See component information below.

**Toxicology data for the components**

Chemical Name	Toxicity to fish	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates
Non-crystalline silica	= 5000 mg/L LC50 Brachydanio rerio 96 h	= 440 mg/L EC50 Pseudokirchneriella subcapitata 72 h	= 7600 mg/L EC50 Ceriodaphnia dubia 48 h
Ethylene Glycol	40000 - 60000 mg/L LC50 (Pimephales promelas) = 96 h 40761 mg/L LC50 (Oncorhynchus mykiss) = 96 h 27540 mg/L LC50 (Lepomis macrochirus) = 96 h 14 - 18 mL/L LC50 (Oncorhynchus mykiss) = 96 h 16000 mg/L LC50 (Poecilia reticulata) = 96 h 41000 mg/L LC50 (Oncorhynchus mykiss) = 96 h	6500 - 13000 mg/L EC50 (Pseudokirchneriella subcapitata) = 96 h	46300 mg/L EC50 (Daphnia magna) = 48 h

**12.2 Persistence and degradability**

No product level data available. See component information below.

Chemical Name	Persistence and degradability
Non-crystalline silica	No information available
Ethylene Glycol	Readily biodegradable

**12.3 Bioaccumulative potential**

No product level data available. See component information below.

Chemical Name	Bioaccumulation
Non-crystalline silica	Not likely to bioaccumulate
Ethylene Glycol	log Pow -1.36(Calculated) Not likely to bioaccumulate

**12.4 Mobility****Mobility**

The product is water soluble, and may spread in water systems.

Chemical Name	Mobility
Ethylene Glycol	Completely soluble

#### Mobility in soil

See component information below.

Chemical Name	Mobility in soil
Ethylene Glycol	Not expected to adsorb on soil

#### 12.5 Results of PBT and vPvB assessment

Not classified as PBT/vPvB by current EU criteria.

#### 12.6 Other adverse effects.

None known.

#### 12.7 Other information

Key literature references and sources for data. See Section 16 for more information.

### 13. Disposal considerations

#### 13.1 Waste treatment methods

**Waste from residues/unused products** Dispose of in accordance with local regulations.

**Contaminated packaging** Empty containers should be taken for local recycling, recovery or waste disposal.

### 14. Transport information

#### 14.1. UN number

Not regulated

#### 14.2. UN proper shipping name

The product is not covered by international regulation on the transport of dangerous goods

#### 14.3 Hazard class(es)

ADR/RID/ADN/ADG Hazard class Not regulated  
IMDG/ANTAQ Hazard class Not regulated  
ICAO/ANAC Hazard class/division Not regulated

#### 14.4 Packing group

ADR/RID/ADN/ADG Packing group Not regulated  
IMDG/ANTAQ Packing group Not regulated  
ICAO/ANAC Packing group Not regulated

#### 14.5 Environmental hazard

No

**14.6 Special precautions**

Not applicable

**14.7 Transport in bulk according to Annex I/II of MARPOL 73/78 and the IBC Code**

Please contact SDS@slb.com for info regarding transport in Bulk.

**15. Regulatory Information****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

This safety data sheet complies with the requirements of:  
The Globally Harmonized System of Classification and Labeling of Chemicals (GHS)

**Australian Standard for the Uniform Scheduling of Drugs and Poisons**

No poisons schedule number allocated

Ethylene Glycol

Schedule 6

Schedule 5

National Code of Practice for the Preparation of Material Safety Data Sheets 2nd Edition [NOHSC: 2011 (2003)].

National Occupational Health and Safety Commission's Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004) 3rd Edition].

National Occupational Health and Safety Commission's Exposure Standards for Atmospheric Contaminants in the occupational Environment [NOHSC:1003 (1995)].

Safe Work Australia.

Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).

Not classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG)

**International inventories**

USA (TSCA)	Complies
Canada (DSL)	Does not comply
Philippines (PICCS)	Complies
Japan (ENCS)	Complies
China (IECSC)	Complies
Australia (AICS)	Complies
Korean (KECL)	Complies
New Zealand (NZIoC)	Complies

**16. Other Information**

Prepared by	Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Muriel Martin Beurel
Supersedes Date:	09-Jun-2015
Revision date	28-Jun-2019
Version	3

**This SDS has been revised in the following section(s)** All sections No changes with regard to classification have been made.

**Key literature references and sources for data**

www.ChemADVISOR.com

Supplier

National Chemical Inventories

National regulatory information

National occupational exposure limits

**HMIS classification**

Health	1*
Flammability	1
Physical hazard	0
PPE	X

**Disclaimer**

The information contained herein is considered in good faith as reliable of the date issued and is based upon on measurements, tests or data derived from supplier's own study or furnished by others. In providing this SDS information, Supplier makes no express or implied warranties as to the information or product; merchantability or fitness of purpose; any express or implied warranty; or non-infringement of intellectual property rights; and supplier assumes no responsibility for any direct, special or consequential damages, results obtained, or the activities of others. To the maximum extent permitted by law, supplier's warranty obligations and buyer's sole remedies are as stated in separate agreement between the parties.

This Document is Confidential and Proprietary. Unless Otherwise Marked, It is an Uncontrolled Copy.



## Granulated Blast Furnace Slag

### 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

<b>Product Name</b>	<b>GRANULATED BLAST FURNACE SLAG</b>
<b>Supplier Contact Details</b>	Cockburn Cement A.B.N. 50.008.673.470 PO Box 38, Hamilton Hill, WA 6963 Munster Works, Lot 242, Russell Road East, Munster WA 6166 Kwinana Works, Leath Road, Kwinana WA 6167
<b>Telephone</b>	08 9411 1000
<b>Fax</b>	08 9411 1150
<b>Emergency</b>	Bus Hrs 08 9411 1000 A/Hrs 08 9411 1000
<b>Email</b>	orders@cockburncement.com.au
<b>Web Site</b>	<a href="http://www.cockburn.com.au">http://www.cockburn.com.au</a> & <a href="http://www.swacement.com.au">www.swacement.com.au</a>
<b>Synonym(s)</b>	Ground granulated blastfurnace slag (GGBFS), slag, granulated blast furnace slag (GBFS)
<b>Use(s)</b>	Supplementary cementitious material in blended cements. Used in glass making, construction sand and as a soil conditioner in agriculture.

### 2. HAZARDS IDENTIFICATION

This product is classified as hazardous according to Safe Work Australia criteria.  
Not classified as a dangerous good by the criteria of the ADG code, IMDG or IATA.

#### GHS Classifications

Skin Corrosion/Irritation:	Category 2
Skin Sensitization:	Category 1B
Serious Eye Damage / Eye Irritation:	Category 1
Specific Target Organ Systemic Toxicity (Repeated Exposure):	Category 2

#### SIGNAL WORD

**DANGER**

#### Pictograms



#### Hazard statements

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H373	May cause damage to lungs and respiratory tract through prolonged or repeated exposure.

#### Prevention statements

P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection.

#### Response statements

P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P304 + P340	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.

#### Disposal statements

P501	Dispose of contents/container in accordance with relevant regulations.
------	--



## Granulated Blast Furnace Slag

<b>UN No</b>	None Allocated	<b>Hazchem Code</b>	None Allocated	<b>Pkg Group</b>	None Allocated
<b>DG Class</b>	None Allocated	<b>Subsidiary Risk(s)</b>	None Allocated	<b>EPG</b>	None Allocated

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient	Formula	Conc.	CAS No.
GRANULATED BLAST FURNACE SLAG	Not Available	> 90%	65997-69-2
GYP SUM	CaSO <sub>4</sub> 2H <sub>2</sub> O	2 - 5%	10101-41-4
CRYSTALLINE SILICA (QUARTZ)	SiO <sub>2</sub>	< 1%	14808-60-7
CHROMIUM (VI) HEXA VALENT	Cr <sup>6+</sup>	Trace	18540-29-9

### 4. FIRST AID MEASURES

<b>Eye</b>	Flush thoroughly with flowing water for at least 15 minutes. Seek medical attention if symptoms persist.
<b>Inhalation</b>	Remove from dusty area to fresh air. If symptoms persist, seek medical attention.
<b>Skin</b>	Remove heavily contaminated clothing immediately. Wash off skin thoroughly with water. A shower may be required. Seek medical attention for persistent irritation or burning of the skin
<b>Ingestion</b>	Rinse mouth and lips with water. Do not induce vomiting. Give water to drink to dilute stomach contents. If symptoms persist, seek medical attention.
<b>Advice to Doctor</b>	Treat symptomatically.
<b>First Aid Facilities</b>	Eye wash station.

#### Additional Information - Aggravated Medical Conditions

<b>Inhalation</b>	Over exposure resulting from prolonged and repeated inhalation of dust containing crystalline silica can cause bronchitis, silicosis (scarring of the lung.) It may also increase the risk of scleroderma (a disease affecting the connective tissue of the skin, joints, blood vessels and internal organs) and lung cancer. Epidemiological studies have shown that smoking increases the risk of bronchitis, silicosis (scarring of the lung) and lung cancer in persons exposed to crystalline silica.
<b>Skin</b>	Prolonged and repeated skin contact with cement in wet concrete, mortars and slurries may result in irritant dermatitis.

### 5. FIRE FIGHTING

<b>Flammability</b>	Non flammable. Does not support combustion of other materials.
<b>Fire and Explosion</b>	No fire or explosion hazard exists.
<b>Extinguishing</b>	Non flammable; use suitable extinguishing agent for surrounding fire.
<b>Hazchem Code</b>	None.



## Granulated Blast Furnace Slag

### 6. ACCIDENTAL RELEASE MEASURES

<b>Spillage</b>	If spilt (bulk), contact emergency services if appropriate. Wear dust-proof goggles, PVC/rubber gloves, a Class P2 respirator (where an inhalation risk exists), coveralls and rubber boots. Clear area of all unprotected personnel. Prevent spill entering drains or waterways. Collect and place in sealable containers for disposal or reuse. Avoid generating dust.
<b>Emergency Procedures</b>	Follow safety requirements for personal protection under Section 8 Exposure Controls/Personal Protection.

### 7. HANDLING AND STORAGE

<b>Storage</b>	Store off the floor in the original bags in a cool, dry, well ventilated area, removed from excessive moisture and heat. Ensure packages are adequately labelled, protected from physical damage and sealed when not in use.
<b>Handling</b>	Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.
<b>Property/ Environmental</b>	Refer to Section 13.

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

<b>Ventilation</b>	Do not inhale dust/powder. Use with adequate ventilation. Where a dust inhalation hazard exists, mechanical extraction ventilation is recommended. Maintain dust levels below the recommended exposure standard.
<b>Exposure Standards</b>	CHROMIUM (VI) HEXAVALENT (18540-29-9) ES-TWA: 0.05 mg/m <sup>3</sup> (Chromium VI compounds) GROUND GRANULATED BLAST FURNACE SLAG (65997-69-2) ES-TWA: 10mg/m <sup>3</sup> (Respirable Dust) GYPSUM (10101-41-4) ES-TWA: 10 mg/m <sup>3</sup> (Respirable Dust) SILICA, CRYSTALLINE – QUARTZ (14808-60-7) ES-TWA: 0.1 mg/m <sup>3</sup> (Respirable Dust)
<b>PPE</b>	Wear dust-proof goggles and rubber or PVC gloves. Where an inhalation risk exists, wear a Class P2 respirator. If there is potential for prolonged and/or excessive skin contact, wear coveralls. At high dust levels, wear a Class P3 respirator or a Powered Air Purifying Respirator (PAPR) with Class P3 filter.





## Granulated Blast Furnace Slag

### 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance</b>	Fine white powder	<b>Solubility (water)</b>	Slight, hardens on mixing with water
<b>Odour</b>	Odourless	<b>Specific Gravity</b>	2.8 to 3.2
<b>pH</b>	Approximately 12	<b>% Volatiles</b>	Not Available
<b>Vapour Pressure</b>	Not Available	<b>Flammability</b>	Non Flammable
<b>Vapour Density</b>	Not Available	<b>Flash Point</b>	Not Relevant
<b>Boiling Point</b>	Not Available	<b>Upper Explosion Limit</b>	Not Relevant
<b>Melting Point</b>	> 1200°C	<b>Lower Explosion Limit</b>	Not Relevant
<b>Evaporation Rate</b>	Not Available	<b>Autoignition Temperature</b>	Not Available
<b>Bulk Density</b>	1200 - 1600 kg/m <sup>3</sup>		
<b>Particle Size</b>	20 - 40% of particles are < 7 µm (Respirable Range)		

### 10. STABILITY AND REACTIVITY

<b>Chemical Stability</b>	Chemically Stable
<b>Conditions to Avoid</b>	Keep free of moisture
<b>Incompatible Materials</b>	Incompatible with oxidising agents (eg hypochlorites), ethanol, acids (eg hydrofluoric acid) and interhalogens (eg chlorine trifluoride). Water contact may increase product
<b>Decomposition Products</b>	Unlikely to evolve toxic gases when heated to decomposition.
<b>Hazardous Reactions</b>	None

### 11. TOXICOLOGICAL INFORMATION

<b>Acute Toxicity</b>	No known toxicity data available for this product.
<b>Eye</b>	Irritant upon contact with powder/dust. Over exposure may result in pain, redness, corneal burns and ulceration with possible permanent damage.
<b>Inhalation</b>	Slightly corrosive. Irritating to the respiratory system, causing coughing and sneezing. Over exposure may result in severe mucous membrane irritation and bronchitis. Hexavalent chromium is reported to cause respiratory sensitisation, however due to the trace amount present, a hazard is not anticipated under normal conditions of use. Crystalline silica can cause silicosis (lung disease) with chronic over exposure, however due to low levels present and product application, adverse health effects are not anticipated.
<b>Skin</b>	Irritating to the skin. Prolonged and repeated contact with powder or wetted form may result in skin rash, dermatitis and sensitisation.
<b>Ingestion</b>	Slightly corrosive. Ingestion may result in burns to the mouth and throat, with vomiting and abdominal pain. Due to product form, ingestion is not considered a likely exposure route.
<b>Mutagenicity</b>	Insufficient data available for this product to classify as a mutagen.
<b>Carcinogenicity</b>	Ground Granulated Blast Furnace Slag is not classified as a carcinogen by NOHSC. Crystalline silica and hexavalent chromium compounds are classified as carcinogenic to humans (IARC Group 1), however due to low levels present and product application, the criteria for classification is not met.





## Granulated Blast Furnace Slag

### 12. ECOLOGICAL INFORMATION

<b>Toxicity</b>	Product forms an alkaline slurry when mixed with water. This product is non toxic to aquatic life forms when present in cured solid form.
<b>Persistence &amp; Degradability</b>	Product is persistent and would have a low degradability.
<b>Mobility in soil</b>	A low mobility would be expected in a landfill situation.

### 13. DISPOSAL CONSIDERATIONS

<b>Waste Disposal</b>	Reuse or recycle where possible. Alternatively, ensure product is covered with moist soil to prevent dust generation and dispose of to an approved landfill site. Contact the manufacturer for additional information.
<b>Legislation</b>	Dispose of in accordance with relevant local legislation. Keep out of sewer and stormwater drains.

### 14. TRANSPORT INFORMATION

Not classified as a dangerous good by the criteria of the ADG Code.

Transport is by rail or road in bulk or bag form.

Drivers of trucks transporting bagged product should ensure that the bags are properly restrained.

<b>Shipping Name</b>	None Allocated	<b>Hazchem Code</b>	None Allocated	<b>Pkg Group</b>	None Allocated
<b>UN No</b>	None Allocated	<b>Subsidiary Risk(s)</b>	None Allocated	<b>EPG</b>	None Allocated
<b>DG Class</b>	None Allocated				

### 15. REGULATORY INFORMATION

<b>Poison Schedule AICS</b>	A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP). All chemicals listed on the Australian Inventory of Chemical Substances (AICS).
-----------------------------	--

### 16. OTHER INFORMATION

#### Additional Information

CEMENT CONTACT DERMATITIS: Individuals using wet cement, mortar, grout or concrete could be at risk of developing cement dermatitis. Symptoms of exposure include itchy, tender, swollen, hot, cracked or blistering skin with the potential for sensitisation. The dermatitis is due to the presence of soluble (hexavalent) chromium.

IARC – GROUP 1 – PROVEN HUMAN CARCINOGEN. This product contains an ingredient for which there is sufficient evidence to have been classified by the International Agency for Research into Cancer as a human carcinogen. The use of products known to be human carcinogens should be strictly monitored and controlled.

RESPIRATORS: In general the use of respirators should be limited and engineering controls employed to avoid exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.



## Granulated Blast Furnace Slag

**PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:** The Recommendation for protective equipment contained within this SDS report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

**HEALTH EFFECTS FROM EXPOSURE:** It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare an SDS report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

**ABBREVIATIONS:**

mg/m<sup>3</sup> - Milligrams per cubic metre

ppm - Parts Per Million

ES-TWA - Exposure Standard - Time Weighted Average

CNS - Central Nervous System

NOS - Not Otherwise Specified

pH - relates to hydrogen ion concentration - this value will relate to a scale of 0 - 14, where 0 is highly acidic and 14 is highly alkaline.

CAS# - Chemical Abstract Service Number - used to uniquely identify chemical compounds.

IARC - International Agency for Research on Cancer.

**Report Status**

This document has been compiled by Cockburn Cement the manufacturer of the product and serves as the manufacturer's Safety Data Sheet ("SDS").

While Cockburn Cement has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, Cockburn Cement accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

**Contact Point**

For further information on this product contact:

Telephone: Office hours 08 9411 1000  
After hours 08 9411 1000  
Facsimile: 08 9411 1150  
Web site: <http://www.cockburn.com.au>

**Advice Note**

The information in this document is believed to be accurate. Please check the currency of this SDS by contacting:

08 9411 1000  
or  
<http://www.cockburncement.com.au> or [www.swancement.com.au](http://www.swancement.com.au)

The provision of this information should not be construed as a recommendation to use this product in violation of any patent rights or in breach of any statute or regulation. Users are advised to make their own determination as to the suitability of this information in relation to their particular purposes and specific circumstances. Users should read this SDS and consider the information in the context of how the product will be handled and used in the workplace and in conjunction with other substances or products.



## Safety Data Sheet LT Liquid Extender B38

### 1. Identification of the substance/mixture and of the company/undertaking

#### 1.1 Product identifier

**Product name** LT Liquid Extender B38  
**Product code** B038

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** Used as a cementing additive in oilfield applications

**Uses advised against** Consumer use

#### 1.3 Details of the supplier of the safety data sheet

##### **Supplier**

Schlumberger Oilfield Australia Pty Ltd  
ABN: 74 002 459 225  
ACN: 002 459 225  
256 St. Georges Terrace, Perth WA 6000  
+47 5157 7424

SDS@slb.com

#### 1.4 Emergency Telephone Number

**Emergency telephone** - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 595 3518

### 2. Hazards Identification

#### 2.1 Classification of the substance or mixture

##### **GHS Classification**

**Health hazards** Not classified

**Environmental hazards** Not classified

**Physical Hazards** Not classified

#### 2.2 Label elements

##### **Signal word**

None

**Hazard Statements**

This product is not classified as hazardous therefore no (H) hazard statements assigned.

**Precautionary statements**

This product is not classified as hazardous therefore has no (P) precautionary statements assigned.

**Contains**

Non-crystalline silica

Ethylene Glycol

**2.3 Other hazards**

Not classified as PBT/vPvB by current EU criteria

**Australian statement of hazardous/dangerous nature**

Classified as Non-Hazardous according to the criteria of NOHSC.  
NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

**3. Composition/information on Ingredients****3.1 Substances**

Not applicable

**3.2 Mixtures**

Chemical Name	EC No	CAS No	Weight-%
Silicon Dioxide	Listed	7631-86-9	10-30
Ethylene Glycol	203-473-3	107-21-1	1-5

**Comments**

The product contains other ingredients which do not contribute to the overall classification.

**4. First Aid Measures****4.1 First aid measures**

<b>Inhalation</b>	If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.
<b>Ingestion</b>	Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.
<b>Skin contact</b>	Wash skin thoroughly with soap and water. Get medical attention if irritation persists.
<b>Eye Contact</b>	Promptly wash eyes with lots of water while lifting eye lids. Remove contact lenses, if worn. Get medical attention if any discomfort continues.

**4.2. Most important symptoms and effects, both acute and delayed**

**General advice** The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible.

**Symptoms**

**Inhalation** Please see Section 11. Toxicological Information for further information.

---

<b>Ingestion</b>	Please see Section 11. Toxicological Information for further information.
<b>Skin contact</b>	Please see Section 11. Toxicological Information for further information.
<b>Eye contact</b>	Please see Section 11. Toxicological Information for further information.

#### **4.3 Indication of any immediate medical attention and special treatment needed**

<b>Notes to physician</b>	Treat symptomatically.
---------------------------	------------------------

### **5. Fire-Fighting Measures**

#### **5.1 Extinguishing media**

##### **Suitable extinguishing media**

Water Fog, Alcohol Foam, CO<sub>2</sub>, Dry Chemical.

##### **Extinguishing media which must not be used for safety reasons**

Do not use water jet.

#### **5.2. Special hazards arising from the substance or mixture**

##### **Unusual fire and explosion hazards**

None known.

##### **Hazardous combustion products**

Thermal decomposition can lead to release of irritating and toxic gases and vapors Carbon oxides (CO<sub>x</sub>).

#### **5.3 Advice for firefighters**

##### **Special protective equipment for fire-fighters**

As in any fire, wear self-contained breathing apparatus and full protective gear.

##### **Special Fire-Fighting Procedures**

Containers close to fire should be removed immediately or cooled with water.

### **6. Accidental Release Measures**

#### **6.1. Personal precautions, protective equipment and emergency procedures**

Use personal protective equipment. See also section 8.

#### **6.2 Environmental precautions**

The product should not be allowed to enter drains, water courses or the soil.

##### **Environmental exposure controls**

Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

#### **6.3 Methods and material for containment and cleaning up**

##### **Methods for containment**

Prevent further leakage or spillage if safe to do so. Dike far ahead of liquid spill for later disposal.

##### **Methods for cleaning up**

Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. After cleaning, flush away traces with water.

#### 6.4 Reference to other sections

See section 13 for more information.

## 7. Handling and Storage

### 7.1 Precautions for safe handling

#### Handling

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Do not breathe vapors or spray mist. Avoid spills and splashing during use.

#### Hygiene Measures

Use good work and personal hygiene practices to avoid exposure. When using do not smoke, eat or drink. Wash hands and face before breaks and immediately after handling the product Remove contaminated clothing

### 7.2 Conditions for safe storage, including any incompatibilities

<b>Technical measures/precautions</b>	Ensure adequate ventilation. Keep airborne concentrations below exposure limits.
<b>Storage precautions</b>	Keep containers tightly closed in a dry, cool and well-ventilated place Store at ambient conditions Avoid excessive heat for prolonged periods of time.
<b>Storage class</b>	Chemical storage.
<b>Packaging materials</b>	Use specially constructed containers only.

## 8. Exposure Controls/Personal Protection

### 8.1 Control parameters

**Exposure limits** Because this product is a liquid, the dust-related Workplace Exposure Limits for the components do not apply.

#### Component Information

Chemical Name	Arabic	Australia	Egypt
Non-crystalline silica	Not determined	2mg/m <sup>3</sup> TWArespirable dust	Not determined
Ethylene Glycol	Not determined	40ppmSTELvapour 104mg/m <sup>3</sup> STELvapour 10mg/m <sup>3</sup> TWAparticulate 20ppmTWA vapour 52mg/m <sup>3</sup> TWA vapour	39.4 ppm Ceiling 100 mg/m <sup>3</sup> Ceiling
Chemical Name	India	Indonesian	Japan
Non-crystalline silica	10 mg/m <sup>3</sup> TWA	Not determined	Not determined
Ethylene Glycol	Not determined	100 mg/m <sup>3</sup> STEL	Not determined
Chemical Name	Kazakhstan	Kuwait	New Zealand
Non-crystalline silica	1 mg/m <sup>3</sup> MAC 2 mg/m <sup>3</sup> MAC	6.0 mg/m <sup>3</sup> TWA	Not determined
Ethylene Glycol	5 mg/m <sup>3</sup> MAC	125 mg/m <sup>3</sup> TWA 50.0 ppm TWA 100 mg/m <sup>3</sup> STEL	50 ppm Ceiling mist and vapour 127 mg/m <sup>3</sup> Ceiling mist and vapour
Chemical Name	Malaysia	Philippines	Russia
Non-crystalline silica	Not determined	Not determined	3 mg/m <sup>3</sup> STEL 6 mg/m <sup>3</sup> STEL 1 mg/m <sup>3</sup> TWA 2 mg/m <sup>3</sup> TWA Fibrogenic substance also vitreous,

			in the form of disintegration aerosol 1177 Fibrogenic substance in the form of condensation aerosol, containing $\geq 10\%$ Silicon dioxide 1175, 1176
Ethylene Glycol	39.4 ppm Ceiling aerosol 100 mg/m <sup>3</sup> Ceiling aerosol	Not determined	10 mg/m <sup>3</sup> STEL 5 mg/m <sup>3</sup> TWA
<b>Chemical Name</b>	<b>Thailand</b>	<b>Vietnam</b>	<b>Turkey</b>
Non-crystalline silica	Not determined	Not determined	Not determined
Ethylene Glycol	Not determined	10 mg/m <sup>3</sup> TWA 60 mg/m <sup>3</sup> TWA 20 mg/m <sup>3</sup> STEL 125 mg/m <sup>3</sup> STEL	40 ppm STEL 104 mg/m <sup>3</sup> STEL Skin 20 ppm TWA 52 mg/m <sup>3</sup> TWA

## 8.2 Exposure controls

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

### Engineering Controls

Ensure adequate ventilation Mechanical ventilation or local exhaust ventilation is required.

### Personal protective equipment

#### Eye protection

Use eye protection according to EN 166, designed to protect against liquid splashes Safety glasses with side-shields Tightly fitting safety goggles

#### Hand protection

Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Impervious gloves made of: Nitrile Rubber Butyl Rubber gloves  
Break through time >480 minutes  
Glove thickness 0.7 mm

#### Respiratory protection

Be aware that liquid may penetrate the gloves. Frequent change is advisable.  
In case of insufficient ventilation wear suitable respiratory equipment Respirator with combination filter for vapour/particulate (EN 141) Type A/P2 At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used.

#### Skin and body protection

Wear suitable protective clothing Eye wash and emergency shower must be available at the work place.

#### Hygiene Measures

Wash hands before breaks and immediately after handling the product Remove and wash contaminated clothing before re-use



### 8.2.3 Environmental exposure controls

#### Environmental exposure

Use appropriate containment to avoid environmental contamination See section 6 for more information

## 9. Physical and Chemical Properties

### 9.1 Information on basic physical and chemical properties

**Physical state** Liquid  
**Appearance** Transparent

Odor	Characteristic
Color	Water-white - Milky white
Odor threshold	Not applicable

<u>Property</u>	<u>Values</u>	<u>Remarks</u>
pH	9.0 - 10.5	@ 25 °C
pH @ dilution	No information available	
Melting / freezing point	< -7 °C / 20 °F	
Boiling point/range	100 °C / 212 °F	
Flash point	No information available	
Evaporation rate (BuAc =1)	No information available	
Flammability (solid, gas)	Not applicable	
Flammability Limit in Air		
Upper flammability limit	Not applicable	
Lower flammability limit	Not applicable	
Vapor pressure	No information available	
Vapor density	No information available	
Specific gravity	No information available	
Bulk density	No information available	
Relative density	1.20 - 1.23	@ 20°C.
Water solubility	Soluble	
Solubility in other solvents	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Kinematic viscosity	No information available	
Dynamic viscosity	250 mPa s	
log Pow	No information available	

Explosive properties	No information available
Oxidizing properties	No information available

### 9.2 Other information

Pour point	No information available
Molecular weight	No information available
VOC content(%)	No information available
Density	No information available

### Comments

The data listed above are typical physical and chemical properties and should not be construed as product specification.

## 10. Stability and Reactivity

### 10.1 Reactivity

No specific reactivity hazards associated with this product.

### 10.2 Chemical stability

Stable under normal temperature conditions and recommended use.

### 10.3 Possibility of Hazardous Reactions

#### **Hazardous polymerization**

Hazardous polymerization does not occur.

### 10.4 Conditions to avoid

Avoid excessive heat for prolonged periods of time. Store at ambient conditions.

### 10.5 Incompatible materials



No materials to be especially mentioned.

#### 10.6 Hazardous decomposition products

See Section 5.2.

## 11. Toxicological Information

### 11.1 Information on toxicological effects

#### Acute toxicity

<b>Inhalation</b>	Inhalation of vapors in high concentration may cause irritation of respiratory system.
<b>Eye contact</b>	May cause slight irritation.
<b>Skin contact</b>	Prolonged contact may cause redness and irritation. Components of the product may be absorbed into the body through the skin.
<b>Ingestion</b>	Ingestion may cause stomach discomfort.
<b>Unknown acute toxicity</b>	Not applicable.

#### Toxicology data for the components

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Non-crystalline silica	= 7900 mg/kg ( Rat )	> 2000 mg/kg ( Rabbit )	> 2.2 mg/L ( Rat ) 1 h
Ethylene Glycol	= 7712 mg/kg (Rat) ECHA Data	> 3500 mg/kg (Mouse) ECHA Data	> 2.5 mg/l (Rat) 6 hour ECHA Data

<b>Sensitization</b>	This product does not contain any components suspected to be sensitizing.
<b>Mutagenic effects</b>	This product does not contain any known or suspected mutagens.
<b>Carcinogenicity</b>	This product does not contain any known or suspected carcinogens.
<b>Reproductive toxicity</b>	This product does not contain any known or suspected reproductive hazards.
<b>Routes of Exposure</b>	Skin contact. Inhalation. Ingestion. Eye contact.
<b>Routes of entry</b>	Inhalation. Skin absorption.
<b>Specific target organ toxicity - Single exposure</b>	Not classified
<b>Specific target organ toxicity - Repeated exposure</b>	Not classified.
<b>Aspiration hazard</b>	Not applicable.
<b>Other information</b>	Key literature references and sources for data. See Section 16 for more information.

## 12. Ecological Information

**12.1 Toxicity**

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment. Large amounts will affect pH and harm aquatic organisms

**Toxicity to algae**

This product is not considered toxic to algae. See component information below.

**Toxicity to fish**

This product is not considered toxic to fish. See component information below.

**Toxicity to daphnia and other aquatic invertebrates**

This product is not considered toxic to invertebrates. See component information below.

**Toxicology data for the components**

Chemical Name	Toxicity to fish	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates
Non-crystalline silica	= 5000 mg/L LC50 Brachydanio rerio 96 h	= 440 mg/L EC50 Pseudokirchneriella subcapitata 72 h	= 7600 mg/L EC50 Ceriodaphnia dubia 48 h
Ethylene Glycol	40000 - 60000 mg/L LC50 (Pimephales promelas) = 96 h 40761 mg/L LC50 (Oncorhynchus mykiss) = 96 h 27540 mg/L LC50 (Lepomis macrochirus) = 96 h 14 - 18 mL/L LC50 (Oncorhynchus mykiss) = 96 h 16000 mg/L LC50 (Poecilia reticulata) = 96 h 41000 mg/L LC50 (Oncorhynchus mykiss) = 96 h	6500 - 13000 mg/L EC50 (Pseudokirchneriella subcapitata) = 96 h	46300 mg/L EC50 (Daphnia magna) = 48 h

**12.2 Persistence and degradability**

No product level data available. See component information below.

Chemical Name	Persistence and degradability
Non-crystalline silica	No information available
Ethylene Glycol	Readily biodegradable

**12.3 Bioaccumulative potential**

No product level data available. See component information below.

Chemical Name	Bioaccumulation
Non-crystalline silica	Not likely to bioaccumulate
Ethylene Glycol	log Pow -1.36(Calculated) Not likely to bioaccumulate

**12.4 Mobility****Mobility**

The product is water soluble, and may spread in water systems.

Chemical Name	Mobility
Ethylene Glycol	Completely soluble

#### Mobility in soil

See component information below.

Chemical Name	Mobility in soil
Ethylene Glycol	Not expected to adsorb on soil

#### 12.5 Results of PBT and vPvB assessment

Not classified as PBT/vPvB by current EU criteria.

#### 12.6 Other adverse effects.

None known.

#### 12.7 Other information

Key literature references and sources for data. See Section 16 for more information.

### 13. Disposal considerations

#### 13.1 Waste treatment methods

**Waste from residues/unused products** Dispose of in accordance with local regulations.

**Contaminated packaging** Empty containers should be taken for local recycling, recovery or waste disposal.

### 14. Transport information

#### 14.1. UN number

Not regulated

#### 14.2. UN proper shipping name

The product is not covered by international regulation on the transport of dangerous goods

#### 14.3 Hazard class(es)

ADR/RID/ADN/ADG Hazard class Not regulated  
IMDG/ANTAQ Hazard class Not regulated  
ICAO/ANAC Hazard class/division Not regulated

#### 14.4 Packing group

ADR/RID/ADN/ADG Packing group Not regulated  
IMDG/ANTAQ Packing group Not regulated  
ICAO/ANAC Packing group Not regulated

#### 14.5 Environmental hazard

No

**14.6 Special precautions**

Not applicable

**14.7 Transport in bulk according to Annex I/II of MARPOL 73/78 and the IBC Code**

Please contact SDS@slb.com for info regarding transport in Bulk.

**15. Regulatory Information****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

This safety data sheet complies with the requirements of:  
The Globally Harmonized System of Classification and Labeling of Chemicals (GHS)

**Australian Standard for the Uniform Scheduling of Drugs and Poisons**

No poisons schedule number allocated

Ethylene Glycol

Schedule 6

Schedule 5

National Code of Practice for the Preparation of Material Safety Data Sheets 2nd Edition [NOHSC: 2011 (2003)].

National Occupational Health and Safety Commission's Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004) 3rd Edition].

National Occupational Health and Safety Commission's Exposure Standards for Atmospheric Contaminants in the occupational Environment [NOHSC:1003 (1995)].

Safe Work Australia.

Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).

Not classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG)

**International inventories**

USA (TSCA)	Complies
Canada (DSL)	Does not comply
Philippines (PICCS)	Complies
Japan (ENCS)	Complies
China (IECSC)	Complies
Australia (AICS)	Complies
Korean (KECL)	Complies
New Zealand (NZIoC)	Complies

**16. Other Information**

Prepared by	Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Muriel Martin Beurel
Supersedes Date:	09-Jun-2015
Revision date	28-Jun-2019
Version	3

**This SDS has been revised in the following section(s)** All sections No changes with regard to classification have been made.

**Key literature references and sources for data**

www.ChemADVISOR.com

Supplier

National Chemical Inventories

National regulatory information

National occupational exposure limits

**HMIS classification**

Health	1*
Flammability	1
Physical hazard	0
PPE	X

**Disclaimer**

The information contained herein is considered in good faith as reliable of the date issued and is based upon on measurements, tests or data derived from supplier's own study or furnished by others. In providing this SDS information, Supplier makes no express or implied warranties as to the information or product; merchantability or fitness of purpose; any express or implied warranty; or non-infringement of intellectual property rights; and supplier assumes no responsibility for any direct, special or consequential damages, results obtained, or the activities of others. To the maximum extent permitted by law, supplier's warranty obligations and buyer's sole remedies are as stated in separate agreement between the parties.

**This Document is Confidential and Proprietary. Unless Otherwise Marked, It is an Uncontrolled Copy.**



## Granulated Blast Furnace Slag

### 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

<b>Product Name</b>	<b>GRANULATED BLAST FURNACE SLAG</b>
<b>Supplier Contact Details</b>	Cockburn Cement A.B.N. 50.008.673.470 PO Box 38, Hamilton Hill, WA 6963 Munster Works, Lot 242, Russell Road East, Munster WA 6166 Kwinana Works, Leath Road, Kwinana WA 6167
<b>Telephone</b>	08 9411 1000
<b>Fax</b>	08 9411 1150
<b>Emergency</b>	Bus Hrs 08 9411 1000 A/Hrs 08 9411 1000
<b>Email</b>	orders@cockburncement.com.au
<b>Web Site</b>	<a href="http://www.cockburn.com.au">http://www.cockburn.com.au</a> & <a href="http://www.swacement.com.au">www.swacement.com.au</a>
<b>Synonym(s)</b>	Ground granulated blastfurnace slag (GGBFS), slag, granulated blast furnace slag (GBFS)
<b>Use(s)</b>	Supplementary cementitious material in blended cements. Used in glass making, construction sand and as a soil conditioner in agriculture.

### 2. HAZARDS IDENTIFICATION

This product is classified as hazardous according to Safe Work Australia criteria.  
Not classified as a dangerous good by the criteria of the ADG code, IMDG or IATA.

#### GHS Classifications

Skin Corrosion/Irritation:	Category 2
Skin Sensitization:	Category 1B
Serious Eye Damage / Eye Irritation:	Category 1
Specific Target Organ Systemic Toxicity (Repeated Exposure):	Category 2

#### SIGNAL WORD

**DANGER**

#### Pictograms



#### Hazard statements

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H373	May cause damage to lungs and respiratory tract through prolonged or repeated exposure.

#### Prevention statements

P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection.

#### Response statements

P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P304 + P340	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.

#### Disposal statements

P501	Dispose of contents/container in accordance with relevant regulations.
------	--



## Granulated Blast Furnace Slag

<b>UN No</b>	None Allocated	<b>Hazchem Code</b>	None Allocated	<b>Pkg Group</b>	None Allocated
<b>DG Class</b>	None Allocated	<b>Subsidiary Risk(s)</b>	None Allocated	<b>EPG</b>	None Allocated

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient	Formula	Conc.	CAS No.
GRANULATED BLAST FURNACE SLAG	Not Available	> 90%	65997-69-2
GYP SUM	CaSO <sub>4</sub> 2H <sub>2</sub> O	2 - 5%	10101-41-4
CRYSTALLINE SILICA (QUARTZ)	SiO <sub>2</sub>	< 1%	14808-60-7
CHROMIUM (VI) HEXA VALENT	Cr <sup>6+</sup>	Trace	18540-29-9

### 4. FIRST AID MEASURES

<b>Eye</b>	Flush thoroughly with flowing water for at least 15 minutes. Seek medical attention if symptoms persist.
<b>Inhalation</b>	Remove from dusty area to fresh air. If symptoms persist, seek medical attention.
<b>Skin</b>	Remove heavily contaminated clothing immediately. Wash off skin thoroughly with water. A shower may be required. Seek medical attention for persistent irritation or burning of the skin
<b>Ingestion</b>	Rinse mouth and lips with water. Do not induce vomiting. Give water to drink to dilute stomach contents. If symptoms persist, seek medical attention.
<b>Advice to Doctor</b>	Treat symptomatically.
<b>First Aid Facilities</b>	Eye wash station.

#### Additional Information - Aggravated Medical Conditions

<b>Inhalation</b>	Over exposure resulting from prolonged and repeated inhalation of dust containing crystalline silica can cause bronchitis, silicosis (scarring of the lung.) It may also increase the risk of scleroderma (a disease affecting the connective tissue of the skin, joints, blood vessels and internal organs) and lung cancer. Epidemiological studies have shown that smoking increases the risk of bronchitis, silicosis (scarring of the lung) and lung cancer in persons exposed to crystalline silica.
<b>Skin</b>	Prolonged and repeated skin contact with cement in wet concrete, mortars and slurries may result in irritant dermatitis.

### 5. FIRE FIGHTING

<b>Flammability</b>	Non flammable. Does not support combustion of other materials.
<b>Fire and Explosion</b>	No fire or explosion hazard exists.
<b>Extinguishing</b>	Non flammable; use suitable extinguishing agent for surrounding fire.
<b>Hazchem Code</b>	None.



## Granulated Blast Furnace Slag

### 6. ACCIDENTAL RELEASE MEASURES

<b>Spillage</b>	If spilt (bulk), contact emergency services if appropriate. Wear dust-proof goggles, PVC/rubber gloves, a Class P2 respirator (where an inhalation risk exists), coveralls and rubber boots. Clear area of all unprotected personnel. Prevent spill entering drains or waterways. Collect and place in sealable containers for disposal or reuse. Avoid generating dust.
<b>Emergency Procedures</b>	Follow safety requirements for personal protection under Section 8 Exposure Controls/Personal Protection.

### 7. HANDLING AND STORAGE

<b>Storage</b>	Store off the floor in the original bags in a cool, dry, well ventilated area, removed from excessive moisture and heat. Ensure packages are adequately labelled, protected from physical damage and sealed when not in use.
<b>Handling</b>	Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.
<b>Property/ Environmental</b>	Refer to Section 13.

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

<b>Ventilation</b>	Do not inhale dust/powder. Use with adequate ventilation. Where a dust inhalation hazard exists, mechanical extraction ventilation is recommended. Maintain dust levels below the recommended exposure standard.
<b>Exposure Standards</b>	CHROMIUM (VI) HEXAVALENT (18540-29-9) ES-TWA: 0.05 mg/m <sup>3</sup> (Chromium VI compounds) GROUND GRANULATED BLAST FURNACE SLAG (65997-69-2) ES-TWA: 10mg/m <sup>3</sup> (Respirable Dust) GYPSUM (10101-41-4) ES-TWA: 10 mg/m <sup>3</sup> (Respirable Dust) SILICA, CRYSTALLINE – QUARTZ (14808-60-7) ES-TWA: 0.1 mg/m <sup>3</sup> (Respirable Dust)
<b>PPE</b>	Wear dust-proof goggles and rubber or PVC gloves. Where an inhalation risk exists, wear a Class P2 respirator. If there is potential for prolonged and/or excessive skin contact, wear coveralls. At high dust levels, wear a Class P3 respirator or a Powered Air Purifying Respirator (PAPR) with Class P3 filter.







## Granulated Blast Furnace Slag

### 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance</b>	Fine white powder	<b>Solubility (water)</b>	Slight, hardens on mixing with water
<b>Odour</b>	Odourless	<b>Specific Gravity</b>	2.8 to 3.2
<b>pH</b>	Approximately 12	<b>% Volatiles</b>	Not Available
<b>Vapour Pressure</b>	Not Available	<b>Flammability</b>	Non Flammable
<b>Vapour Density</b>	Not Available	<b>Flash Point</b>	Not Relevant
<b>Boiling Point</b>	Not Available	<b>Upper Explosion Limit</b>	Not Relevant
<b>Melting Point</b>	> 1200°C	<b>Lower Explosion Limit</b>	Not Relevant
<b>Evaporation Rate</b>	Not Available	<b>Autoignition Temperature</b>	Not Available
<b>Bulk Density</b>	1200 - 1600 kg/m <sup>3</sup>		
<b>Particle Size</b>	20 - 40% of particles are < 7 µm (Respirable Range)		

### 10. STABILITY AND REACTIVITY

<b>Chemical Stability</b>	Chemically Stable
<b>Conditions to Avoid</b>	Keep free of moisture
<b>Incompatible Materials</b>	Incompatible with oxidising agents (eg hypochlorites), ethanol, acids (eg hydrofluoric acid) and interhalogens (eg chlorine trifluoride). Water contact may increase product
<b>Decomposition Products</b>	Unlikely to evolve toxic gases when heated to decomposition.
<b>Hazardous Reactions</b>	None

### 11. TOXICOLOGICAL INFORMATION

<b>Acute Toxicity</b>	No known toxicity data available for this product.
<b>Eye</b>	Irritant upon contact with powder/dust. Over exposure may result in pain, redness, corneal burns and ulceration with possible permanent damage.
<b>Inhalation</b>	Slightly corrosive. Irritating to the respiratory system, causing coughing and sneezing. Over exposure may result in severe mucous membrane irritation and bronchitis. Hexavalent chromium is reported to cause respiratory sensitisation, however due to the trace amount present, a hazard is not anticipated under normal conditions of use. Crystalline silica can cause silicosis (lung disease) with chronic over exposure, however due to low levels present and product application, adverse health effects are not anticipated.
<b>Skin</b>	Irritating to the skin. Prolonged and repeated contact with powder or wetted form may result in skin rash, dermatitis and sensitisation.
<b>Ingestion</b>	Slightly corrosive. Ingestion may result in burns to the mouth and throat, with vomiting and abdominal pain. Due to product form, ingestion is not considered a likely exposure route.
<b>Mutagenicity</b>	Insufficient data available for this product to classify as a mutagen.
<b>Carcinogenicity</b>	Ground Granulated Blast Furnace Slag is not classified as a carcinogen by NOHSC. Crystalline silica and hexavalent chromium compounds are classified as carcinogenic to humans (IARC Group 1), however due to low levels present and product application, the criteria for classification is not met.



## Granulated Blast Furnace Slag

### 12. ECOLOGICAL INFORMATION

<b>Toxicity</b>	Product forms an alkaline slurry when mixed with water. This product is non toxic to aquatic life forms when present in cured solid form.
<b>Persistence &amp; Degradability</b>	Product is persistent and would have a low degradability.
<b>Mobility in soil</b>	A low mobility would be expected in a landfill situation.

### 13. DISPOSAL CONSIDERATIONS

<b>Waste Disposal</b>	Reuse or recycle where possible. Alternatively, ensure product is covered with moist soil to prevent dust generation and dispose of to an approved landfill site. Contact the manufacturer for additional information.
<b>Legislation</b>	Dispose of in accordance with relevant local legislation. Keep out of sewer and stormwater drains.

### 14. TRANSPORT INFORMATION

Not classified as a dangerous good by the criteria of the ADG Code.

Transport is by rail or road in bulk or bag form.

Drivers of trucks transporting bagged product should ensure that the bags are properly restrained.

<b>Shipping Name</b>	None Allocated	<b>Hazchem Code</b>	None Allocated	<b>Pkg Group</b>	None Allocated
<b>UN No</b>	None Allocated	<b>Subsidiary Risk(s)</b>	None Allocated	<b>EPG</b>	None Allocated
<b>DG Class</b>	None Allocated				

### 15. REGULATORY INFORMATION

<b>Poison Schedule AICS</b>	A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP). All chemicals listed on the Australian Inventory of Chemical Substances (AICS).
-----------------------------	--

### 16. OTHER INFORMATION

#### Additional Information

CEMENT CONTACT DERMATITIS: Individuals using wet cement, mortar, grout or concrete could be at risk of developing cement dermatitis. Symptoms of exposure include itchy, tender, swollen, hot, cracked or blistering skin with the potential for sensitisation. The dermatitis is due to the presence of soluble (hexavalent) chromium.

IARC – GROUP 1 – PROVEN HUMAN CARCINOGEN. This product contains an ingredient for which there is sufficient evidence to have been classified by the International Agency for Research into Cancer as a human carcinogen. The use of products known to be human carcinogens should be strictly monitored and controlled.

RESPIRATORS: In general the use of respirators should be limited and engineering controls employed to avoid exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.



## Granulated Blast Furnace Slag

**PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:** The Recommendation for protective equipment contained within this SDS report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

**HEALTH EFFECTS FROM EXPOSURE:** It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare an SDS report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

**ABBREVIATIONS:**

mg/m<sup>3</sup> - Milligrams per cubic metre

ppm - Parts Per Million

ES-TWA - Exposure Standard - Time Weighted Average

CNS - Central Nervous System

NOS - Not Otherwise Specified

pH - relates to hydrogen ion concentration - this value will relate to a scale of 0 - 14, where 0 is highly acidic and 14 is highly alkaline.

CAS# - Chemical Abstract Service Number - used to uniquely identify chemical compounds.

IARC - International Agency for Research on Cancer.

**Report Status**

This document has been compiled by Cockburn Cement the manufacturer of the product and serves as the manufacturer's Safety Data Sheet ("SDS").

While Cockburn Cement has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, Cockburn Cement accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

**Contact Point**

For further information on this product contact:

Telephone: Office hours 08 9411 1000  
After hours 08 9411 1000  
Facsimile: 08 9411 1150  
Web site: <http://www.cockburn.com.au>

**Advice Note**

The information in this document is believed to be accurate. Please check the currency of this SDS by contacting:

08 9411 1000  
or  
<http://www.cockburncement.com.au> or [www.swancement.com.au](http://www.swancement.com.au)

The provision of this information should not be construed as a recommendation to use this product in violation of any patent rights or in breach of any statute or regulation. Users are advised to make their own determination as to the suitability of this information in relation to their particular purposes and specific circumstances. Users should read this SDS and consider the information in the context of how the product will be handled and used in the workplace and in conjunction with other substances or products.



## Safety Data Sheet Bentonite Extender D20

### 1. Identification of the substance/mixture and of the company/undertaking

#### 1.1 Product identifier

**Product name** Bentonite Extender D20  
**Product code** D020

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** Used as a cementing additive in oilfield applications

**Uses advised against** Consumer use

#### 1.3 Details of the supplier of the safety data sheet

##### **Supplier**

Schlumberger Oilfield Australia Pty Ltd  
ABN: 74 002 459 225  
ACN: 002 459 225  
256 St. Georges Terrace, Perth WA 6000  
+47 5157 7424

SDS@slb.com

#### 1.4 Emergency Telephone Number

**Emergency telephone** - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 595 3518

### 2. Hazards Identification

#### 2.1 Classification of the substance or mixture

##### **GHS Classification**

**Health hazards** Not classified

**Environmental hazards** Not classified

**Physical Hazards** Not classified

#### 2.2 Label elements

##### **Signal word**

None

**Hazard Statements**

This product is not classified as hazardous therefore no (H) hazard statements assigned.

**Precautionary statements**

This product is not classified as hazardous therefore has no (P) precautionary statements assigned.

**Contains**

Crystalline silica (impurity)

**2.3 Other hazards**

Not classified as PBT/vPvB by current EU criteria  
Product dust may be irritating to eyes, skin and respiratory system

**Australian statement of hazardous/dangerous nature**

Classified as Non-Hazardous according to the criteria of NOHSC.  
NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

**3. Composition/information on Ingredients****3.1 Substances****3.2 Mixtures**

Not applicable

Chemical Name	EC No	CAS No	Weight-%
Crystalline silica (impurity)	238-878-4	14808-60-7	1-5

**Comments**

Naturally occurring mineral.

This product contains a small quantity of quartz, crystalline silica. Prolonged and repeated exposure to concentrations of crystalline silica exceeding the workplace exposure limit (WEL) may lead to chronic lung disease such as silicosis. IARC Monographs, Vol. 68, 1997, concludes that there is sufficient evidence that inhaled crystalline silica in the form of quartz or cristobalite from occupational sources causes cancer in humans. IARC Classification Group I.

The product contains other ingredients which do not contribute to the overall classification.

**4. First Aid Measures****4.1 First aid measures**

<b>Inhalation</b>	If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.
<b>Ingestion</b>	Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.
<b>Skin contact</b>	Wash skin thoroughly with soap and water. Get medical attention if irritation persists.
<b>Eye Contact</b>	Promptly wash eyes with lots of water while lifting eye lids. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if any discomfort continues.

**4.2. Most important symptoms and effects, both acute and delayed**

<b>General advice</b>	The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible.
-----------------------	--

**Symptoms**

<b>Inhalation</b>	Please see Section 11. Toxicological Information for further information.
<b>Ingestion</b>	Please see Section 11. Toxicological Information for further information.
<b>Skin contact</b>	Please see Section 11. Toxicological Information for further information.
<b>Eye contact</b>	Please see Section 11. Toxicological Information for further information.

**4.3 Indication of any immediate medical attention and special treatment needed**

**Notes to physician** Treat symptomatically.

**5. Fire-Fighting Measures****5.1 Extinguishing media****Suitable extinguishing media**

Use extinguishing media appropriate for surrounding material.

**Extinguishing media which must not be used for safety reasons**

Do not use water jet.

**5.2. Special hazards arising from the substance or mixture****Unusual fire and explosion hazards**

None known.

**Hazardous combustion products**

Thermal decomposition can lead to release of irritating gases and vapors Nitrogen oxides (NOx).

**5.3 Advice for firefighters****Special protective equipment for fire-fighters**

As in any fire, wear self-contained breathing apparatus and full protective gear.

**Special Fire-Fighting Procedures**

Containers close to fire should be removed immediately or cooled with water.

**6. Accidental Release Measures****6.1. Personal precautions, protective equipment and emergency procedures**

Use personal protective equipment. See also section 8. Material becomes slippery when wet. Use caution if wet.

**6.2 Environmental precautions**

The product should not be allowed to enter drains, water courses or the soil.

**Environmental exposure controls**

Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

**6.3 Methods and material for containment and cleaning up**

**Methods for containment**

Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent further leakage or spillage if safe to do so.

**Methods for cleaning up**

Sweep up and shovel into suitable containers for disposal. After cleaning, flush away traces with water.

**6.4 Reference to other sections**

See section 13 for more information.

## 7. Handling and Storage

**7.1 Precautions for safe handling****Handling**

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Avoid dust formation. Material becomes slippery when wet. Use caution if wet.

**Hygiene Measures**

Use good work and personal hygiene practices to avoid exposure. When using do not smoke, eat or drink. Wash hands and face before breaks and immediately after handling the product. Remove contaminated clothing.

**7.2 Conditions for safe storage, including any incompatibilities**

**Technical measures/precautions** Ensure adequate ventilation. Keep airborne concentrations below exposure limits.

**Storage precautions** Keep containers tightly closed in a dry, cool and well-ventilated place. Avoid wet and humid conditions.

**Storage class** Chemical storage.

**Packaging materials** Use specially constructed containers only.

## 8. Exposure Controls/Personal Protection

**8.1 Control parameters**

**Exposure limits** NUI = Nuisance dust, TWA 4mg/m<sup>3</sup> Respirable Dust, 10mg/m<sup>3</sup> Total Dust.  
No biological limit allocated

**Component Information**

<b>Chemical Name</b>	<b>Arabic</b>	<b>Australia</b>	<b>Egypt</b>
Crystalline silica (impurity)	0.1 mg/m <sup>3</sup> TWA	0.1 mg/m <sup>3</sup> TWA respirable dust	Not determined
<b>Chemical Name</b>	<b>India</b>	<b>Indonesia</b>	<b>Japan</b>
Crystalline silica (impurity)	Not determined	0.1 mg/m <sup>3</sup> TWA	Not determined
<b>Chemical Name</b>	<b>Kazakhstan</b>	<b>Kuwait</b>	<b>New Zealand</b>
Crystalline silica (impurity)	1 mg/m <sup>3</sup> MAC	Not determined	0.1 mg/m <sup>3</sup> TWA Confirmed carcinogen
<b>Chemical Name</b>	<b>Malaysia</b>	<b>Philippines</b>	<b>Russia</b>
Crystalline silica (impurity)	0.1 mg/m <sup>3</sup> TWA	Not determined	3 mg/m <sup>3</sup> STEL 1 mg/m <sup>3</sup> TWA Fibrogenic substance glass; regulated under Quartz 1123, 1124
<b>Chemical Name</b>	<b>Thailand</b>	<b>Vietnam</b>	<b>Turkey</b>
Crystalline silica (impurity)	0.025 mg/m <sup>3</sup> TWA	Not determined	Not determined

**8.2 Exposure controls**

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

### Engineering Controls

Ensure adequate ventilation Provide appropriate exhaust ventilation at places where dust is formed

### Personal protective equipment

#### Eye protection

Use eye protection according to EN 166, designed to protect against powders and dusts  
Tightly fitting safety goggles Safety glasses with side-shields

#### Hand protection

Wear gloves according to EN 374 to protect against skin effects from powders  
Use protective gloves made of: Neoprene Nitrile  
Frequent change is advisable

#### Respiratory protection

In case of insufficient ventilation wear suitable respiratory equipment Suitable mask with particle filter P3 (European Norm 143) At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used.

#### Skin and body protection

Wear suitable protective clothing Eye wash and emergency shower must be available at the work place.

### Hygiene Measures

Wash hands before eating, drinking or smoking Remove and wash contaminated clothing before re-use



### 8.2.3 Environmental exposure controls

#### Environmental exposure

Use appropriate containment to avoid environmental contamination See section 6 for more information

## 9. Physical and Chemical Properties

### 9.1 Information on basic physical and chemical properties

Physical state	Solid
Appearance	Powder
Odor	Odorless
Color	Cream - Gray
Odor threshold	Not applicable

Property	Values	Remarks
pH	9-10	
pH @ dilution	No information available	
Melting / freezing point	> 450 °C / 842 °F	
Boiling point/range	No information available	
Flash point	Not applicable	
Evaporation rate (BuAc =1)	Not applicable	
Flammability (solid, gas)	Not applicable	
Flammability Limit in Air		
Upper flammability limit	Not applicable	
Lower flammability limit	Not applicable	
Vapor pressure	No information available	
Vapor density	No information available	



<b>Specific gravity</b>	2.3 - 2.6	20 °C
<b>Bulk density</b>	750 – 950 kg/m <sup>3</sup>	
<b>Relative density</b>	No information available	
<b>Water solubility</b>	Insoluble in water	
<b>Solubility in other solvents</b>	No information available	
<b>Autoignition temperature</b>	No information available	
<b>Decomposition temperature</b>	> 500 °C / 932°F	
<b>Kinematic viscosity</b>	Not applicable	
<b>Dynamic viscosity</b>	. Not applicable	
<b>log Pow</b>	No information available	
<b>Explosive properties</b>	Not applicable	
<b>Oxidizing properties</b>	None known.	

### 9.2 Other information

<b>Pour point</b>	No information available
<b>Molecular weight</b>	No information available
<b>VOC content(%)</b>	None
<b>Density</b>	No information available

### **Comments**

The data listed above are typical physical and chemical properties and should not be construed as product specification.

## **10. Stability and Reactivity**

### 10.1 Reactivity

No specific reactivity hazards associated with this product.

### 10.2 Chemical stability

Stable under normal temperature conditions and recommended use.

### 10.3 Possibility of Hazardous Reactions

#### **Hazardous polymerization**

Hazardous polymerization does not occur.

### 10.4 Conditions to avoid

Avoid wet and humid conditions. Avoid dust formation.

### 10.5 Incompatible materials

No materials to be especially mentioned.

### 10.6 Hazardous decomposition products

See Section 5.

## **11. Toxicological Information**

### 11.1 Information on toxicological effects

#### **Acute toxicity**

#### **Product information**

This product contains a small quantity of quartz, crystalline silica. Prolonged and repeated exposure to concentrations of crystalline silica exceeding the workplace exposure limit (WEL) may lead to chronic lung disease such as silicosis.

<b>Inhalation</b>	Inhalation of dust in high concentration may cause irritation of respiratory system.
<b>Eye contact</b>	Dust may cause mechanical irritation.
<b>Skin contact</b>	Prolonged contact may cause redness and irritation.
<b>Ingestion</b>	Ingestion may cause stomach discomfort.

**Toxicology data for the components**

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Crystalline silica (impurity)	= 500 mg/kg ( Rat )	No data available	No data available

<b>Sensitization</b>	This product does not contain any components suspected to be sensitizing.
<b>Mutagenic effects</b>	This product does not contain any known or suspected mutagens.
<b>Carcinogenicity</b>	Crystalline silica dust is listed by IARC in Group 1 as known to cause lung cancer in humans, if inhaled.
<b>Reproductive toxicity</b>	This product does not contain any known or suspected reproductive hazards.
<b>Routes of exposure</b>	Inhalation.
<b>Routes of entry</b>	Inhalation.
<b>Specific target organ toxicity - Single exposure</b>	Not classified
<b>Specific target organ toxicity - Repeated exposure</b>	Not classified.
<b>Aspiration hazard</b>	Not applicable.
<b>Other information</b>	Key literature references and sources for data. See Section 16 for more information.

## 12. Ecological Information

**12.1 Toxicity**

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Listed on PLONOR list of OSPAR

**Toxicity to algae**

This product is not considered toxic to algae.

**Toxicity to fish**

This product is not considered toxic to fish.

**Toxicity to daphnia and other aquatic invertebrates**

This product is not considered toxic to invertebrates.

**Toxicology data for the components**

Chemical Name	Toxicity to fish	Toxicity to algae	Toxicity to daphnia and other

			<b>aquatic invertebrates</b>
Crystalline silica (impurity)	LC50 Danio rerio (zebra fish) : > 10000 mg/l 96h	EC50: > 1000 mg/l 72h	LC50 Daphnia magna (Water flea): > 10000 mg/l 24h

**12.2 Persistence and degradability**

Not Applicable - Inorganic chemical.

Chemical Name	Persistence and degradability
Crystalline silica (impurity)	Inorganic compound

**12.3 Bioaccumulative potential**

Not Applicable - Inorganic chemical.

Chemical Name	Bioaccumulation
Crystalline silica (impurity)	Product/Substance is inorganic

**12.4 Mobility****Mobility**

Insoluble in water.

Chemical Name	Mobility
Crystalline silica (impurity)	Insoluble in water

**Mobility in soil**

See component information below.

Chemical Name	Mobility in soil
Crystalline silica (impurity)	Not expected to adsorb on soil

**12.5 Results of PBT and vPvB assessment**

Not classified as PBT/vPvB by current EU criteria.

**12.6 Other adverse effects.**

None known.

**12.7 Other information**

Key literature references and sources for data. See Section 16 for more information.

## 13. Disposal considerations

**13.1 Waste treatment methods****Waste from residues/unused products**

Dispose of in accordance with local regulations.

**Contaminated packaging**

Empty containers should be taken for local recycling, recovery or waste disposal.

## 14. Transport information

### 14.1. UN number

Not regulated

### 14.2. UN proper shipping name

The product is not covered by international regulation on the transport of dangerous goods

### 14.3 Hazard class(es)

ADR/RID/ADN/ADG Hazard class Not regulated

IMDG/ANTAQ Hazard class Not regulated

ICAO/ANAC Hazard class/division Not regulated

### 14.4 Packing group

ADR/RID/ADN/ADG Packing group Not regulated

IMDG/ANTAQ Packing group Not regulated

ICAO/ANAC Packing group Not regulated

### 14.5 Environmental hazard

No

### 14.6 Special precautions

Not applicable

### 14.7 Transport in bulk according to Annex I/II of MARPOL 73/78 and the IBC Code

Please contact SDS@slb.com for info regarding transport in Bulk.

## 15. Regulatory Information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

The Globally Harmonized System of Classification and Labeling of Chemicals (GHS)

Australian Standard for the Uniform Scheduling of Drugs and Poisons

No poisons schedule number allocated

National Code of Practice for the Preparation of Material Safety Data Sheets 2nd Edition [NOHSC: 2011 (2003)].

National Occupational Health and Safety Commission's Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004) 3rd Edition].

National Occupational Health and Safety Commission's Exposure Standards for Atmospheric Contaminants in the occupational Environment [NOHSC:1003 (1995)].

Safe Work Australia.

Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).

Not classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG)

Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013 [P.U.(A) 310/2013] (CLASS Regulations)

The Industry Code of Practice on Chemical Classification and Hazard Communication 2014 [P.U. (B) 128/2014] (ICOP)

**International inventories**

USA (TSCA)	Complies
Canada (DSL)	Complies
Philippines (PICCS)	Complies
Japan (ENCS)	Complies
China (IECSC)	Complies
Australia (AICS)	Complies
Korean (KECL)	Complies
New Zealand (NZIoC)	Complies

**16. Other Information**

Prepared by	Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Muriel Martin Beurel
Supersedes Date:	19-Oct-2015
Revision date	11-Oct-2018
Version	6

**This SDS has been revised in the following section(s)** All sections No changes with regard to classification have been made.

**Key literature references and sources for data**

www.ChemADVISOR.com

Supplier

National Chemical Inventories

National regulatory information

National occupational exposure limits

**Disclaimer**

The information contained herein is considered in good faith as reliable of the date issued and is based upon on measurements, tests or data derived from supplier's own study or furnished by others. In providing this SDS information, Supplier makes no express or implied warranties as to the information or product; merchantability or fitness of purpose; any express or implied warranty; or non-infringement of intellectual property rights; and supplier assumes no responsibility for any direct, special or consequential damages, results obtained, or the activities of others. To the maximum extent permitted by law, supplier's warranty obligations and buyer's sole remedies are as stated in separate agreement between the parties.

**This Document is Confidential and Proprietary. Unless Otherwise Marked, It is an Uncontrolled Copy.**

## Safety Data Sheet Antifoam Agent D47

### 1. Identification of the substance/preparation and of the Company/undertaking

#### 1.1 Product identifier

**Product name** Antifoam Agent D47  
**Product code** D047

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** Antifoam in oilfield applications

**Uses advised against** Consumer use

#### 1.3 Details of the supplier of the safety data sheet

##### **Supplier**

Schlumberger Oilfield Australia Pty Ltd  
ABN: 74 002 459 225  
ACN: 002 459 225  
256 St. Georges Terrace, Perth WA 6000  
+47 5157 7424  
SDS@slb.com

#### 1.4 Emergency Telephone Number

**Emergency telephone** - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 595 3518, Canada 001 613 996 6666

### 2. Hazards identification

#### 2.1 Classification of the substance or mixture

**Classification according to (EC) No. 1272/2008**

**Health hazards** Not classified

**Environmental hazards** Not classified

**Physical Hazards** Not classified

#### 2.2 Label elements

##### **Signal word**

None

##### **Hazard statements**

This product is not classified as hazardous therefore no (H) hazard statements assigned.

**Precautionary statements**

This product is not classified as hazardous therefore has no (P) precautionary statements assigned.

-  
-

**Contains****2.3 Other data**

Not classified as PBT/vPvB by current EU criteria

**Australian statement of hazardous/dangerous nature**

Classified as Non-Hazardous according to the criteria of NOHSC.  
NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

**3. Composition/information on ingredients****3.1 Substances**

No classified ingredients, or those having occupational exposure limits, present above the level of disclosure.

**3.2 Mixtures**

Not Applicable

**4. First aid measures****4.1 First-Aid Measures**

<b>Inhalation</b>	If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.
<b>Ingestion</b>	Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Get medical attention immediately if symptoms occur.
<b>Eye contact</b>	Remove contact lenses. Promptly wash eyes with lots of water while lifting eye lids. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.

**4.2 Most important symptoms and effects, both acute and delayed**

**General advice** The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible.

**Main symptoms**

**Inhalation** Please see Section 11. Toxicological Information for further information.

---

<b>Ingestion</b>	Please see Section 11. Toxicological Information for further information.
<b>Skin contact</b>	Please see Section 11. Toxicological Information for further information.
<b>Eye contact</b>	Please see Section 11. Toxicological Information for further information.

#### **4.3 Indication of any immediate medical attention and special treatment needed**

<b>Notes to physician</b>	Treat symptomatically.
---------------------------	------------------------

### **5. Fire-fighting measures**

#### **5.1 Extinguishing media**

##### **Suitable extinguishing media**

Use extinguishing media appropriate for surrounding material.

##### **Extinguishing media which shall not be used for safety reasons**

Do not use water jet.

#### **5.2 Special hazards arising from the substance or mixture**

##### **Unusual fire and explosion hazards**

None known.

##### **Hazardous combustion products**

When heated strongly or burned, oxides of carbon and harmful organic chemical fumes are released.

#### **5.3 Advice for firefighters**

##### **Special protective equipment for fire-fighters**

As in any fire, wear self-contained breathing apparatus and full protective gear.

##### **Special Fire-Fighting Procedures**

Containers close to fire should be removed immediately or cooled with water.

### **6. Accidental release measures**

#### **6.1 Personal precautions, protective equipment and emergency procedures**

Use personal protective equipment. See also section 8.

#### **6.2 Environmental precautions**

The product should not be allowed to enter drains, water courses or the soil.

##### **Environmental exposure controls**

Avoid release to the environment.

#### **6.3 Methods and materials for containment and cleaning up**

##### **Methods for containment**

Prevent further leakage or spillage if safe to do so. Dike far ahead of liquid spill for later disposal.

##### **Methods for cleaning up**

Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. After cleaning, flush away traces with water.



## 6.4 Reference to other sections

See section 13 for more information.

## 7. Handling and storage

### 7.1 Precautions for safe handling

#### **Handling**

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Do not breathe vapors or spray mist. Avoid spills and splashing during use.

#### **Hygiene measures**

Use good work and personal hygiene practices to avoid exposure. Wash hands and face before breaks and immediately after handling the product. Remove contaminated clothing. Do not eat, drink or smoke when using this product.

### 7.2 Conditions for safe storage, including any incompatibilities

<b>Technical measures/precautions</b>	Ensure adequate ventilation. Keep airborne concentrations below exposure limits.
<b>Storage precautions</b>	Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from open flames, hot surfaces and sources of ignition. Store away from incompatibles, Strong oxidizing agents
<b>Storage class</b>	Chemical storage.
<b>Packaging material</b>	Use specially constructed containers only.

### 7.3 Specific end uses

See Section 1.2.

## 8. Exposure controls/personal protection

### 8.1 Control parameters

<b>Exposure limits</b>	The product does not contain any hazardous materials with occupational exposure limits established.
------------------------	---

**Notes**

No biological limit allocated

**8.2 Exposure controls**

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

**Engineering measures to reduce exposure**

Ensure adequate ventilation. Mechanical ventilation or local exhaust ventilation is required.

**Personal protective equipment**

<b>Eye protection</b>	Safety glasses with side-shields.
<b>Hand protection</b>	Wear chemical resistant gloves such as nitrile or neoprene, Be aware that liquid may penetrate the gloves. Frequent change is advisable.
<b>Respiratory protection</b>	No personal respiratory protective equipment normally required, In case of insufficient ventilation wear suitable respiratory equipment, Suitable mask with particle filter P3 (European Norm 143), At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used.
<b>Skin and body protection</b>	Wear appropriate personal protective clothing to prevent skin contact, Eye wash and emergency shower must be available at the work place.

**Hygiene measures**

Wash hands before breaks and immediately after handling the product, Remove and wash contaminated clothing before re-use.



## 9. Physical and chemical properties

**9.1 Information on basic physical and chemical properties**

<b>Physical state</b>	Liquid
<b>Appearance</b>	Viscous
<b>Odor</b>	No information available
<b>Color</b>	Colorless
<b>Odor threshold</b>	Not applicable

<u>Property</u>	<u>Values</u>	<u>Remarks</u>
pH	No information available	
pH @ dilution		
Melting/freezing point	< -35 °C / - 31 °F	
Boiling point/range	No information available	
Flash point	229 °C / 444 °F	PMCC ASTM D-93
Evaporation rate (BuAc =1)	No information available	
Flammability (solid, gas)	Not Applicable	
Flammability Limits in Air		Not applicable
Upper flammability limit	No information available	
Lower flammability limit	No information available	
Vapor pressure	No information available	
Vapor density	No information available	

<b>Specific gravity</b>	No information available
<b>Bulk density</b>	No information available
<b>Relative density</b>	1 @ 21.1°C.
<b>Water solubility</b>	Insoluble in water
<b>Solubility in other solvents</b>	No information available
<b>Autoignition temperature</b>	No information available
<b>Decomposition temperature</b>	No information available
<b>Kinematic viscosity</b>	414-496 cst
<b>Dynamic viscosity</b>	No information available
<b>Log Pow</b>	Not determined

<b>Explosive properties</b>	Not Applicable
<b>Oxidizing properties</b>	None known.

## 9.2 Other information

<b>Pour point</b>	<0°C / 32 °F
<b>Molecular weight</b>	No information available
<b>VOC content(%)</b>	None
<b>Density</b>	No information available

## 10. Stability and reactivity

### 10.1 Reactivity

No specific reactivity hazards associated with this product.

### 10.2 Chemical stability

Stable under normal temperature conditions and recommended use.

### 10.3 Possibility of Hazardous Reactions

#### **Hazardous polymerization**

Hazardous polymerization does not occur.

### 10.4 Conditions to avoid

Keep away from open flames, hot surfaces and sources of ignition.

### 10.5 Incompatible materials

Strong oxidizing agents.

### 10.6 Hazardous decomposition products

When heated strongly or burned, oxides of carbon and harmful organic chemical fumes are released.

## 11. Toxicological information

### 11.1 Information on toxicological effects

#### **Acute toxicity**

**Inhalation** Inhalation of vapors in high concentration may cause irritation of respiratory system.

**Eye contact** May cause slight irritation.

**Skin contact** Prolonged contact may cause redness and irritation.

---

<b>Ingestion</b>	Ingestion may cause stomach discomfort.
<b>Unknown acute toxicity</b>	Not Applicable.
<b>Sensitization</b>	This product does not contain any components suspected to be sensitizing.
<b>Mutagenic effects</b>	This product does not contain any known or suspected mutagens.
<b>Carcinogenicity</b>	This product does not contain any known or suspected carcinogens.
<b>Reproductive toxicity</b>	This product does not contain any known or suspected reproductive hazards.
<b>Routes of exposure</b>	None known.
<b>Routes of entry</b>	No route of entry noted.
<b>Specific target organ toxicity (single exposure)</b>	Not classified
<b>Specific target organ toxicity (repeated exposure)</b>	Not classified.
<b>Aspiration hazard</b>	No hazard from product as supplied.

## 12. Ecological information

### 12.1 Toxicity

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

#### **Toxicity to algae**

This product is not considered toxic to algae.

#### **Toxicity to fish**

This product is not considered toxic to fish.

#### **Toxicity to daphnia and other aquatic invertebrates**

This product is not considered toxic to invertebrates.

### 12.2 Persistence and degradability

Readily biodegradable.

### 12.3 Bioaccumulative potential

Bioaccumulation is unlikely.

#### 12.4 Mobility in soil

##### **Mobility**

The product is insoluble and floats on water.

#### 12.5 Results of PBT and vPvB assessment

Not classified as PBT/vPvB by current EU criteria.

#### 12.6 Other adverse effects.

None known.

### 13. Disposal considerations

#### 13.1 Waste treatment methods

<b>Waste from residues / unused products</b>	Dispose of in accordance with local regulations.
<b>Contaminated packaging</b>	Empty containers should be taken for local recycling, recovery or waste disposal.
<b>EWC Waste disposal No.</b>	According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used. The following Waste Codes are only suggestions: EWC waste disposal No: 16 03 06 - organic wastes other than those mentioned in 16 03 05

### 14. Transport information

#### 14.1 UN Number

Not regulated

#### 14.2 Proper shipping name

The product is not covered by international regulation on the transport of dangerous goods

#### 14.3 Hazard class(es)

<b>ADR/RID/ADN/ADG Hazard class</b>	Not regulated
<b>IMDG Hazard class</b>	Not regulated
<b>ICAO Hazard class/division</b>	Not regulated

#### 14.4 Packing group

<b>ADR/RID/ADN/ADG Packing group</b>	Not regulated
<b>IMDG Packing group</b>	Not regulated
<b>ICAO Packing group</b>	Not regulated

**14.5 Environmental hazard**

No

**14.6 Special precautions**

Not Applicable

**14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Please contact SDS@slb.com for info regarding transport in Bulk.

**15. Regulatory information****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

Germany, Water Endangering Classes (VwVwS)      Hazardous to water/Class 1

**Australian Standard for the Uniform Scheduling of Drugs and Poisons**

No Poison Schedule number allocated.

Commission Regulation (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH). Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, including amendments.

This safety data sheet complies with the requirements of Regulation (EC) No. 1272/2008.

National Code of Practice for the Preparation of Material Safety Data Sheets 2nd Edition [NOHSC: 2011 (2003)].

National Occupational Health and Safety Commission's Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004) 3rd Edition].

National Occupational Health and Safety Commission's Exposure Standards for Atmospheric Contaminants in the occupational Environment [NOHSC:1003 (1995)].

Safe Work Australia.

Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).

Not classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for transport by road or rail.

**International inventories**

USA (TSCA)	Complies
European Union (EINECS and ELINCS)	Complies
Canada (DSL)	Complies
Philippines (PICCS)	Complies
Japan (ENCS)	Complies
China (IECSC)	Complies
Australia (AICS)	Complies
Korean (KECL)	Complies
New Zealand (NZIoC)	Complies

**15.2 Chemical Safety Report**

No information available

**16. Other information**

<b>Prepared by</b>	Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Nicola Anderson
<b>Supersedes date</b>	21/Feb/2014
<b>Revision date</b>	04/Feb/2016
<b>Version</b>	2
<b>The following sections have been revised:</b>	Updated according to GHS/CLP, No changes with regard to classification have been made.

**Full text of H-Statements referred to under sections 2 and 3**

This product is not classified as hazardous therefore no (H) hazard statements assigned.

**Disclaimer**

The information contained herein is considered in good faith as reliable of the date issued and is based upon on measurements, tests or data derived from supplier's own study or furnished by others. In providing this SDS information, Supplier makes no express or implied warranties as to the information or product; merchantability or fitness of purpose; any express or implied warranty; or non-infringement of intellectual property rights; and supplier assumes no responsibility for any direct, special or consequential damages, results obtained, or the activities of others. To the maximum extent permitted by law, supplier's warranty obligations and buyer's sole remedies are as stated in separate agreement between the parties.



## Safety Data Sheet Silicate Additive D75

### 1. Identification of the substance/mixture and of the company/undertaking

#### 1.1 Product identifier

**Product name** Silicate Additive D75  
**Product code** D075

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** Used as a cementing additive in oilfield applications

**Uses advised against** Consumer use

#### 1.3 Details of the supplier of the safety data sheet

##### **Supplier**

Schlumberger Oilfield Australia Pty Ltd  
ABN: 74 002 459 225  
ACN: 002 459 225  
256 St. Georges Terrace, Perth WA 6000  
+47 5157 7424

SDS@slb.com

#### 1.4 Emergency Telephone Number

**Emergency telephone** - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 595 3518

### 2. Hazards Identification

#### 2.1 Classification of the substance or mixture

##### **GHS Classification**

**Health hazards** Not classified

**Environmental hazards** Not classified

**Physical Hazards** Not classified

#### 2.2 Label elements

##### **Signal word**

None



**Hazard Statements**

This product is not classified as hazardous therefore no (H) hazard statements assigned.

**Precautionary statements**

This product is not classified as hazardous therefore has no (P) precautionary statements assigned.

**Contains** No hazardous components

**2.3 Other hazards**

Not classified as PBT/vPvB by current EU criteria

**Australian statement of hazardous/dangerous nature**

Classified as Non-Hazardous according to the criteria of NOHSC.  
NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

**3. Composition/information on Ingredients****3.1 Substances**

Not applicable

**3.2 Mixtures**

This product does not contain any hazardous ingredients, or ingredients with national workplace exposure limits.

**4. First Aid Measures****4.1 First aid measures**

<b>Inhalation</b>	If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.
<b>Ingestion</b>	Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Seek medical attention if irritation occurs.
<b>Skin contact</b>	Wash skin thoroughly with soap and water. Get medical attention if irritation persists.
<b>Eye Contact</b>	Promptly wash eyes with lots of water while lifting eye lids. Remove contact lenses, if worn. Get medical attention if any discomfort continues.

**4.2. Most important symptoms and effects, both acute and delayed**

**General advice** The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible.

**Symptoms**

<b>Inhalation</b>	Please see Section 11. Toxicological Information for further information.
<b>Ingestion</b>	Please see Section 11. Toxicological Information for further information.
<b>Skin contact</b>	Please see Section 11. Toxicological Information for further information.
<b>Eye contact</b>	Please see Section 11. Toxicological Information for further information.

**4.3 Indication of any immediate medical attention and special treatment needed**

Notes to physician Treat symptomatically.

## 5. Fire-Fighting Measures

### 5.1 Extinguishing media

#### **Suitable extinguishing media**

Use extinguishing media appropriate for surrounding material.

#### **Extinguishing media which must not be used for safety reasons**

None known.

### 5.2. Special hazards arising from the substance or mixture

#### **Unusual fire and explosion hazards**

Contact with metals may evolve flammable hydrogen gas.

#### **Hazardous combustion products**

Thermal decomposition can lead to release of toxic and corrosive gases/vapors

### 5.3 Advice for firefighters

#### **Special protective equipment for fire-fighters**

As in any fire, wear self-contained breathing apparatus and full protective gear.

#### **Special Fire-Fighting Procedures**

Containers close to fire should be removed immediately or cooled with water.

## 6. Accidental Release Measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. See also section 8.

### 6.2 Environmental precautions

The product should not be allowed to enter drains, water courses or the soil.

#### **Environmental exposure controls**

Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

### 6.3 Methods and material for containment and cleaning up

#### **Methods for containment**

Prevent further leakage or spillage if safe to do so. Dike far ahead of liquid spill for later disposal.

#### **Methods for cleaning up**

Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. After cleaning, flush away traces with water.

### 6.4 Reference to other sections

See section 13 for more information.

## 7. Handling and Storage

## 7.1 Precautions for safe handling

### Handling

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes and clothing. Avoid spills and splashing during use. Do not breathe vapors or spray mist.

### Hygiene Measures

Use good work and personal hygiene practices to avoid exposure. When using do not smoke, eat or drink. Wash hands and face before breaks and immediately after handling the product Remove contaminated clothing

## 7.2 Conditions for safe storage, including any incompatibilities

<b>Technical measures/precautions</b>	Ensure adequate ventilation. Keep airborne concentrations below exposure limits.
<b>Storage precautions</b>	Keep containers tightly closed in a dry, cool and well-ventilated place Keep at temperatures above > 32F /0°C Avoid contact with: Strong acids Metals Aluminum Zinc Steel
<b>Storage class</b>	Chemical storage.
<b>Packaging materials</b>	Use specially constructed containers only.
<b>Packaging materials to be avoided</b>	Metal Aluminium Zinc Steel

## **8. Exposure Controls/Personal Protection**

### 8.1 Control parameters

<b>Exposure limits</b>	The product does not contain any hazardous materials with occupational exposure limits established. No biological limit allocated
------------------------	--

### 8.2 Exposure controls

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

#### Engineering Controls

Ensure adequate ventilation

#### Personal protective equipment

<b>Eye protection</b>	Use eye protection according to EN 166, designed to protect against liquid splashes Safety glasses with side-shields Tightly fitting safety goggles
<b>Hand protection</b>	Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Impervious gloves made of: PVC Rubber Neoprene Nitrile Break through time >480 minutes Glove thickness >0.4 mm
<b>Respiratory protection</b>	Be aware that liquid may penetrate the gloves. Frequent change is advisable. In case of insufficient ventilation wear suitable respiratory equipment Chemical respirator with inorganic vapour cartridge (Grey B). At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used.
<b>Skin and body protection</b>	Wear suitable protective clothing Eye wash and emergency shower must be available at the work place.

**Hygiene Measures**

Wash hands before eating, drinking or smoking Remove and wash contaminated clothing before re-use

**Environmental exposure**

Use appropriate containment to avoid environmental contamination See section 6 for more information

## 9. Physical and Chemical Properties

**9.1 Information on basic physical and chemical properties**

<b>Physical state</b>	Liquid
<b>Appearance</b>	Aqueous solution
<b>Odor</b>	Odorless
<b>Color</b>	Colorless
<b>Odor threshold</b>	Not applicable

<u>Property</u>	<u>Values</u>	<u>Remarks</u>
pH	11	
pH @ dilution	No information available	
Melting / freezing point	- 1 °C / 30 °F	
Boiling point/range	101 °C / 214 °F	
Flash point	Not applicable	
Evaporation rate (BuAc =1)	No information available	
Flammability (solid, gas)	Not applicable	
Flammability Limit in Air		
Upper flammability limit	Not applicable	
Lower flammability limit	Not applicable	
Vapor pressure	<1 kPa	
Vapor density	No information available	
Specific gravity	1.3 - 1.6	@ 20 °C
Bulk density	No information available	
Relative density	No information available	
Water solubility	Soluble in water	
Solubility in other solvents	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Kinematic viscosity	No information available	
Dynamic viscosity	10-10000 mPa s	
log Pow	No information available	

<b>Explosive properties</b>	No information available
<b>Oxidizing properties</b>	No information available

**9.2 Other information**

<b>Pour point</b>	No information available
<b>Molecular weight</b>	No information available
<b>VOC content(%)</b>	No information available
<b>Density</b>	No information available

**Comments**

The data listed above are typical physical and chemical properties and should not be construed as product specification.

## 10. Stability and Reactivity

### 10.1 Reactivity

Contact with metals may evolve flammable hydrogen gas.

### 10.2 Chemical stability

Stable under normal temperature conditions and recommended use.

### 10.3 Possibility of Hazardous Reactions

#### **Hazardous polymerization**

Hazardous polymerization does not occur.

### 10.4 Conditions to avoid

Keep at temperatures above > 32°F / 0°C.

### 10.5 Incompatible materials

Aluminum. Zinc. Metals. Strong acids. Steel.

### 10.6 Hazardous decomposition products

See Section 5.2.

## 11. Toxicological Information

### 11.1 Information on toxicological effects

#### **Acute toxicity**

<b>Inhalation</b>	Inhalation of vapors in high concentration may cause irritation of respiratory system.
<b>Eye contact</b>	May cause slight irritation.
<b>Skin contact</b>	Prolonged contact may cause redness and irritation.
<b>Ingestion</b>	Ingestion may cause stomach discomfort.
<b>Unknown acute toxicity</b>	Not applicable.

**Sensitization** This product does not contain any components suspected to be sensitizing.

**Mutagenic effects** This product does not contain any known or suspected mutagens.

**Carcinogenicity** This product does not contain any known or suspected carcinogens.

**Reproductive toxicity** This product does not contain any known or suspected reproductive hazards.

**Routes of exposure** Inhalation. Skin contact. Eye contact.

---

<b>Routes of entry</b>	None known.
<b>Specific target organ toxicity - Single exposure</b>	Not classified
<b>Specific target organ toxicity - Repeated exposure</b>	Not classified.
<b>Aspiration hazard</b>	Not applicable.
<b>Other information</b>	Key literature references and sources for data. See Section 16 for more information.

## 12. Ecological Information

### 12.1 Toxicity

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment. Large amounts will affect pH and harm aquatic organisms

#### **Toxicity to algae**

This product is not considered toxic to algae.

#### **Toxicity to fish**

This product is not considered toxic to fish.

#### **Toxicity to daphnia and other aquatic invertebrates**

This product is not considered toxic to invertebrates.

### 12.2 Persistence and degradability

No product level data available.

### 12.3 Bioaccumulative potential

No product level data available.

### 12.4 Mobility

#### **Mobility**

Soluble in water.

#### **Mobility in soil**

No information available.

### 12.5 Results of PBT and vPvB assessment

Not classified as PBT/vPvB by current EU criteria.

**12.6 Other adverse effects.**

None known.

**12.7 Other information**

Key literature references and sources for data. See Section 16 for more information.

**13. Disposal considerations****13.1 Waste treatment methods**

**Waste from residues/unused products** Dispose of in accordance with local regulations.

**Contaminated packaging** Empty containers should be taken for local recycling, recovery or waste disposal.

**14. Transport information****14.1. UN number**

Not regulated

**14.2. UN proper shipping name**

The product is not covered by international regulation on the transport of dangerous goods

**14.3 Hazard class(es)**

<b>ADR/RID/ADN/ADG Hazard class</b>	Not regulated
<b>IMDG/ANTAQ Hazard class</b>	Not regulated
<b>ICAO/ANAC Hazard class/division</b>	Not regulated

**14.4 Packing group**

<b>ADR/RID/ADN/ADG Packing group</b>	Not regulated
<b>IMDG/ANTAQ Packing group</b>	Not regulated
<b>ICAO/ANAC Packing group</b>	Not regulated

**14.5 Environmental hazard**

No

**14.6 Special precautions**

Not applicable

**14.7 Transport in bulk according to Annex I/II of MARPOL 73/78 and the IBC Code**

Please contact SDS@slb.com for info regarding transport in Bulk.

**15. Regulatory Information****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

The Globally Harmonized System of Classification and Labeling of Chemicals (GHS)

Australian Standard for the Uniform Scheduling of Drugs and Poisons

No poisons schedule number allocated

National Code of Practice for the Preparation of Material Safety Data Sheets 2nd Edition [NOHSC: 2011 (2003)].

National Occupational Health and Safety Commission's Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004) 3rd Edition].

National Occupational Health and Safety Commission's Exposure Standards for Atmospheric Contaminants in the occupational Environment [NOHSC:1003 (1995)].

Safe Work Australia.

Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).

Not classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG)

#### International inventories

USA (TSCA)	Complies
Canada (DSL)	Complies
Philippines (PICCS)	Complies
Japan (ENCS)	Complies
China (IECSC)	Complies
Australia (AICS)	Complies
Korean (KECL)	Complies
New Zealand (NZIoC)	Complies

## 16. Other Information

**Prepared by** Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Ingrid Helland

**Supersedes Date:** 09-Apr-2014

**Revision date** 19-Sep-2018

**Version** 4

**This SDS has been revised in the following section(s)** 15, 16 There have been changes with regard to classification.

#### **Key literature references and sources for data**

www.ChemADVISOR.com

Supplier

National Chemical Inventories

National regulatory information

National occupational exposure limits

#### **HMIS classification**

Health	1
Flammability	1
Physical hazard	0
PPE	B



**Disclaimer**

The information contained herein is considered in good faith as reliable of the date issued and is based upon on measurements, tests or data derived from supplier's own study or furnished by others. In providing this SDS information, Supplier makes no express or implied warranties as to the information or product; merchantability or fitness of purpose; any express or implied warranty; or non-infringement of intellectual property rights; and supplier assumes no responsibility for any direct, special or consequential damages, results obtained, or the activities of others. To the maximum extent permitted by law, supplier's warranty obligations and buyer's sole remedies are as stated in separate agreement between the parties.

**This Document is Confidential and Proprietary. Unless Otherwise Marked, It is an Uncontrolled Copy.**



## Safety Data Sheet Cement Liquid Dispersant D80

### 1. Identification of the substance/preparation and of the Company/undertaking

#### 1.1 Product identifier

**Product name** Cement Liquid Dispersant D80  
**Product code** D080

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** Used as a cementing additive in oilfield applications

**Uses advised against** Consumer use

#### 1.3 Details of the supplier of the safety data sheet

##### Supplier

Schlumberger Oilfield Australia Pty Ltd  
ABN: 74 002 459 225  
ACN: 002 459 225  
256 St. Georges Terrace, Perth WA 6000  
+47 5157 7424  
SDS@slb.com

#### 1.4 Emergency Telephone Number

**Emergency telephone** - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 595 3518, Canada 001 613 996 6666

### 2. Hazards identification

#### 2.1 Classification of the substance or mixture

**Classification according to (EC) No. 1272/2008**

**Health hazards** Not classified

##### Environmental hazards

Chronic aquatic toxicity	Category 2
--------------------------	------------

**Physical Hazards** Not classified

#### 2.2 Label elements

**Signal word**

None

**Hazard statements**

H411 - Toxic to aquatic life with long lasting effects

**Precautionary statements**

P273 - Avoid release to the environment

P391 - Collect spillage

P501 - Dispose of contents/container in accordance with local regulations.

-

-

**Contains**

Sodium polynaphthalene sulfonate

**2.3 Other data**

Not classified as PBT/vPvB by current EU criteria

**Australian statement of hazardous/dangerous nature**

HAZARDOUS SUBSTANCE. DANGEROUS GOODS.

Classified as Hazardous according to the criteria of NOHSC.

### 3. Composition/information on ingredients

**3.1 Substances**

Not Applicable

**3.2 Mixtures**

Component	EC-No.	CAS-No	Weight % - range	Classification (67/548)	Classification (Reg. 1272/2008)	REACH registration number
Sodium polynaphthalene sulfonate	Polymer	9008-63-3	20-40	-	Aquatic Chronic 2 (H411)	No data available

**Comments**

The product contains other ingredients which do not contribute to the overall classification.

## 4. First aid measures

### 4.1 First-Aid Measures

<b>Inhalation</b>	If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.
<b>Ingestion</b>	Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Get medical attention immediately if symptoms occur.
<b>Eye contact</b>	Remove contact lenses. Promptly wash eyes with lots of water while lifting eye lids. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.

### 4.2 Most important symptoms and effects, both acute and delayed

<b>General advice</b>	The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible.
<b>Main symptoms</b>	
<b>Inhalation</b>	Please see Section 11. Toxicological Information for further information.
<b>Ingestion</b>	Please see Section 11. Toxicological Information for further information.
<b>Skin contact</b>	Please see Section 11. Toxicological Information for further information.
<b>Eye contact</b>	Please see Section 11. Toxicological Information for further information.

### 4.3 Indication of any immediate medical attention and special treatment needed

<b>Notes to physician</b>	Treat symptomatically.
---------------------------	------------------------

## 5. Fire-fighting measures

### 5.1 Extinguishing media

#### **Suitable extinguishing media**

Use extinguishing media appropriate for surrounding material.

#### **Extinguishing media which shall not be used for safety reasons**

None known.

### 5.2 Special hazards arising from the substance or mixture

#### **Unusual fire and explosion hazards**

None known based on information supplied.

#### **Hazardous combustion products**

Fire or high temperatures create: Carbon oxides (COx), Sulphur oxides.

### 5.3 Advice for firefighters

#### **Special protective equipment for fire-fighters**

As in any fire, wear self-contained breathing apparatus and full protective gear.

**Special Fire-Fighting Procedures**

Containers close to fire should be removed immediately or cooled with water.

**Hazchem code ADG**

3Z

## 6. Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. See also section 8.

### 6.2 Environmental precautions

The product should not be allowed to enter drains, water courses or the soil.

**Environmental exposure controls**

Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

### 6.3 Methods and materials for containment and cleaning up

**Methods for containment**

Prevent further leakage or spillage if safe to do so. Dike far ahead of liquid spill for later disposal.

**Methods for cleaning up**

Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. After cleaning, flush away traces with water.

### 6.4 Reference to other sections

See section 13 for more information.

## 7. Handling and storage

### 7.1 Precautions for safe handling

**Handling**

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Do not breathe vapors or spray mist. Avoid spills and splashing during use.

**Hygiene measures**

Use good work and personal hygiene practices to avoid exposure. Wash hands before eating, drinking or smoking. When using do not smoke, eat or drink. Remove contaminated clothing.

### 7.2 Conditions for safe storage, including any incompatibilities

**Technical measures/precautions** Ensure adequate ventilation. Keep airborne concentrations below exposure limits.

**Storage precautions** Keep containers tightly closed in a dry, cool and well-ventilated place. Store in original container. Do not freeze. Store above 0°C. Avoid contact with: Oxidizing agents, Acids.

**Storage class** Chemical storage.

**Packaging material** Store in PVC, PE, or stainless steel.

### 7.3 Specific end uses

See Section 1.2.

## 8. Exposure controls/personal protection

### 8.1 Control parameters

#### Exposure limits

The product does not contain any hazardous materials with occupational exposure limits established.

No biological limit allocated

Component	EU OEL	Austria	Australia	Denmark
Sodium polynaphthalene sulfonate	Not determined	Not determined	Not determined	Not determined

Component	Malaysia	France	Germany	Hungary
Sodium polynaphthalene sulfonate	Not determined	Not determined	Not determined	Not determined

Component	New Zealand	Italy	Netherlands	Norway
Sodium polynaphthalene sulfonate	Not Determined	Not determined	Not determined	Not determined

Component	Poland	Portugal	Romania	Russia
Sodium polynaphthalene sulfonate	Not determined	Not determined	Not determined	Not determined

Component	Spain	Switzerland	Turkey	UK
Sodium polynaphthalene sulfonate	Not determined	Not determined	Not determined	Not determined

### 8.2 Exposure controls

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

#### Engineering measures to reduce exposure

Ensure adequate ventilation.

#### Personal protective equipment

##### Eye protection

Safety glasses with side-shields.

##### Hand protection

Use protective gloves made of: Neoprene, Nitrile, Frequent change is advisable.

##### Respiratory protection

No personal respiratory protective equipment normally required, In case of insufficient ventilation wear suitable respiratory equipment, Type A/P2, At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used.

##### Skin and body protection

Wear suitable protective clothing, Eye wash and emergency shower must be available at the work place.

**Hygiene measures**

Wash hands before eating, drinking or smoking, Remove and wash contaminated clothing before re-use.



## 9. Physical and chemical properties

**9.1 Information on basic physical and chemical properties**

<b>Physical state</b>	Liquid
<b>Appearance</b>	Opaque
<b>Odor</b>	Pungent
<b>Color</b>	Dark brown
<b>Odor threshold</b>	Not applicable

<u>Property</u>	<u>Values</u>	<u>Remarks</u>
<b>pH</b>	6 - 8	
<b>pH @ dilution</b>		
<b>Melting/freezing point</b>	-2 °C / 28 °F	
<b>Boiling point/range</b>	100 °C / 212 °F	
<b>Flash point</b>	No information available	
<b>Evaporation rate (BuAc =1)</b>		
<b>Flammability (solid, gas)</b>	Not Applicable	
<b>Flammability Limits in Air</b>		
<b>Upper flammability limit</b>	Not applicable	
<b>Lower flammability limit</b>	Not applicable	
<b>Vapor pressure</b>	No information available	
<b>Vapor density</b>	>1 (air = 1)	
<b>Specific gravity</b>	1.2	20 °C
<b>Bulk density</b>	No information available	Not applicable
<b>Relative density</b>	No information available	
<b>Water solubility</b>	Soluble	
<b>Solubility in other solvents</b>	No information available	
<b>Autoignition temperature</b>	No information available	
<b>Decomposition temperature</b>	No information available	
<b>Kinematic viscosity</b>		
<b>Dynamic viscosity</b>	60 mPa s	
<b>Log Pow</b>	No information available	
<b>Explosive properties</b>	None known	
<b>Oxidizing properties</b>	None known.	

**9.2 Other information**

<b>Pour point</b>	No information available
<b>Molecular weight</b>	No information available
<b>VOC content(%)</b>	No information available
<b>Density</b>	No information available

## 10. Stability and reactivity

**10.1 Reactivity**

No specific reactivity hazards associated with this product.

**10.2 Chemical stability**

Stable under normal temperature conditions and recommended use.

### **10.3 Possibility of Hazardous Reactions**

#### **Hazardous polymerization**

Hazardous polymerization does not occur.

### **10.4 Conditions to avoid**

Do not freeze.

### **10.5 Incompatible materials**

Oxidizing agents. Acids.

### **10.6 Hazardous decomposition products**

See Section 5.2.

## **11. Toxicological information**

### **11.1 Information on toxicological effects**

#### **Acute toxicity**

<b>Inhalation</b>	Inhalation of vapors in high concentration may cause irritation of respiratory system.
<b>Eye contact</b>	May cause slight irritation.
<b>Skin contact</b>	Prolonged contact may cause redness and irritation.
<b>Ingestion</b>	Ingestion may cause stomach discomfort.
<b>Unknown acute toxicity</b>	Not Applicable.

<b>Component</b>	<b>LD50 Oral</b>	<b>LD50 Dermal</b>	<b>LC50 Inhalation</b>
Sodium polynaphthalene sulfonate	No data available	No data available	No data available

**Sensitization** This product does not contain any components suspected to be sensitizing.

**Mutagenic effects** This product does not contain any known or suspected mutagens.

**Carcinogenicity** This product does not contain any known or suspected carcinogens.

**Reproductive toxicity** This product does not contain any known or suspected reproductive hazards.

**Routes of exposure** Skin contact. Inhalation. Eye contact.

**Routes of entry** No route of entry noted.

**Specific target organ toxicity (single exposure)** Not classified



<b>Specific target organ toxicity (repeated exposure)</b>	Not classified.
<b>Neurological effects</b>	None known.
<b>Target organ effects</b>	None known.
<b>Aspiration hazard</b>	Not Applicable.

## 12. Ecological information

### 12.1 Toxicity

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

#### **Toxicity to algae**

Toxic to aquatic life with long lasting effects. EC50 (48Hrs) of the polymer = 1.8mg/l.

#### **Toxicity to fish**

This product is not considered toxic to fish.

#### **Toxicity to daphnia and other aquatic invertebrates**

This product is not considered toxic to invertebrates.

Component	Toxicity to fish	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates
Sodium polynaphthalene sulfonate	No information available	No information available	No information available

### 12.2 Persistence and degradability

Product is not biodegradable.

### 12.3 Bioaccumulative potential

No bioaccumulation expected due to high molecular weight.

### 12.4 Mobility in soil

#### **Mobility**

The product is water soluble, and may spread in water systems.

### 12.5 Results of PBT and vPvB assessment

Not classified as PBT/vPvB by current EU criteria.

### 12.6 Other adverse effects.

None known.

## 13. Disposal considerations

### 13.1 Waste treatment methods

<b>Waste from residues / unused products</b>	Dispose of in accordance with local regulations.
<b>Contaminated packaging</b>	Empty containers should be taken for local recycling, recovery or waste disposal.
<b>EWC Waste disposal No.</b>	According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used. The following Waste Codes are only suggestions: EWC waste disposal No: 07 07 99; 16 03 06

## 14. Transport information

### 14.1 UN Number

<b>UN/ID No. (ADR/RID/ADN/ADG)</b>	UN3082
<b>UN No. (IMDG)</b>	UN3082
<b>UN No. (ICAO)</b>	UN3082

### 14.2 Proper shipping name

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Sodium polynaphthalene sulfonate)

### 14.3 Hazard class(es)

<b>ADR/RID/ADN/ADG Hazard class</b>	9
<b>IMDG Hazard class</b>	9
<b>ICAO Hazard class/division</b>	9

### 14.4 Packing group

<b>ADR/RID/ADN/ADG Packing group</b>	III
<b>IMDG Packing group</b>	III
<b>ICAO Packing group</b>	III



### 14.5 Environmental hazard

Yes

### 14.6 Special precautions

<b>Hazard identification no (ADR)</b>	90
<b>EmS (IMDG)</b>	F-A, S-F

Emergency action code 3Z  
Tunnel restriction code (E)  
Hazchem code ADG 3Z

#### 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Please contact SDS@slb.com for info regarding transport in Bulk.

## 15. Regulatory information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

#### Australian Standard for the Uniform Scheduling of Drugs and Poisons

No Poisons Schedule number allocated

Commission Regulation (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH). Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, including amendments.

This safety data sheet complies with the requirements of Regulation (EC) No. 1272/2008.

Safe Work Australia.

Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).

ADG Code – Australian Dangerous Goods Code.

Take note of Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values .

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work .

#### International inventories

USA (TSCA)	Complies
European Union (EINECS and ELINCS)	Complies
Canada (DSL)	Complies
Philippines (PICCS)	Complies
Japan (ENCS)	Complies
China (IECSC)	Complies
Australia (AICS)	Complies
Korean (KECL)	Complies
New Zealand (NZIoC)	Complies

### 15.2 Chemical Safety Report

No information available

## 16. Other information

Prepared by Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Ingrid Helland

Supersedes date 22/Apr/2014

**Revision date** 22/Jan/2016

**Version** 2

**The following sections have been revised:** The following sections have been revised:., All sections, There have been changes with regard to classification.

**Full text of H-Statements referred to under sections 2 and 3**

H411 - Toxic to aquatic life with long lasting effects

**Disclaimer**

The information contained herein is considered in good faith as reliable of the date issued and is based upon on measurements, tests or data derived from supplier's own study or furnished by others. In providing this SDS information, Supplier makes no express or implied warranties as to the information or product; merchantability or fitness of purpose; any express or implied warranty; or non-infringement of intellectual property rights; and supplier assumes no responsibility for any direct, special or consequential damages, results obtained, or the activities of others. To the maximum extent permitted by law, supplier's warranty obligations and buyer's sole remedies are as stated in separate agreement between the parties.



## Safety Data Sheet Liquid Retarder D81

### 1. Identification of the substance/mixture and of the company/undertaking

#### 1.1 Product identifier

**Product name** Liquid Retarder D81  
**Product code** D081

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** Used as a cementing additive in oilfield applications

**Uses advised against** Consumer use

#### 1.3 Details of the supplier of the safety data sheet

##### **Supplier**

Schlumberger Oilfield Australia Pty Ltd  
ABN: 74 002 459 225  
ACN: 002 459 225  
256 St. Georges Terrace, Perth WA 6000  
+47 5157 7424

SDS@slb.com

#### 1.4 Emergency Telephone Number

**Emergency telephone** - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 595 3518

### 2. Hazards Identification

#### 2.1 Classification of the substance or mixture

##### **GHS Classification**

**Health hazards** Not classified

**Environmental hazards** Not classified

**Physical Hazards** Not classified

#### 2.2 Label elements

##### **Signal word**

None

**Hazard Statements**

This product is not classified as hazardous therefore no (H) hazard statements assigned.

**Precautionary statements**

This product is not classified as hazardous therefore has no (P) precautionary statements assigned.

**Contains****2.3 Other hazards**

Not classified as PBT/vPvB by current EU criteria

**Australian statement of hazardous/dangerous nature**

Classified as Non-Hazardous according to the criteria of NOHSC.  
NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

**3. Composition/information on ingredients****3.1 Substances**

Not applicable

**3.2 Mixtures**

This product does not contain any hazardous ingredients, or ingredients with national workplace exposure limits.

**4. First Aid Measures****4.1 First aid measures**

<b>Inhalation</b>	If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.
<b>Ingestion</b>	Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.
<b>Skin contact</b>	Wash skin thoroughly with soap and water. Get medical attention if irritation persists.
<b>Eye Contact</b>	Promptly wash eyes with lots of water while lifting eye lids. Remove contact lenses, if worn. Get medical attention if any discomfort continues.

**4.2. Most important symptoms and effects, both acute and delayed**

<b>General advice</b>	The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible.
-----------------------	--

**Symptoms**

<b>Inhalation</b>	Please see Section 11. Toxicological Information for further information.
<b>Ingestion</b>	Please see Section 11. Toxicological Information for further information.
<b>Skin contact</b>	Please see Section 11. Toxicological Information for further information.
<b>Eye contact</b>	Please see Section 11. Toxicological Information for further information.

**4.3 Indication of any immediate medical attention and special treatment needed**

Notes to physician Treat symptomatically.

## 5. Fire-Fighting Measures

### 5.1 Extinguishing media

#### Suitable extinguishing media

Water Fog, Alcohol Foam, CO<sub>2</sub>, Dry Chemical.

#### Extinguishing media which must not be used for safety reasons

Do not use water jet.

### 5.2. Special hazards arising from the substance or mixture

#### Unusual fire and explosion hazards

None known.

#### Hazardous combustion products

Thermal decomposition can lead to release of irritating gases and vapors

### 5.3 Advice for firefighters

#### Special protective equipment for fire-fighters

As in any fire, wear self-contained breathing apparatus and full protective gear.

#### Special Fire-Fighting Procedures

Containers close to fire should be removed immediately or cooled with water.

## 6. Accidental Release Measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. See also section 8.

### 6.2 Environmental precautions

The product should not be allowed to enter drains, water courses or the soil.

#### Environmental exposure controls

Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

### 6.3 Methods and material for containment and cleaning up

#### Methods for containment

Prevent further leakage or spillage if safe to do so. Dike far ahead of liquid spill for later disposal.

#### Methods for cleaning up

Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. After cleaning, flush away traces with water.

### 6.4 Reference to other sections

See section 13 for more information.

## 7. Handling and Storage

**7.1 Precautions for safe handling****Handling**

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Avoid breathing vapors or mists. Avoid spills and splashing during use.

**Hygiene Measures**

Use good work and personal hygiene practices to avoid exposure. Wash hands and face before breaks and immediately after handling the product. Remove contaminated clothing. Do not eat, drink or smoke when using this product.

**7.2 Conditions for safe storage, including any incompatibilities**

<b>Technical measures/precautions</b>	Ensure adequate ventilation.
<b>Storage precautions</b>	Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from direct sunlight. Store away from incompatibles, Strong acids. Strong oxidizing agents
<b>Storage class</b>	Chemical storage.
<b>Packaging materials</b>	Use specially constructed containers only.

**8. Exposure controls/personal protection****8.1 Control parameters**

<b>Exposure limits</b>	The product does not contain any hazardous materials with occupational exposure limits established. No biological limit allocated
------------------------	--

**8.2 Exposure controls**

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

**Engineering Controls**

Ensure adequate ventilation Local exhaust ventilation

**Personal protective equipment**

<b>Eye protection</b>	Use eye protection according to EN 166, designed to protect against liquid splashes Safety glasses with side-shields Tightly fitting safety goggles
<b>Hand protection</b>	Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Impervious gloves made of: Neoprene Nitrile Break through time >480 minutes Glove thickness >0.4 mm
<b>Respiratory protection</b>	Be aware that liquid may penetrate the gloves. Frequent change is advisable. In case of insufficient ventilation wear suitable respiratory equipment Use respirator with organic vapor protection (A, brown) At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used.
<b>Skin and body protection</b>	Wear suitable protective clothing Eye wash and emergency shower must be available at the work place.
<b>Hygiene Measures</b>	Wash hands before eating, drinking or smoking Remove and wash contaminated clothing before re-use





### 8.2.3 Environmental exposure controls

**Environmental exposure** Use appropriate containment to avoid environmental contamination See section 6 for more information

## 9. Physical and Chemical Properties

### 9.1 Information on basic physical and chemical properties

<b>Physical state</b>	Liquid
<b>Appearance</b>	Aqueous solution
<b>Odor</b>	Of burnt sugar / Slight
<b>Color</b>	Dark brown
<b>Odor threshold</b>	Not applicable

<u>Property</u>	<u>Values</u>	<u>Remarks</u>
pH	8 - 9	
pH @ dilution	No information available	
Melting / freezing point	No information available	
Boiling point/range	No information available	
Flash point	Does not flash	
Evaporation rate (BuAc =1)	Not applicable	
Flammability (solid, gas)	Not applicable	
Flammability Limit in Air		
Upper flammability limit	Not applicable	
Lower flammability limit	Not applicable	
Vapor pressure	Not applicable	
Vapor density	No information available	
Specific gravity	1.24 - 1.26	@ 27 °C
Bulk density	No information available	
Relative density	No information available	
Water solubility	Soluble in water	
Solubility in other solvents	No information available	
Autoignition temperature	400 °C / 752 °F	
Decomposition temperature	No information available	
Kinematic viscosity	No information available	
Dynamic viscosity	350 mPa.s	@ 20 °C
log Pow	No information available	

**Explosive properties** Not applicable  
**Oxidizing properties** None known.

### 9.2 Other information

<b>Pour point</b>	No information available
<b>Molecular weight</b>	No information available
<b>VOC content(%)</b>	None
<b>Density</b>	No information available

### Comments

The data listed above are typical physical and chemical properties and should not be construed as product specification.

## 10. Stability and Reactivity

**10.1 Reactivity**

No specific reactivity hazards associated with this product.

**10.2 Chemical stability**

Stable under normal temperature conditions and recommended use.

**10.3 Possibility of Hazardous Reactions****Hazardous polymerization**

Hazardous polymerization does not occur.

**10.4 Conditions to avoid**

Keep away from direct sunlight.

**10.5 Incompatible materials**

Strong oxidizing agents. Strong acids.

**10.6 Hazardous decomposition products**

See Section 5.2.

## 11. Toxicological Information

**11.1 Information on toxicological effects****Acute toxicity**

<b>Inhalation</b>	Inhalation of vapors in high concentration may cause irritation of respiratory system.
<b>Eye contact</b>	May cause slight irritation.
<b>Skin contact</b>	Prolonged contact may cause redness and irritation.
<b>Ingestion</b>	Ingestion may cause stomach discomfort.
<b>Unknown acute toxicity</b>	Not applicable.

**Sensitization** This product does not contain any components suspected to be sensitizing.

**Mutagenic effects** This product does not contain any known or suspected mutagens.

**Carcinogenicity** This product does not contain any known or suspected carcinogens.

**Reproductive toxicity** This product does not contain any known or suspected reproductive hazards.

**Routes of exposure** Skin contact. Eye contact. Inhalation.

**Routes of entry** No route of entry noted.

---

<b>Specific target organ toxicity - Single exposure</b>	Not classified
<b>Specific target organ toxicity - Repeated exposure</b>	Not classified.
<b>Aspiration hazard</b>	Not applicable.
<b>Other information</b>	Key literature references and sources for data. See Section 16 for more information.

## 12. Ecological Information

### 12.1 Toxicity

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.  
Listed on PLONOR list of OSPAR

#### **Toxicity to algae**

This product is not considered toxic to algae.

#### **Toxicity to fish**

This product is not considered toxic to fish.

#### **Toxicity to daphnia and other aquatic invertebrates**

This product is not considered toxic to invertebrates.

### 12.2 Persistence and degradability

No product level data available.

### 12.3 Bioaccumulative potential

Does not bioaccumulate.

### 12.4 Mobility

#### **Mobility**

Soluble in water.

#### **Mobility in soil**

No information available.

### 12.5 Results of PBT and vPvB assessment

Not classified as PBT/vPvB by current EU criteria.

**12.6 Other adverse effects.**

None known.

**12.7 Other information**

Key literature references and sources for data. See Section 16 for more information.

**13. Disposal considerations****13.1 Waste treatment methods**

**Waste from residues / unused products** Dispose of in accordance with local regulations.

**Contaminated packaging** Empty containers should be taken for local recycling, recovery or waste disposal.

**14. Transport information****14.1. UN number**

Not regulated

**14.2. UN proper shipping name**

The product is not covered by international regulation on the transport of dangerous goods

**14.3 Hazard class(es)**

<b>ADR/RID/ADN/ADG Hazard class</b>	Not regulated
<b>IMDG/ANTAQ Hazard class</b>	Not regulated
<b>ICAO/ANAC Hazard class/division</b>	Not regulated

**14.4 Packing group**

<b>ADR/RID/ADN/ADG Packing group</b>	Not regulated
<b>IMDG/ANTAQ Packing group</b>	Not regulated
<b>ICAO/ANAC Packing group</b>	Not regulated

**14.5 Environmental hazard**

No

**14.6 Special precautions**

Not applicable

**14.7 Transport in bulk according to Annex I/II of MARPOL 73/78 and the IBC Code**

Please contact SDS@slb.com for info regarding transport in Bulk.

**15. Regulatory information****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**The Globally Harmonized System of Classification and Labeling of Chemicals (GHS)**

**Australian Standard for the Uniform Scheduling of Drugs and Poisons**

No poisons schedule number allocated

**New Zealand hazard classification** Not classified

HSNO approval no. Not required

Group number Not required

National Code of Practice for the Preparation of Material Safety Data Sheets 2nd Edition [NOHSC: 2011 (2003)].

National Occupational Health and Safety Commission's Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004) 3rd Edition].

National Occupational Health and Safety Commission's Exposure Standards for Atmospheric Contaminants in the occupational Environment [NOHSC:1003 (1995)].

Safe Work Australia.

Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).

Not classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG)

Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013 [P.U.(A) 310/2013] (CLASS Regulations)  
The Industry Code of Practice on Chemical Classification and Hazard Communication 2014 [P.U. (B) 128/2014] (ICOP)

#### International inventories

USA (TSCA)	Complies
Canada (DSL)	Complies
Philippines (PICCS)	Complies
Japan (ENCS)	Complies
China (IECSC)	Complies
Australia (AICS)	Complies
Korean (KECL)	Complies
New Zealand (NZIoC)	Complies

## 16. Other Information

Prepared by Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Muriel Martin Beurel

Supersedes Date: 05-Jun-2015

Revision date 27-Mar-2018

Version 3

This SDS has been revised in the following section(s) All sections No changes with regard to classification have been made.

#### Key literature references and sources for data

www.ChemADVISOR.com

Supplier

National Chemical Inventories

National regulatory information

National occupational exposure limits

**Disclaimer**

The information contained herein is considered in good faith as reliable of the date issued and is based upon on measurements, tests or data derived from supplier's own study or furnished by others. In providing this SDS information, Supplier makes no express or implied warranties as to the information or product; merchantability or fitness of purpose; any express or implied warranty; or non-infringement of intellectual property rights; and supplier assumes no responsibility for any direct, special or consequential damages, results obtained, or the activities of others. To the maximum extent permitted by law, supplier's warranty obligations and buyer's sole remedies are as stated in separate agreement between the parties.

## Safety Data Sheet Cement Retarder D110

### 1. Identification of the substance/mixture and of the company/undertaking

#### 1.1 Product identifier

**Product name** Cement Retarder D110  
**Product code** D110

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** Used as a cementing additive in oilfield applications

**Uses advised against** Consumer use

#### 1.3 Details of the supplier of the safety data sheet

##### **Supplier**

Schlumberger Oilfield Australia Pty Ltd  
ABN: 74 002 459 225  
ACN: 002 459 225  
256 St. Georges Terrace, Perth WA 6000  
+47 5157 7424

SDS@slb.com

#### 1.4 Emergency Telephone Number

**Emergency telephone** - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 595 3518

### 2. Hazards Identification

#### 2.1 Classification of the substance or mixture

##### **GHS Classification**

**Health hazards** Not classified

**Environmental hazards** Not classified

**Physical Hazards** Not classified

#### 2.2 Label elements

##### **Signal word**

None

**Hazard Statements**

This product is not classified as hazardous therefore no (H) hazard statements assigned.

**Precautionary statements**

This product is not classified as hazardous therefore has no (P) precautionary statements assigned.

-

**Contains** No hazardous components

**2.3 Other hazards**

Not classified as PBT/vPvB by current EU criteria

Thermal decomposition can lead to release of irritating gases and vapors

**Australian statement of hazardous/dangerous nature**

Classified as Non-Hazardous according to the criteria of NOHSC.  
NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

**3. Composition/information on ingredients****3.1 Substances**

Not applicable

**3.2 Mixtures**

No classified ingredients, or those having occupational exposure limits, present above the level of disclosure.

**4. First Aid Measures****4.1 First aid measures**

<b>Inhalation</b>	If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.
<b>Ingestion</b>	Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get medical attention immediately if symptoms occur.
<b>Eye Contact</b>	Remove contact lenses, if worn. Promptly wash eyes with lots of water while lifting eye lids. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.

**4.2. Most important symptoms and effects, both acute and delayed**

**General advice** The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible.

**Symptoms**

<b>Inhalation</b>	Please see Section 11. Toxicological Information for further information.
<b>Ingestion</b>	Please see Section 11. Toxicological Information for further information.
<b>Skin contact</b>	Please see Section 11. Toxicological Information for further information.



**Eye contact** Please see Section 11. Toxicological Information for further information.

#### **4.3 Indication of any immediate medical attention and special treatment needed**

**Notes to physician** Treat symptomatically.

### **5. Fire-Fighting Measures**

#### **5.1 Extinguishing media**

**Suitable extinguishing media**

Use extinguishing media appropriate for surrounding material.

**Extinguishing media which must not be used for safety reasons**

None known.

#### **5.2. Special hazards arising from the substance or mixture**

**Unusual fire and explosion hazards**

None known.

**Hazardous combustion products**

Fire or high temperatures create: Carbon oxides (COx), Harmful organic chemical fumes.

#### **5.3 Advice for firefighters**

**Special protective equipment for fire-fighters**

As in any fire, wear self-contained breathing apparatus and full protective gear.

**Special Fire-Fighting Procedures**

Containers close to fire should be removed immediately or cooled with water.

### **6. Accidental Release Measures**

#### **6.1. Personal precautions, protective equipment and emergency procedures**

Use personal protective equipment. See also section 8.

#### **6.2 Environmental precautions**

The product should not be allowed to enter drains, water courses or the soil.

**Environmental exposure controls**

Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

#### **6.3 Methods and material for containment and cleaning up**

**Methods for containment**

Prevent further leakage or spillage if safe to do so. Dike far ahead of liquid spill for later disposal.

**Methods for cleaning up**

Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. After cleaning, flush away traces with water.

#### **6.4 Reference to other sections**

See section 13 for more information.

## 7. Handling and Storage

### 7.1 Precautions for safe handling

#### Handling

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Do not breathe vapors or spray mist. Avoid spills and splashing during use.

#### Hygiene Measures

Use good work and personal hygiene practices to avoid exposure. When using do not smoke, eat or drink. Wash hands and face before breaks and immediately after handling the product

### 7.2 Conditions for safe storage, including any incompatibilities

<b>Technical measures/precautions</b>	Ensure adequate ventilation. Keep airborne concentrations below exposure limits.
<b>Storage precautions</b>	Keep containers tightly closed in a dry, cool and well-ventilated place Do not freeze Store above 0°C Store away from incompatibles, Strong oxidizing agents
<b>Storage class</b>	Chemical storage.
<b>Packaging materials</b>	Use specially constructed containers only. High density polyethylene (HDPE) drum

## 8. Exposure controls/personal protection

### 8.1 Control parameters

<b>Exposure limits</b>	The product does not contain any hazardous materials with occupational exposure limits established.
------------------------	---

#### Notes

No biological limit allocated

### 8.2 Exposure controls

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

#### Engineering Controls

Ensure adequate ventilation

#### Personal protective equipment

##### Eye protection

It is good practice to wear goggles when handling any chemical Use eye protection according to EN 166, designed to protect against liquid splashes Tightly fitting safety goggles

##### Hand protection

Wear chemical resistant gloves such as nitrile or neoprene. Repeated or prolonged contact Rubber gloves Neoprene Nitrile Break through time >480 minutes Glove thickness 0.5 mm

##### Respiratory protection

Be aware that liquid may penetrate the gloves. Frequent change is advisable. No personal respiratory protective equipment normally required In case of insufficient

**Skin and body protection** ventilation wear suitable respiratory equipment Respirator with combination filter for vapour/particulate (EN 141) Type A/P2  
Wear suitable protective clothing Eye wash and emergency shower must be available at the work place.

**Hygiene Measures** Wash hands before eating, drinking or smoking Remove and wash contaminated clothing before re-use



### 8.2.3 Environmental exposure controls

**Environmental exposure** Use appropriate containment to avoid environmental contamination See section 6 for more information

## 9. Physical and Chemical Properties

### 9.1 Information on basic physical and chemical properties

<b>Physical state</b>	Liquid
<b>Appearance</b>	Opaque
<b>Odor</b>	Sweet
<b>Color</b>	Brown
<b>Odor threshold</b>	Not applicable

<u>Property</u>	<u>Values</u>	<u>Remarks</u>
<b>pH</b>	6 - 9	
<b>pH @ dilution</b>	No information available	
<b>Melting / freezing point</b>	-4 °C / 24.8 °F	
<b>Boiling point/range</b>	100 °C / 212 °F	
<b>Flash point</b>	> 100 °C / > 212 °F	
<b>Evaporation rate (BuAc =1)</b>	No information available	
<b>Flammability (solid, gas)</b>	Not applicable	
<b>Flammability Limit in Air</b>		
<b>Upper flammability limit</b>	Not applicable	
<b>Lower flammability limit</b>	Not applicable	
<b>Vapor pressure</b>	No information available	
<b>Vapor density</b>	No information available	
<b>Specific gravity</b>	1.14	20 °C
<b>Bulk density</b>	No information available	
<b>Relative density</b>	No information available	
<b>Water solubility</b>	Soluble	
<b>Solubility in other solvents</b>	No information available	
<b>Autoignition temperature</b>	No information available	
<b>Decomposition temperature</b>	>242°C / >467.6 °F	
<b>Kinematic viscosity</b>	No information available	
<b>Dynamic viscosity</b>	1.5cst	@ 40 °C
<b>log Pow</b>	Does not bioaccumulate	
<b>Explosive properties</b>	None known	
<b>Oxidizing properties</b>	None known.	

### 9.2 Other information

<b>Pour point</b>	No information available
<b>Molecular weight</b>	No information available

**VOC content(%)** None  
**Density** No information available

**Comments**

The data listed above are typical physical and chemical properties and should not be construed as product specification.

## 10. Stability and Reactivity

### 10.1 Reactivity

No specific reactivity hazards associated with this product.

### 10.2 Chemical stability

Stable under normal temperature conditions and recommended use.

### 10.3 Possibility of Hazardous Reactions

**Hazardous polymerization**

Hazardous polymerization does not occur.

### 10.4 Conditions to avoid

Do not freeze. Store above 0°C.

### 10.5 Incompatible materials

Strong oxidizing agents.

### 10.6 Hazardous decomposition products

See Section 5.2.

## 11. Toxicological Information

### 11.1 Information on toxicological effects

**Acute toxicity**

<b>Inhalation</b>	Inhalation of vapors in high concentration may cause irritation of respiratory system.
<b>Eye contact</b>	May cause slight irritation.
<b>Skin contact</b>	Prolonged contact may cause redness and irritation.
<b>Ingestion</b>	Ingestion may cause stomach discomfort.
<b>Unknown acute toxicity</b>	Not applicable.

**Sensitization** This product does not contain any components suspected to be sensitizing.

**Mutagenic effects** This product does not contain any known or suspected mutagens.

**Carcinogenicity** This product does not contain any known or suspected carcinogens.

---

<b>Reproductive toxicity</b>	This product does not contain any known or suspected reproductive hazards.
<b>Routes of exposure</b>	Skin contact. Eye contact.
<b>Routes of entry</b>	No route of entry noted.
<b>Specific target organ toxicity - Single exposure</b>	Not classified
<b>Specific target organ toxicity - Repeated exposure</b>	Not classified.
<b>Aspiration hazard</b>	Not applicable.
<b>Other information</b>	Key literature references and sources for data. See Section 16 for more information.

## 12. Ecological Information

### 12.1 Toxicity

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

#### **Toxicity to algae**

This product is not considered toxic to algae.

#### **Toxicity to fish**

Not considered toxic to fish.

#### **Toxicity to daphnia and other aquatic invertebrates**

Not considered toxic.

### 12.2 Persistence and degradability

Product is biodegradable.

### 12.3 Bioaccumulative potential

Does not bioaccumulate.

### 12.4 Mobility

#### **Mobility**

The product is water soluble, and may spread in water systems.

#### **Mobility in soil**

No information available.

**12.5 Results of PBT and vPvB assessment**

Not classified as PBT/vPvB by current EU criteria.

**12.6 Other adverse effects.**

None known.

**12.7 Other information**

Key literature references and sources for data. See Section 16 for more information.

**13. Disposal considerations****13.1 Waste treatment methods**

**Waste from residues / unused products** Dispose of in accordance with local regulations.

**Contaminated packaging** Empty containers should be taken for local recycling, recovery or waste disposal.

**14. Transport information****14.1. UN number**

Not regulated

**14.2. UN proper shipping name**

The product is not covered by international regulation on the transport of dangerous goods

**14.3 Hazard class(es)**

<b>ADR/RID/ADN/ADG Hazard class</b>	Not regulated
<b>IMDG/ANTAQ Hazard class</b>	Not regulated
<b>ICAO/ANAC Hazard class/division</b>	Not regulated

**14.4 Packing group**

<b>ADR/RID/ADN/ADG Packing group</b>	Not regulated
<b>IMDG/ANTAQ Packing group</b>	Not regulated
<b>ICAO/ANAC Packing group</b>	Not regulated

**14.5 Environmental hazard**

No

**14.6 Special precautions**

Not applicable

**14.7 Transport in bulk according to Annex I/II of MARPOL 73/78 and the IBC Code**

Please contact SDS@slb.com for info regarding transport in Bulk.

**15. Regulatory information****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**The Globally Harmonized System of Classification and Labeling of Chemicals (GHS)****Australian Standard for the Uniform Scheduling of Drugs and Poisons**

No poisons schedule number allocated

**National Code of Practice for the Preparation of Material Safety Data Sheets 2nd Edition [NOHSC: 2011 (2003)].****National Occupational Health and Safety Commission's Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004) 3rd Edition].****National Occupational Health and Safety Commission's Exposure Standards for Atmospheric Contaminants in the occupational Environment [NOHSC:1003 (1995)].**

Safe Work Australia.

**Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).****Not classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG)****International inventories**

USA (TSCA)	Complies
Canada (DSL)	Complies
Philippines (PICCS)	Does not comply
Japan (ENCS)	Complies
China (IECSC)	Does not comply
Australia (AICS)	Complies
Korean (KECL)	Does not comply
New Zealand (NZIoC)	Does not comply

**16. Other Information**

<b>Prepared by</b>	Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Ingrid Helland
<b>Supersedes Date:</b>	20-Feb-2015
<b>Revision date</b>	06-Jun-2018
<b>Version</b>	3
<b>This SDS has been revised in the following section(s)</b>	1, 2, 7, 8, 9, 10, 11, 15, 16 No changes with regard to classification have been made.

**Key literature references and sources for data**

www.ChemADVISOR.com

Supplier

National Chemical Inventories

National regulatory information

National occupational exposure limits

**HMIS classification**

Health	1
Flammability	1
Physical hazard	0
PPE	E

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.



## Safety Data Sheet Multi-Temperature Cement Retarder D161

### 1. Identification of the substance/preparation and of the Company/undertaking

#### 1.1 Product identifier

**Product name** Multi-Temperature Cement Retarder D161  
**Product code** D161

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** Used as a cementing additive in oilfield applications

**Uses advised against** Consumer use

#### 1.3 Details of the supplier of the safety data sheet

##### **Supplier**

Schlumberger Oilfield Australia Pty Ltd  
ABN: 74 002 459 225  
ACN: 002 459 225  
256 St. Georges Terrace, Perth WA 6000  
+47 5157 7424

SDS@slb.com

#### 1.4 Emergency Telephone Number

**Emergency telephone** - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 595 3518

<b>Denmark</b>	Poison Control Hotline (DK): +45 82 12 12 12
<b>Germany</b>	+49 69 222 25285
<b>Italy</b>	Centro Antiveleni Ospedale Niguarda Milan: +39 02 6610 1029
<b>Netherlands</b>	National Poisons Information Center (NL): +31 30 274 88 88 (NB: this service is only available to health professionals)

### 2. Hazards Identification

#### 2.1 Classification of the substance or mixture

**Classification according to Regulation (EC) No. 1272/2008 [CLP]**

##### **Health hazards**

Reproductive toxicity	Category 2
-----------------------	------------

**Environmental hazards** Not classified

**Physical Hazards** Not classified

#### 2.2 Label elements

**Signal word**

WARNING

**Hazard statements**

H361 - Suspected of damaging fertility or the unborn child

**Precautionary statements**

P201 - Obtain special instructions before use

P202 - Do not handle until all safety precautions have been read and understood

P281 - Use personal protective equipment as required

P308 + P313 - IF exposed or concerned: Get medical advice/attention

P280 - Wear protective gloves/protective clothing/eye protection/face protection

-

-

**Contains**

Sodium pentaborate

**2.3 Other hazards**

Not classified as PBT/vPvB by current EU criteria

**Australian statement of hazardous/dangerous nature**

Classified as Hazardous according to the criteria of NOHSC.

HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

### 3. Composition/information on ingredients

**3.1 Substances**

Not applicable

**3.2 Mixtures**

Chemical Name	EC No	CAS No	Weight-%	Regulation (EC) No 1272/2008	REACH registration number
Sodium pentaborate	234-522-7	12007-92-0	5-10	Rep. 2 (H361)	01-2119970731-3 5-XXXX

**Comments**

The product contains other ingredients which do not contribute to the overall classification.

## 4. First aid measures

### 4.1 First aid measures

<b>Inhalation</b>	If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.
<b>Ingestion</b>	Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical attention.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get medical attention immediately if symptoms occur.
<b>Eye Contact</b>	Remove contact lenses, if worn. Promptly wash eyes with lots of water while lifting eye lids. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.

### 4.2. Most important symptoms and effects, both acute and delayed

<b>General advice</b>	The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible.
-----------------------	--

#### **Symptoms**

<b>Inhalation</b>	Please see Section 11. Toxicological Information for further information.
<b>Ingestion</b>	Please see Section 11. Toxicological Information for further information.
<b>Skin contact</b>	Please see Section 11. Toxicological Information for further information.
<b>Eye contact</b>	Please see Section 11. Toxicological Information for further information.

### 4.3 Indication of any immediate medical attention and special treatment needed

<b>Notes to physician</b>	Treat symptomatically.
---------------------------	------------------------

## 5. Fire-fighting measures

### 5.1 Extinguishing media

#### **Suitable extinguishing media**

Water Fog, Alcohol Foam, CO<sub>2</sub>, Dry Chemical.

#### **Extinguishing media which must not be used for safety reasons**

Do not use a solid water stream as it may scatter and spread fire.

### 5.2. Special hazards arising from the substance or mixture

#### **Unusual fire and explosion hazards**

None known.

#### **Hazardous combustion products**

Fire or high temperatures create: Oxides of phosphorus, Carbon oxides (CO<sub>x</sub>).

### 5.3 Advice for firefighters

#### **Special protective equipment for fire-fighters**

As in any fire, wear self-contained breathing apparatus and full protective gear.

**Special Fire-Fighting Procedures**

Containers close to fire should be removed immediately or cooled with water.

## 6. Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. See also section 8.

### 6.2 Environmental precautions

The product should not be allowed to enter drains, water courses or the soil.

**Environmental exposure controls**

Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

### 6.3 Methods and material for containment and cleaning up

**Methods for containment**

Prevent further leakage or spillage if safe to do so. Dike far ahead of liquid spill for later disposal.

**Methods for cleaning up**

Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. After cleaning, flush away traces with water.

### 6.4 Reference to other sections

See section 13 for more information.

## 7. Handling and storage

### 7.1 Precautions for safe handling

**Handling**

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Do not breathe vapors or spray mist. Avoid spills and splashing during use.

**Hygiene Measures**

Use good work and personal hygiene practices to avoid exposure. Wash hands and face before breaks and immediately after handling the product. Remove contaminated clothing. Do not eat, drink or smoke when using this product.

### 7.2 Conditions for safe storage, including any incompatibilities

**Technical measures/precautions** Ensure adequate ventilation.

**Storage precautions** Keep containers tightly closed in a dry, cool and well-ventilated place. Store away from heat and sources of ignition. Avoid extreme temperatures. Store above 0°C. Store away from incompatibles, Strong reducing agents. Strong oxidizing agents.

**Storage class** Chemical storage.

**Packaging materials** Use specially constructed containers only.

### 7.3 Specific end uses

See Section 1.2.

## 8. Exposure controls/personal protection

### 8.1 Control parameters

<b>Chemical Name</b>	<b>EU OEL</b>	<b>Austria</b>	<b>Australia</b>	<b>Denmark</b>
Sodium pentaborate	Not determined	Not determined	Not determined	Not determined
<b>Chemical Name</b>	<b>Malaysia</b>	<b>France</b>	<b>Germany</b>	<b>Hungary</b>
Sodium pentaborate	Not determined	Not determined	Not determined	Not determined
<b>Chemical Name</b>	<b>New Zealand</b>	<b>Italy</b>	<b>Netherlands</b>	<b>Norway</b>
Sodium pentaborate	Not determined	Not determined	Not determined	Not determined
<b>Chemical Name</b>	<b>Poland</b>	<b>Portugal</b>	<b>Romania</b>	<b>Russia</b>
Sodium pentaborate	Not determined	Not determined	Not determined	Not determined
<b>Chemical Name</b>	<b>Spain</b>	<b>Switzerland</b>	<b>Turkey</b>	<b>UK</b>
Sodium pentaborate	Not determined	Not determined	Not determined	Not determined

#### Notes

No biological limit allocated

#### Derived No Effect Level (DNEL)

##### Short term exposure local effects

###### Sodium pentaborate

Inhalation 9.6 mg/m<sup>3</sup>

##### Long term exposure local effects

###### Sodium pentaborate

Inhalation 9.6 mg/m<sup>3</sup>

##### Short term exposure systemic effects

###### Sodium pentaborate

Inhalation 5.5 mg/m<sup>3</sup>

##### Long term exposure systemic effects

###### Sodium pentaborate

Oral 258 mg/kg bw/day

Inhalation 5.5 mg/m<sup>3</sup>

##### Predicted No Effect Concentration (PNEC)

###### Sodium pentaborate

Fresh Water 2.02 mg/L

Sea Water 2.02 mg/L

Soil 5.4 mg/kg soil dw

Impact on sewage treatment 10 mg/L

Intermittent release 13.7 mg/L

### 8.2 Exposure controls

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

#### Engineering Controls

Ensure adequate ventilation. Provide mechanical general and/or local exhaust ventilation to prevent release of vapor or mist into work environment.

#### Personal protective equipment

##### Eye protection

Safety glasses with side-shields.

##### Hand protection

Repeated or prolonged contact Use protective gloves made of: PVC disposable gloves polyvinyl alcohol or nitrile-butyl rubber gloves Be aware that liquid may penetrate the gloves. Frequent change is advisable.

##### Respiratory protection

No personal respiratory protective equipment normally required, In case of insufficient

**Skin and body protection**

ventilation wear suitable respiratory equipment, Respirator with a vapor filter (EN 141), At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used.

Wear appropriate personal protective clothing to prevent skin contact, Eye wash and emergency shower must be available at the work place.

**Hygiene Measures**

Wash hands before eating, drinking or smoking, Remove and wash contaminated clothing before re-use.



## 9. Physical and chemical properties

**9.1 Information on basic physical and chemical properties**

<b>Physical state</b>	Liquid
<b>Appearance</b>	Clear Aqueous solution
<b>Odor</b>	Slight
<b>Color</b>	Colorless
<b>Odor threshold</b>	Not applicable

<u>Property</u>	<u>Values</u>	<u>Remarks</u>
<b>pH</b>	6.9	
<b>pH @ dilution</b>		
<b>Melting / freezing point</b>	-0 °C / 32 °F	
<b>Boiling point/range</b>	100 °C / 212 °F	
<b>Flash point</b>	No information available	
<b>Evaporation rate (BuAc =1)</b>		
<b>Flammability (solid, gas)</b>	Not applicable	
<b>Flammability Limit in Air</b>		
<b>Upper flammability limit</b>	Not applicable	
<b>Lower flammability limit</b>	Not applicable	
<b>Vapor pressure</b>	No information available	
<b>Vapor density</b>	No information available	
<b>Specific gravity</b>	1.1	20 °C
<b>Bulk density</b>	No information available	
<b>Relative density</b>	1.073 - 1.077	
<b>Water solubility</b>	Soluble in water	
<b>Solubility in other solvents</b>	No information available	
<b>Autoignition temperature</b>	No information available	
<b>Decomposition temperature</b>	No information available	
<b>Kinematic viscosity</b>		
<b>Dynamic viscosity</b>	No information available	
<b>log Pow</b>	No information available	
<b>Explosive properties</b>	Not applicable	
<b>Oxidizing properties</b>	None known.	

**9.2 Other information**

<b>Pour point</b>	No information available
<b>Molecular weight</b>	No information available
<b>VOC content(%)</b>	None
<b>Density</b>	No information available

**Comments**

The data listed above are typical physical and chemical properties and should not be construed as product specification.

## 10. Stability and reactivity

**10.1 Reactivity**

No specific reactivity hazards associated with this product.

**10.2 Chemical stability**

Stable under normal temperature conditions and recommended use.

**10.3 Possibility of Hazardous Reactions****Hazardous polymerization**

Hazardous polymerization does not occur.

**10.4 Conditions to avoid**

Avoid heat, flames and other sources of ignition. Avoid extreme temperatures. Do not freeze.

**10.5 Incompatible materials**

Strong oxidizing agents. Strong reducing agents.

**10.6 Hazardous decomposition products**

See also section 5.2.

## 11. Toxicological information

**11.1 Information on toxicological effects****Acute toxicity****Inhalation**

Inhalation of vapors in high concentration may cause irritation of respiratory system.

**Eye contact**

May cause slight irritation.

**Skin contact**

Prolonged contact may cause redness and irritation.

**Ingestion**

Ingestion may cause stomach discomfort. May cause damage to organs through prolonged or repeated exposure.

**Unknown acute toxicity**

Not applicable.

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Sodium pentaborate	No data available	LD50 > 2000 mg/kg bw	LC50 > 2.03 mg/l

**Sensitization**

This product does not contain any components suspected to be sensitizing.

**Mutagenic effects**

This product does not contain any known or suspected mutagens.

**Carcinogenicity**

This product does not contain any known or suspected carcinogens.

<b>Reproductive toxicity</b>	Product is or contains a chemical which is a known or suspected reproductive hazard.
<b>Routes of exposure</b>	Skin contact. Eye contact. Ingestion.
<b>Routes of entry</b>	Ingestion.
<b>Specific target organ toxicity - Single exposure</b>	Not classified
<b>Specific target organ toxicity - Repeated exposure</b>	Not classified.
<b>Aspiration hazard</b>	No hazard from product as supplied.

## 12. Ecological information

### 12.1 Toxicity

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

#### **Toxicity to algae**

This product is not considered toxic to algae.

#### **Toxicity to fish**

This product is not considered toxic to fish.

#### **Toxicity to daphnia and other aquatic invertebrates**

This product is not considered toxic to invertebrates.

Chemical Name	Toxicity to fish	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates
Sodium pentaborate	LC50: 600 mg/l 96h	No information available	LC50: 86 mg/l 48h

### 12.2 Persistence and degradability

The organic portion of this material is not biodegradable.

### 12.3 Bioaccumulative potential

No product level data available.

### 12.4 Mobility in soil

#### **Mobility**

Soluble in water.

### 12.5 Results of PBT and vPvB assessment



Not classified as PBT/vPvB by current EU criteria.

#### **12.6 Other adverse effects.**

None known.

### **13. Disposal considerations**

#### **13.1 Waste treatment methods**

<b>Waste from residues / unused products</b>	Dispose of in accordance with local regulations.
<b>Contaminated packaging</b>	Empty containers should be taken for local recycling, recovery or waste disposal.
<b>EWC Waste Disposal No</b>	According to the European Waste Catalog, Waste Codes are not product specific, but application specific Waste codes should be assigned by the user based on the application for which the product was used. The following Waste Codes are only suggestions: EWC waste disposal No: 16 10 01 - aqueous liquid wastes containing dangerous substances

### **14. Transport information**

#### **14.1. UN number**

Not regulated

#### **14.2. UN proper shipping name**

The product is not covered by international regulation on the transport of dangerous goods

#### **14.3 Hazard class(es)**

<b>ADR/RID/ADN/ADG Hazard class</b>	Not regulated
<b>IMDG Hazard class</b>	Not regulated
<b>ICAO Hazard class/division</b>	Not regulated

#### **14.4 Packing group**

<b>ADR/RID/ADN/ADG Packing group</b>	Not regulated
<b>IMDG Packing group</b>	Not regulated
<b>ICAO Packing group</b>	Not regulated

#### **14.5 Environmental hazard**

No

#### **14.6 Special precautions**

None

#### **14.7 Transport in bulk according to Annex I/II of MARPOL 73/78 and the IBC Code**

Please contact SDS@slb.com for info regarding transport in Bulk.

### **15. Regulatory information**

#### **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

Germany, Water Endangering Classes (VwVwS) Hazardous to water/Class 1

#### Australian Standard for the Uniform Scheduling of Drugs and Poisons

Australian Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP) No poisons schedule number allocated

Commission Regulation (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH). Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, including amendments.

This safety data sheet complies with the requirements of Regulation (EC) No. 1272/2008.

National Code of Practice for the Preparation of Material Safety Data Sheets 2nd Edition [NOHSC: 2011 (2003)].

National Occupational Health and Safety Commission's Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004) 3rd Edition].

National Occupational Health and Safety Commission's Exposure Standards for Atmospheric Contaminants in the occupational Environment [NOHSC:1003 (1995)].

Safe Work Australia.

Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).

Not classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG).

Dutch Mining Regulations: In accordance with Mining Regulations 9.2 and Chapter 4 of the Working Conditions Decree.

Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013 [P.U.(A) 310/2013] (CLASS Regulations)

The Industry Code of Practice on Chemical Classification and Hazard Communication 2014 [P.U. (B) 128/2014] (ICOP) International inventories

USA (TSCA)	Complies
European Union (EINECS and ELINCS)	Complies
Canada (DSL)	Does not Comply
Philippines (PICCS)	Complies
Japan (ENCS)	Complies
China (IECSC)	Does not Comply
Australia (AICS)	Complies
Korean (KECL)	Does not Comply
New Zealand (NZIoC)	Does not Comply

Denmark Pr. no: 1288609

#### 15.2 Chemical Safety Report

No information available

## 16. Other information

Prepared by Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Muriel Martin Beurel

**Supersedes date** 25-Nov-2015

**Revision date** 11-Feb-2016

**Version** 5

**This SDS has been revised in the following section(s)** The following sections have been revised: 12. Ecological information

**Text of R phrases mentioned in Section 3**

R61 - May cause harm to the unborn child

**Full text of H-Statements referred to under sections 2 and 3**

H361 - Suspected of damaging fertility or the unborn child

**Disclaimer**

The information contained herein is considered in good faith as reliable of the date issued and is based upon on measurements, tests or data derived from supplier's own study or furnished by others. In providing this SDS information, Supplier makes no express or implied warranties as to the information or product; merchantability or fitness of purpose; any express or implied warranty; or non-infringement of intellectual property rights; and supplier assumes no responsibility for any direct, special or consequential damages, results obtained, or the activities of others. To the maximum extent permitted by law, supplier's warranty obligations and buyer's sole remedies are as stated in separate agreement between the parties.

## Safety Data Sheet Antifoam Agent D175A

### 1. Identification of the substance/preparation and of the Company/undertaking

#### 1.1 Product identifier

Product name Antifoam Agent D175A  
Product code D175A

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Used as a cementing additive in oilfield applications

Uses advised against Consumer use

#### 1.3 Details of the supplier of the safety data sheet

##### Supplier

Schlumberger Oilfield Australia Pty Ltd  
ABN: 74 002 459 225  
ACN: 002 459 225  
256 St. Georges Terrace, Perth WA 6000  
+47 5157 7424

SDS@slb.com

#### 1.4 Emergency Telephone Number

Emergency telephone - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 595 3518, Canada 001 613 996 6666

Norway	Poison information centre: +47 22 59 13 00
--------	--

### 2. Hazards identification

#### 2.1 Classification of the substance or mixture

Classification according to (EC) No. 1272/2008

Health hazards Not classified

Environmental hazards Not classified

Physical Hazards Not classified

#### 2.2 Label elements

##### Signal word

None

##### Hazard statements

This product is not classified as hazardous therefore no (H) hazard statements assigned.

**Precautionary Statements - EU (§28, 1272/2008)**

This product is not classified as hazardous therefore has no (P) precautionary statements assigned.

-  
-

**Contains**

Non-crystalline silica

**2.3 Other data**

Not classified as PBT/vPvB by current EU criteria

**Australian statement of hazardous/dangerous nature**

Classified as Non-Hazardous according to the criteria of NOHSC.  
NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

### 3. Composition/information on ingredients

**3.1 Substances**

Not Applicable

**3.2 Mixtures**

Component	EC-No.	CAS-No	Weight % - range	Classification (67/548)	Classification (Reg. 1272/2008)	REACH registration number
Non-crystalline silica	Listed	Proprietary	1 - 5		Not classified	01-2119379499-16-x xxx

**Comments**

No classified ingredients, or those having occupational exposure limits, present above the level of disclosure.  
The product contains other ingredients which do not contribute to the overall classification.

### 4. First aid measures

**4.1 First-Aid Measures****Inhalation**

If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

**Ingestion**

Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.

**Skin contact**

Wash skin thoroughly with soap and water. Get medical attention if irritation persists.

**Eye contact**

Promptly wash eyes with lots of water while lifting eye lids. Remove contact lenses. Get medical attention if any discomfort continues.

**4.2 Most important symptoms and effects, both acute and delayed**

---

<b>General advice</b>	The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible.
<b>Main symptoms</b>	
<b>Inhalation</b>	Please see Section 11. Toxicological Information for further information.
<b>Ingestion</b>	Please see Section 11. Toxicological Information for further information.
<b>Skin contact</b>	Please see Section 11. Toxicological Information for further information.
<b>Eye contact</b>	Please see Section 11. Toxicological Information for further information.

#### **4.3 Indication of any immediate medical attention and special treatment needed**

**Notes to physician** Treat symptomatically.

### **5. Fire-fighting measures**

#### **5.1 Extinguishing media**

**Suitable extinguishing media**

Extinguish with carbon dioxide, dry chemical, foam or waterspray.

**Extinguishing media which shall not be used for safety reasons**

Do not use water jet.

#### **5.2 Special hazards arising from the substance or mixture**

**Unusual fire and explosion hazards**

None known.

**Hazardous combustion products**

Thermal decomposition can lead to release of irritating gases and vapors.

#### **5.3 Advice for firefighters**

**Special protective equipment for fire-fighters**

As in any fire, wear self-contained breathing apparatus and full protective gear.

**Special Fire-Fighting Procedures**

Containers close to fire should be removed immediately or cooled with water.

### **6. Accidental release measures**

#### **6.1 Personal precautions, protective equipment and emergency procedures**

Use personal protective equipment. See also section 8.

#### **6.2 Environmental precautions**

The product should not be allowed to enter drains, water courses or the soil.

**Environmental exposure controls**

Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

#### **6.3 Methods and materials for containment and cleaning up**

**Methods for containment**

Prevent further leakage or spillage if safe to do so. Dike far ahead of liquid spill for later disposal.

**Methods for cleaning up**

Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. After cleaning, flush away traces with water.

**6.4 Reference to other sections**

See section 13 for more information.

## 7. Handling and storage

**7.1 Precautions for safe handling****Handling**

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Do not breathe vapors or spray mist. Avoid spills and splashing during use.

**Hygiene measures**

Use good work and personal hygiene practices to avoid exposure. When using do not smoke, eat or drink. Wash hands and face before breaks and immediately after handling the product Remove contaminated clothing.

**7.2 Conditions for safe storage, including any incompatibilities**

**Technical measures/precautions** Ensure adequate ventilation.

**Storage precautions** Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from open flames, hot surfaces and sources of ignition. Keep at a temperature not exceeding 25 °C Store away from incompatibles, Strong oxidizing agents UV or Ionising Radiation. Steel.

**Storage class** Chemical storage.

**Packaging material** Use specially constructed containers only.

**7.3 Specific end uses**

See Section 1.2.

## 8. Exposure controls/personal protection

**8.1 Control parameters**

**Exposure limits** Because this product is a liquid, the dust-related Workplace Exposure Limits for the components do not apply.

Component	EU OEL	Austria	Australia	Denmark
Non-crystalline silica	Not determined	4 mg/m <sup>3</sup> TWA inhalable fraction	2mg/m <sup>3</sup> TWArespirable dust	Not determined

Component	Malaysia	France	Germany	Hungary

Non-crystalline silica	Not determined	Not determined	4 mg/m <sup>3</sup> TWA	Not determined
<b>Component</b>	<b>New Zealand</b>	<b>Italy</b>	<b>Netherlands</b>	<b>Norway</b>
Non-crystalline silica	Not Determined	Not determined	Not determined	1.5 mg/m <sup>3</sup> TWA respirable dust 1.5 mg/m <sup>3</sup> STEL respirable dust
<b>Component</b>	<b>Poland</b>	<b>Portugal</b>	<b>Romania</b>	<b>Russia</b>
Non-crystalline silica	Not determined	Not determined	Not determined	Not determined
<b>Component</b>	<b>Spain</b>	<b>Switzerland</b>	<b>Turkey</b>	<b>UK</b>
Non-crystalline silica	Not determined	4 mg/m <sup>3</sup> MAK 0.3 mg/m <sup>3</sup> MAK	Not determined	18 mg/m <sup>3</sup> STEL calculated inhalable dust 7.2 mg/m <sup>3</sup> STEL calculated respirable dust 6 mg/m <sup>3</sup> TWA inhalable dust 2.4 mg/m <sup>3</sup> TWA respirable dust

**Derived No Effect Level (DNEL)****Long term exposure systemic effects**

**Non-crystalline silica**  
Inhalation 4 mg/m<sup>3</sup>

**8.2 Exposure controls**

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

**Engineering measures to reduce exposure**

Ensure adequate ventilation. Mechanical ventilation or local exhaust ventilation is required.

**Personal protective equipment**

**Eye protection** Safety glasses with side-shields.  
**Hand protection** Use protective gloves made of:., polyvinyl alcohol or nitrile-butyl rubber gloves, Be aware that liquid may penetrate the gloves. Frequent change is advisable.  
**Respiratory protection** No personal respiratory protective equipment normally required. In case of insufficient ventilation wear suitable respiratory equipment, Respirator with combination filter for vapor/particulate, Type A/P2, At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used.  
**Skin and body protection** Wear suitable protective clothing, Eye wash and emergency shower must be available at the work place.

**Hygiene measures**

Wash hands before eating, drinking or smoking, Remove and wash contaminated clothing before re-use.





## 9. Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Aqueous solution
Odor	Slight
Color	Milky white.
Odor threshold	Not applicable

<u>Property</u>	<u>Values</u>	<u>Remarks</u>
pH	~ 5	
pH @ dilution		
Melting/freezing point	~ 0 °C / 32 °F	
Boiling point/range	100 °C / 212 °F	
Flash point	Not Applicable	
Evaporation rate (BuAc =1)		
Flammability (solid, gas)	Not Applicable	
Flammability Limits in Air		
Upper flammability limit	Not applicable	
Lower flammability limit	Not applicable	
Vapor pressure	2.3 kPa	@ 20 °C
Vapor density	No information available	
Specific gravity	~ 1	@ 25 °C
Bulk density	No information available	
Relative density	No information available	
Water solubility	Dispersible	
Solubility in other solvents	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Kinematic viscosity		
Dynamic viscosity	~ 100 mPa s	@ 25 °C
Log Pow	No information available	
Explosive properties	Not Applicable	
Oxidizing properties	None known.	

### 9.2 Other information

Pour point	No information available
Molecular weight	No information available
VOC content(%)	None
Density	No information available

## 10. Stability and reactivity

### 10.1 Reactivity

No specific reactivity hazards associated with this product.

### 10.2 Chemical stability

Stable under normal temperature conditions and recommended use.

### 10.3 Possibility of Hazardous Reactions

**Hazardous polymerization**

Hazardous polymerization does not occur.

**10.4 Conditions to avoid**

Avoid heat, flames and other sources of ignition.

**10.5 Incompatible materials**

Strong oxidizing agents. UV or Ionising Radiation. Steel.

**10.6 Hazardous decomposition products**

See also section 5.2.

## 11. Toxicological information

**11.1 Information on toxicological effects****Acute toxicity**

<b>Inhalation</b>	Inhalation of vapors in high concentration may cause irritation of respiratory system.
<b>Eye contact</b>	May cause slight irritation.
<b>Skin contact</b>	Prolonged contact may cause redness and irritation.
<b>Ingestion</b>	Ingestion may cause stomach discomfort.
<b>Unknown acute toxicity</b>	Not Applicable.

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Non-crystalline silica	> 5000 mg/kg ( Rat )	> 2000 mg/kg ( Rabbit )	> 2.2 mg/L ( Rat ) 1 h

**Sensitization** This product does not contain any components suspected to be sensitizing.

**Mutagenic effects** This product does not contain any known or suspected mutagens.

**Carcinogenicity** This product does not contain any known or suspected carcinogens.

**Reproductive toxicity** This product does not contain any known or suspected reproductive hazards.

**Routes of exposure** None known.

**Routes of entry** No route of entry noted.

**Specific target organ toxicity (single exposure)** Not classified

**Specific target organ toxicity (repeated exposure)** Not classified.

Aspiration hazard No hazard from product as supplied.

## 12. Ecological information

### 12.1 Toxicity

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

#### Toxicity to algae

This product is not considered toxic to algae.

#### Toxicity to fish

This product is not considered toxic to fish.

#### Toxicity to daphnia and other aquatic invertebrates

This product is not considered toxic to invertebrates.

Component	Toxicity to fish	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates
Non-crystalline silica	= 5000 mg/L LC50 Brachydanio rerio 96 h	= 440 mg/L EC50 Pseudokirchneriella subcapitata 72 h	= 7600 mg/L EC50 Ceriodaphnia dubia 48 h

### 12.2 Persistence and degradability

The product is not expected to be biodegradable.

### 12.3 Bioaccumulative potential

The product does not contain any substances expected to be bioaccumulating.

### 12.4 Mobility in soil

#### Mobility

Dispersible in water.

### 12.5 Results of PBT and vPvB assessment

Not classified as PBT/vPvB by current EU criteria.

### 12.6 Other adverse effects.

None known.

## 13. Disposal considerations

### 13.1 Waste treatment methods

<b>Waste from residues / unused products</b>	Dispose of in accordance with local regulations.
<b>Contaminated packaging</b>	Empty containers should be taken for local recycling, recovery or waste disposal.
<b>EWC Waste disposal No.</b>	According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used. The following Waste Codes are only suggestions: EWC waste disposal No: 07 02 17 – Waste containing silicones other than those mentioned in 07 02 16

## 14. Transport information

### 14.1 UN Number

Not regulated

### 14.2 Proper shipping name

The product is not covered by international regulation on the transport of dangerous goods

### 14.3 Hazard class(es)

<b>ADR/RID/ADN/ADG Hazard class</b>	Not regulated
<b>IMDG Hazard class</b>	Not regulated
<b>ICAO Hazard class/division</b>	Not regulated

### 14.4 Packing group

<b>ADR/RID/ADN/ADG Packing group</b>	Not regulated
<b>IMDG Packing group</b>	Not regulated
<b>ICAO Packing group</b>	Not regulated

### 14.5 Environmental hazard

No

### 14.6 Special precautions

Not Applicable

### Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Please contact SDS@slb.com for info regarding transport in Bulk.

## 15. Regulatory information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

#### Australian Standard for the Uniform Scheduling of Drugs and Poisons

No Poisons Schedule number allocated

Commission Regulation (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH). Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the

Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, including amendments.

This safety data sheet complies with the requirements of Regulation (EC) No. 1272/2008.

National Code of Practice for the Preparation of Material Safety Data Sheets 2nd Edition [NOHSC: 2011 (2003)].

National Occupational Health and Safety Commission's Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004) 3rd Edition].

National Occupational Health and Safety Commission's Exposure Standards for Atmospheric Contaminants in the occupational Environment [NOHSC:1003 (1995)].

Safe Work Australia.

Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).

Not classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for transport by road or rail.

#### International inventories

USA (TSCA)	Complies
European Union (EINECS and ELINCS)	Does not Comply
Canada (DSL)	Complies
Philippines (PICCS)	Complies
Japan (ENCS)	Does not Comply
China (IECSC)	Complies
Australia (AICS)	Complies
Korean (KECL)	Does not Comply
New Zealand (NZIoC)	Complies

#### 15.2 Chemical Safety Report

No information available

### 16. Other information

<b>Prepared by</b>	Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Nicola Anderson
<b>Supersedes date</b>	19-May-2008
<b>Revision date</b>	19-Jun-2015
<b>Version</b>	3
<b>The following sections have been revised:</b>	Updated according to GHS/CLP, No changes with regard to classification have been made.

#### Full text of H-Statements referred to under sections 2 and 3

This product is not classified as hazardous therefore no (H) hazard statements assigned.

**Disclaimer**

The information contained herein is considered in good faith as reliable of the date issued and is based upon on measurements, tests or data derived from supplier's own study or furnished by others. In providing this SDS information, Supplier makes no express or implied warranties as to the information or product; merchantability or fitness of purpose; any express or implied warranty; or non-infringement of intellectual property rights; and supplier assumes no responsibility for any direct, special or consequential damages, results obtained, or the activities of others. To the maximum extent permitted by law, supplier's warranty obligations and buyer's sole remedies are as stated in separate agreement between the parties.



## Safety Data Sheet MUDPUSH\* II Spacer D182

### 1. Identification of the substance/mixture and of the company/undertaking

#### 1.1 Product identifier

**Product name** MUDPUSH\* II Spacer D182  
**Product code** D182

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** Used as a cementing additive in oilfield applications

**Uses advised against** Consumer use

#### 1.3 Details of the supplier of the safety data sheet

##### **Supplier**

Schlumberger Oilfield Australia Pty Ltd  
ABN: 74 002 459 225  
ACN: 002 459 225  
256 St. Georges Terrace, Perth WA 6000  
+47 5157 7424

SDS@slb.com

#### 1.4 Emergency Telephone Number

**Emergency telephone** - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 595 3518

### 2. Hazards Identification

#### 2.1 Classification of the substance or mixture

##### **GHS Classification**

**Health hazards** Not classified

**Environmental hazards** Not classified

**Physical Hazards** Not classified

#### 2.2 Label elements

##### **Signal word**

None

**Hazard Statements**

This product is not classified as hazardous therefore no (H) hazard statements assigned.

**Precautionary statements**

This product is not classified as hazardous therefore has no (P) precautionary statements assigned.

**2.3 Other hazards**

Not classified as PBT/vPvB by current EU criteria

**Australian statement of hazardous/dangerous nature**

Classified as Non-Hazardous according to the criteria of NOHSC.  
NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

**3. Composition/information on Ingredients****3.1 Substances**

Not applicable

**3.2 Mixtures**

No classified ingredients, or those having occupational exposure limits, present above the level of disclosure.

**4. First Aid Measures****4.1 First aid measures**

<b>Inhalation</b>	If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.
<b>Ingestion</b>	Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.
<b>Skin contact</b>	Wash skin thoroughly with soap and water. Get medical attention if irritation persists.
<b>Eye Contact</b>	Promptly wash eyes with lots of water while lifting eye lids. Remove contact lenses, if worn. Get medical attention if any discomfort continues.

**4.2. Most important symptoms and effects, both acute and delayed**

**General advice** The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible.

**Symptoms**

<b>Inhalation</b>	Please see Section 11. Toxicological Information for further information.
<b>Ingestion</b>	Please see Section 11. Toxicological Information for further information.
<b>Skin contact</b>	Please see Section 11. Toxicological Information for further information.
<b>Eye contact</b>	Please see Section 11. Toxicological Information for further information.

**4.3 Indication of any immediate medical attention and special treatment needed**



Notes to physician Treat symptomatically.

## 5. Fire-Fighting Measures

### 5.1 Extinguishing media

#### **Suitable extinguishing media**

Water Fog, Alcohol Foam, CO<sub>2</sub>, Dry Chemical.

#### **Extinguishing media which must not be used for safety reasons**

High volume water jet.

### 5.2. Special hazards arising from the substance or mixture

#### **Unusual fire and explosion hazards**

Dust may form explosive mixture in air.

#### **Hazardous combustion products**

Fire or high temperatures create: Carbon oxides (CO<sub>x</sub>), Sulphur oxides.

### 5.3 Advice for firefighters

#### **Special protective equipment for fire-fighters**

As in any fire, wear self-contained breathing apparatus and full protective gear.

#### **Special Fire-Fighting Procedures**

Containers close to fire should be removed immediately or cooled with water.

## 6. Accidental Release Measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. See also section 8. Extinguish all ignition sources. Avoid sparks, flames, heat and smoking.

### 6.2 Environmental precautions

The product should not be allowed to enter drains, water courses or the soil.

#### **Environmental exposure controls**

Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

### 6.3 Methods and material for containment and cleaning up

#### **Methods for containment**

Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent further leakage or spillage if safe to do so.

#### **Methods for cleaning up**

Sweep up and shovel into suitable containers for disposal. Take precautionary measures against static discharges. After cleaning, flush away traces with water.

### 6.4 Reference to other sections

See section 13 for more information.

## 7. Handling and Storage

**7.1 Precautions for safe handling****Handling**

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Avoid dust formation. Material becomes slippery when wet. Use caution if wet.

**Hygiene Measures**

Use good work and personal hygiene practices to avoid exposure. When using do not smoke, eat or drink. Wash hands and face before breaks and immediately after handling the product Remove contaminated clothing

**7.2 Conditions for safe storage, including any incompatibilities**

<b>Technical measures/precautions</b>	Ensure adequate ventilation. Keep airborne concentrations below exposure limits.
<b>Storage precautions</b>	Keep containers tightly closed in a dry, cool and well-ventilated place Keep away from open flames, hot surfaces and sources of ignition Keep away from direct sunlight. Incompatible with oxidizing agents
<b>Storage class</b>	Chemical storage.
<b>Packaging materials</b>	Use specially constructed containers only.

**8. Exposure Controls/Personal Protection****8.1 Control parameters**

**Exposure limits** NUI = Nuisance dust, TWA 4mg/m<sup>3</sup> Respirable Dust, 10mg/m<sup>3</sup> Total Dust.

**8.2 Exposure controls**

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

**Engineering Controls**

Ensure adequate ventilation Mechanical ventilation or local exhaust ventilation is required.

**Personal protective equipment**

<b>Eye protection</b>	Use eye protection according to EN 166, designed to protect against dusts Safety glasses with side-shields
<b>Hand protection</b>	Wear gloves according to EN 374 to protect against skin effects from powders Use protective gloves made of: Rubber Neoprene Nitrile Frequent change is advisable
<b>Respiratory protection</b>	In case of insufficient ventilation wear suitable respiratory equipment Half mask with a particle filter P2 (European Norm EN 143 = former DIN 3181) At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used.
<b>Skin and body protection</b>	Wear suitable protective clothing Eye wash and emergency shower must be available at the work place.
<b>Hygiene Measures</b>	Wash hands before eating, drinking or smoking Remove and wash contaminated clothing before re-use



## 9. Physical and Chemical Properties

### 9.1 Information on basic physical and chemical properties

Physical state	Solid
Appearance	Powder
Odor	Mild Sweet
Color	Red brown
Odor threshold	Not applicable

Property	Values	Remarks
pH		
pH @ dilution	~8	650g/l (Soln)
Melting / freezing point	No information available	
Boiling point/range	Not applicable	
Flash point	Not applicable	
Evaporation rate (BuAc =1)	Not applicable	
Flammability (solid, gas)	Not applicable	
Flammability Limit in Air		
Upper flammability limit	Not applicable	
Lower flammability limit	Not applicable	
Vapor pressure	Not applicable	
Vapor density	Not applicable	
Specific gravity	1.3	@ 20 °C
Bulk density	No information available	
Relative density	No information available	
Water solubility	Partly soluble Gel in contact with water	
Solubility in other solvents	No information available	
Autoignition temperature	No information available	
Decomposition temperature	> 242 °C / 468 °F	
Kinematic viscosity	No information available	
Dynamic viscosity	No information available	
log Pow	No information available	
Explosive properties	Suspended dust may present a dust explosion hazard	
Oxidizing properties	None known.	

### 9.2 Other information

Pour point	No information available
Molecular weight	No information available
VOC content(%)	None
Density	No information available

#### Comments

The data listed above are typical physical and chemical properties and should not be construed as product specification.

## 10. Stability and Reactivity

### 10.1 Reactivity

Dust may form explosive mixture in air.

#### **10.2 Chemical stability**

Stable under normal temperature conditions and recommended use.

#### **10.3 Possibility of Hazardous Reactions**

##### **Hazardous polymerization**

Hazardous polymerization does not occur.

#### **10.4 Conditions to avoid**

Avoid dust formation. Keep away from open flames, hot surfaces and sources of ignition. Keep away from direct sunlight.

#### **10.5 Incompatible materials**

Oxidizing agents.

#### **10.6 Hazardous decomposition products**

See Section 5.2.

## **11. Toxicological Information**

### **11.1 Information on toxicological effects**

#### **Acute toxicity**

<b>Inhalation</b>	Inhalation of dust may cause shortness of breath, tightness of the chest, a sore throat and cough.
<b>Eye contact</b>	Dust contact with the eyes can lead to mechanical irritation.
<b>Skin contact</b>	Repeated exposure may cause skin dryness or cracking.
<b>Ingestion</b>	Ingestion may cause stomach discomfort.
<b>Unknown acute toxicity</b>	Not applicable.

**Sensitization** This product does not contain any components suspected to be sensitizing.

**Mutagenic effects** This product does not contain any known or suspected mutagens.

**Carcinogenicity** This product does not contain any known or suspected carcinogens.

**Reproductive toxicity** This product does not contain any known or suspected reproductive hazards.

**Routes of Exposure** Inhalation. Skin contact. Eye contact.

**Routes of entry** No route of entry noted.

**Specific target organ toxicity -** Not classified

---

<b>Single exposure Specific target organ toxicity - Repeated exposure</b>	Not classified.
<b>Aspiration hazard</b>	Not applicable.
<b>Other information</b>	Key literature references and sources for data. See Section 16 for more information.

## 12. Ecological Information

### 12.1 Toxicity

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

#### **Toxicity to algae**

This product is not considered toxic to algae.

#### **Toxicity to fish**

This product is not considered toxic to fish.

#### **Toxicity to daphnia and other aquatic invertebrates**

This product is not considered toxic to invertebrates.

### 12.2 Persistence and degradability

No product level data available.

### 12.3 Bioaccumulative potential

Bioaccumulation is unlikely.

### 12.4 Mobility

#### **Mobility**

Partly soluble. Gel in contact with water.

#### **Mobility in soil**

No information available.

### 12.5 Results of PBT and vPvB assessment

Not classified as PBT/vPvB by current EU criteria.

### 12.6 Other adverse effects.

None known.

#### **12.7 Other information**

Key literature references and sources for data. See Section 16 for more information.

### **13. Disposal considerations**

#### **13.1 Waste treatment methods**

**Waste from residues/unused products** Dispose of in accordance with local regulations.

**Contaminated packaging** Empty containers should be taken for local recycling, recovery or waste disposal.

### **14. Transport information**

#### **14.1. UN number**

Not regulated

#### **14.2. UN proper shipping name**

The product is not covered by international regulation on the transport of dangerous goods

#### **14.3 Hazard class(es)**

**ADR/RID/ADN/ADG Hazard class** Not regulated

**IMDG/ANTAQ Hazard class** Not regulated

**ICAO/ANAC Hazard class/division** Not regulated

#### **14.4 Packing group**

**ADR/RID/ADN/ADG Packing group** Not regulated

**IMDG/ANTAQ Packing group** Not regulated

**ICAO/ANAC Packing group** Not regulated

#### **14.5 Environmental hazard**

No

#### **14.6 Special precautions**

Not applicable

#### **14.7 Transport in bulk according to Annex I/II of MARPOL 73/78 and the IBC Code**

Please contact SDS@slb.com for info regarding transport in Bulk.

### **15. Regulatory Information**

#### **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

This safety data sheet complies with the requirements of:  
The Globally Harmonized System of Classification and Labeling of Chemicals (GHS)

**Australian Standard for the Uniform Scheduling of Drugs and Poisons**

No poisons schedule number allocated

National Code of Practice for the Preparation of Material Safety Data Sheets 2nd Edition [NOHSC: 2011 (2003)].

National Occupational Health and Safety Commission's Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004) 3rd Edition].

National Occupational Health and Safety Commission's Exposure Standards for Atmospheric Contaminants in the occupational Environment [NOHSC:1003 (1995)].

Safe Work Australia.

Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).

Not classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG)

#### International inventories

USA (TSCA)	Complies
Canada (DSL)	Complies
Philippines (PICCS)	Does not comply
Japan (ENCS)	Complies
China (IECSC)	Complies
Australia (AICS)	Complies
Korean (KECL)	Does not comply
New Zealand (NZIoC)	Complies

## 16. Other Information

Prepared by	Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Muriel Martin Beurel
Supersedes Date:	18-Jun-2014
Revision date	05-Apr-2017
Version	2

**This SDS has been revised in the following section(s)** All sections No changes with regard to classification have been made.

#### **Key literature references and sources for data**

www.ChemADVISOR.com

Supplier

National Chemical Inventories

National regulatory information

National occupational exposure limits

#### **Disclaimer**

The information contained herein is considered in good faith as reliable of the date issued and is based upon on measurements, tests or data derived from supplier's own study or furnished by others. In providing this SDS information, Supplier makes no express or implied warranties as to the information or product; merchantability or fitness of purpose; any express or implied warranty; or non-infringement of intellectual property rights; and supplier assumes no

responsibility for any direct, special or consequential damages, results obtained, or the activities of others. To the maximum extent permitted by law, supplier's warranty obligations and buyer's sole remedies are as stated in separate agreement between the parties.

**This Document is Confidential and Proprietary. Unless Otherwise Marked, It is an Uncontrolled Copy.**





## Safety Data Sheet Mid-Range FLAC D255

### 1. Identification of the substance/mixture and of the company/undertaking

#### 1.1 Product identifier

**Product name** Mid-Range FLAC D255  
**Product code** D255

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** Used as a cementing additive in oilfield applications

**Uses advised against** Consumer use

#### 1.3 Details of the supplier of the safety data sheet

##### **Supplier**

Schlumberger Oilfield Australia Pty Ltd  
ABN: 74 002 459 225  
ACN: 002 459 225  
256 St. Georges Terrace, Perth WA 6000  
+47 5157 7424

SDS@slb.com

#### 1.4 Emergency Telephone Number

**Emergency telephone** - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 595 3518

### 2. Hazards Identification

#### 2.1 Classification of the substance or mixture

##### **GHS Classification**

**Health hazards** Not classified

**Environmental hazards** Not classified

**Physical Hazards** Not classified

#### 2.2 Label elements

##### **Signal word**

None

**Hazard Statements**

This product is not classified as hazardous therefore no (H) hazard statements assigned.

**Precautionary statements**

This product is not classified as hazardous therefore has no (P) precautionary statements assigned.

-

**Contains**

2-methylpropan-2-ol

**2.3 Other hazards**

Not classified as PBT/vPvB by current EU criteria

Suspended dust may present a dust explosion hazard

**Australian statement of hazardous/dangerous nature**

Classified as Non-Hazardous according to the criteria of NOHSC.  
NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

**3. Composition/information on Ingredients****3.1 Substances**

Not applicable

**3.2 Mixtures**

Chemical Name	EC No	CAS No	Weight-%
2-methylpropan-2-ol	200-889-7	75-65-0	<5

**Comments**

The product contains other ingredients which do not contribute to the overall classification.

**4. First Aid Measures****4.1 First aid measures**

<b>Inhalation</b>	If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.
<b>Ingestion</b>	Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get medical attention immediately if symptoms occur.
<b>Eye Contact</b>	Promptly wash eyes with lots of water while lifting eye lids. Remove contact lenses, if worn. Get medical attention if any discomfort continues.

**4.2. Most important symptoms and effects, both acute and delayed**

**General advice** The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible.

**Symptoms**

---

<b>Inhalation</b>	Please see Section 11. Toxicological Information for further information.
<b>Ingestion</b>	Please see Section 11. Toxicological Information for further information.
<b>Skin contact</b>	Please see Section 11. Toxicological Information for further information.
<b>Eye contact</b>	Please see Section 11. Toxicological Information for further information.

#### **4.3 Indication of any immediate medical attention and special treatment needed**

**Notes to physician** Treat symptomatically.

### **5. Fire-Fighting Measures**

#### **5.1 Extinguishing media**

**Suitable extinguishing media**

Use extinguishing media appropriate for surrounding material.

**Extinguishing media which must not be used for safety reasons**

None known.

#### **5.2. Special hazards arising from the substance or mixture**

**Unusual fire and explosion hazards**

Dust may form explosive mixture in air.

**Hazardous combustion products**

Fire or high temperatures create: Carbon oxides (COx), Nitrogen oxides (NOx), Ammonia, Hydrogen cyanide (hydrocyanic acid).

#### **5.3 Advice for firefighters**

**Special protective equipment for fire-fighters**

As in any fire, wear self-contained breathing apparatus and full protective gear.

**Special Fire-Fighting Procedures**

Containers close to fire should be removed immediately or cooled with water.

### **6. Accidental Release Measures**

#### **6.1. Personal precautions, protective equipment and emergency procedures**

Use personal protective equipment. Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. See also section 8.

#### **6.2 Environmental precautions**

The product should not be allowed to enter drains, water courses or the soil.

**Environmental exposure controls**

Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

#### **6.3 Methods and material for containment and cleaning up**

**Methods for containment**

Prevent further leakage or spillage if safe to do so. Cover powder spill with plastic sheet or tarp to minimize spreading.

**Methods for cleaning up**

Avoid generating or breathing dust. Take precautionary measures against static discharges. Take up mechanically and collect in suitable container for disposal. After cleaning, flush away traces with water.

**6.4 Reference to other sections**

See section 13 for more information.

## 7. Handling and Storage

**7.1 Precautions for safe handling****Handling**

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Avoid dust formation. Do not breathe dust. Material becomes slippery when wet. Use caution if wet.

**Hygiene Measures**

Use good work and personal hygiene practices to avoid exposure. When using do not smoke, eat or drink. Wash hands and face before breaks and immediately after handling the product Remove contaminated clothing

**7.2 Conditions for safe storage, including any incompatibilities**

**Technical measures/precautions** Ensure adequate ventilation. Keep airborne concentrations below exposure limits. Take precautionary measures against static discharges.

**Storage precautions** Keep containers tightly closed in a dry, cool and well-ventilated place Keep away from open flames, hot surfaces and sources of ignition Avoid excessive heat for prolonged periods of time. Keep away from direct sunlight. Incompatible with oxidizing agents Strong acids

**Storage class** Chemical storage.

**Packaging materials** Use specially constructed containers only.

## 8. Exposure Controls/Personal Protection

**8.1 Control parameters**

**Exposure limits** NUI = Nuisance dust, TWA 4mg/m<sup>3</sup> Respirable Dust, 10mg/m<sup>3</sup> Total Dust.  
No biological limit allocated

**Component Information**

<b>Chemical Name</b>	<b>Arabic</b>	<b>Australia</b>	<b>Egypt</b>
2-methylpropan-2-ol	100 ppm TWA 303 mg/m <sup>3</sup> TWA	150ppmSTEL 455mg/m <sup>3</sup> STEL 100ppmTWA 303mg/m <sup>3</sup> TWA	100 ppm TWA 303 mg/m <sup>3</sup> TWA
<b>Chemical Name</b>	<b>India</b>	<b>Indonesian</b>	<b>Japan</b>
2-methylpropan-2-ol	Not determined	100 ppm TWA 303 mg/m <sup>3</sup> TWA	50 ppm OEL 150 mg/m <sup>3</sup> OEL
<b>Chemical Name</b>	<b>Kazakhstan</b>	<b>Kuwait</b>	<b>New Zealand</b>
2-methylpropan-2-ol	10 mg/m <sup>3</sup> MAC	Not determined	150 ppm STEL 455 mg/m <sup>3</sup> STEL 100 ppm TWA 303 mg/m <sup>3</sup> TWA
<b>Chemical Name</b>	<b>Malaysia</b>	<b>Philippines</b>	<b>Russia</b>
2-methylpropan-2-ol	100 ppm TWA 303 mg/m <sup>3</sup> TWA	100 ppm TWA 300 mg/m <sup>3</sup> TWA	10 mg/m <sup>3</sup> MAC
<b>Chemical Name</b>	<b>Thailand</b>	<b>Vietnam</b>	<b>Turkey</b>
2-methylpropan-2-ol	100 ppm TWA	Not determined	Not determined

## 8.2 Exposure controls

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

### Engineering Controls

Ensure adequate ventilation Provide appropriate exhaust ventilation at places where dust is formed

### Personal protective equipment

#### Eye protection

Use eye protection according to EN 166, designed to protect against dusts Safety glasses with side-shields Tightly fitting safety goggles

#### Hand protection

Wear gloves according to EN 374 to protect against skin effects from powders Impervious gloves made of: Rubber gloves Butyl Neoprene Nitrile Frequent change is advisable

#### Respiratory protection

In case of insufficient ventilation wear suitable respiratory equipment Half mask with a particle filter P2 (European Norm EN 143 = former DIN 3181) At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used.

#### Skin and body protection

Wear suitable protective clothing Eye wash and emergency shower must be available at the work place.

#### Hygiene Measures

Wash hands before eating, drinking or smoking Remove and wash contaminated clothing before re-use



### 8.2.3 Environmental exposure controls

#### Environmental exposure

Use appropriate containment to avoid environmental contamination See section 6 for more information

## 9. Physical and Chemical Properties

### 9.1 Information on basic physical and chemical properties

Physical state	Solid
Appearance	Granules
Odor	None
Color	White
Odor threshold	Not applicable

Property	Values	Remarks
pH	Not applicable	
pH @ dilution	4 - 9	@ 5 g/l
Melting / freezing point	> 250 °C / 482 °F	
Boiling point/range	Not applicable	
Flash point	Not applicable	
Evaporation rate (BuAc =1)	Not applicable	
Flammability (solid, gas)	Not applicable	
Flammability Limit in Air		
Upper flammability limit	Not applicable	
Lower flammability limit	Not applicable	
Vapor pressure	Not applicable	

Vapor density	Not applicable
Specific gravity	1.15 - 1.35
Bulk density	~ 0.20 - 0.40
Relative density	No information available
Water solubility	Soluble in water
Solubility in other solvents	No information available
Autoignition temperature	No information available
Decomposition temperature	>150°C / >302° F
Kinematic viscosity	No information available
Dynamic viscosity	No information available
log Pow	No information available

Explosive properties	Suspended dust may present a dust explosion hazard
Oxidizing properties	None known.

### 9.2 Other information

Pour point	No information available
Molecular weight	No information available
VOC content(%)	No information available
Density	No information available

### **Comments**

The data listed above are typical physical and chemical properties and should not be construed as product specification.

## 10. Stability and Reactivity

### 10.1 Reactivity

Dust may form explosive mixture in air.

### 10.2 Chemical stability

Stable under normal temperature conditions and recommended use.

### 10.3 Possibility of Hazardous Reactions

#### **Hazardous polymerization**

Hazardous polymerization does not occur.

### 10.4 Conditions to avoid

Avoid dust formation. Keep away from direct sunlight. Avoid excessive heat for prolonged periods of time. Keep away from open flames, hot surfaces and sources of ignition.

### 10.5 Incompatible materials

Incompatible with oxidizing agents. Strong acids.

### 10.6 Hazardous decomposition products

See Section 5.2.

## 11. Toxicological Information

### 11.1 Information on toxicological effects

#### **Acute toxicity**

#### **Inhalation**

Inhalation of dust in high concentration may cause irritation of respiratory system.

<b>Eye contact</b>	Dust may cause mechanical irritation.
<b>Skin contact</b>	Prolonged contact may cause redness and irritation.
<b>Ingestion</b>	Ingestion may cause stomach discomfort.
<b>Unknown acute toxicity</b>	Not applicable.

**Toxicology data for the components**

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
2-methylpropan-2-ol	= 2200 mg/kg ( Rat )	> 2 g/kg ( Rabbit )	> 10000 ppm ( Rat ) 4 h

<b>Sensitization</b>	This product does not contain any components suspected to be sensitizing.
<b>Mutagenic effects</b>	This product does not contain any known or suspected mutagens.
<b>Carcinogenicity</b>	This product does not contain any known or suspected carcinogens.
<b>Reproductive toxicity</b>	This product does not contain any known or suspected reproductive hazards.
<b>Routes of Exposure</b>	Skin contact. Eye contact. Inhalation.
<b>Routes of entry</b>	Inhalation.
<b>Specific target organ toxicity - Single exposure</b>	Not classified
<b>Specific target organ toxicity - Repeated exposure</b>	Not classified.
<b>Aspiration hazard</b>	Not applicable.
<b>Other information</b>	Key literature references and sources for data. See Section 16 for more information.

## 12. Ecological Information

**12.1 Toxicity**

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

**Toxicity to algae**

See component information below.

**Toxicity to fish**

See component information below.

**Toxicity to daphnia and other aquatic invertebrates**

See component information below.

**Toxicology data for the components**

Chemical Name	Toxicity to fish	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates
2-methylpropan-2-ol	6130 - 6700 mg/L LC50 Pimephales promelas 96 h	> 1000 mg/L EC50 Desmodesmus subspicatus 72 h	4607 - 6577 mg/L EC50 Daphnia magna 48 h = 933 mg/L EC50

			Daphnia magna 48 h
--	--	--	--------------------

**12.2 Persistence and degradability**

Not readily biodegradable.

**12.3 Bioaccumulative potential**

Does not bioaccumulate.

**log Pow**  
<0

**12.4 Mobility****Mobility**

The product is water soluble, and may spread in water systems.

**Mobility in soil**

No information available.

**12.5 Results of PBT and vPvB assessment**

Not classified as PBT/vPvB by current EU criteria.

**12.6 Other adverse effects.**

None known.

**12.7 Other information**

Key literature references and sources for data. See Section 16 for more information.

**13. Disposal considerations****13.1 Waste treatment methods****Waste from residues/unused products**

Dispose of in accordance with local regulations.

**Contaminated packaging**

Empty containers should be taken for local recycling, recovery or waste disposal.

**14. Transport information****14.1. UN number**

Not regulated



**14.2. UN proper shipping name**

The product is not covered by international regulation on the transport of dangerous goods

**14.3 Hazard class(es)**

ADR/RID/ADN/ADG Hazard class Not regulated  
IMDG/ANTAQ Hazard class Not regulated  
ICAO/ANAC Hazard class/division Not regulated

**14.4 Packing group**

ADR/RID/ADN/ADG Packing group Not regulated  
IMDG/ANTAQ Packing group Not regulated  
ICAO/ANAC Packing group Not regulated

**14.5 Environmental hazard**

No

**14.6 Special precautions**

Not applicable

**14.7 Transport in bulk according to Annex I/II of MARPOL 73/78 and the IBC Code**

Please contact SDS@slb.com for info regarding transport in Bulk.

## 15. Regulatory Information

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

This safety data sheet complies with the requirements of:  
The Globally Harmonized System of Classification and Labeling of Chemicals (GHS)

**Australian Standard for the Uniform Scheduling of Drugs and Poisons**

No poisons schedule number allocated

**New Zealand Hazard Classification** Not classified

**HSNO approval no.** Not required

**Group number** Not required

**National Code of Practice for the Preparation of Material Safety Data Sheets 2nd Edition [NOHSC: 2011 (2003)].**

**National Occupational Health and Safety Commission's Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004) 3rd Edition].**

**National Occupational Health and Safety Commission's Exposure Standards for Atmospheric Contaminants in the occupational Environment [NOHSC:1003 (1995)].**

**Safe Work Australia.**

**Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).**

**Not classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG)**

**International inventories**

USA (TSCA)	Does not comply
Canada (DSL)	Complies
Philippines (PICCS)	Does not comply
Japan (ENCS)	Does not comply
China (IECSC)	Complies
Australia (AICS)	Complies
Korean (KECL)	Does not comply
New Zealand (NZIoC)	Complies

## 16. Other Information

Prepared by	Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Muriel Martin Beurel
Supersedes Date:	04-Jan-2018
Revision date	11-Jul-2019
Version	3

**This SDS has been revised in the following section(s)** 15. Regulatory Information No changes with regard to classification have been made.

### Key literature references and sources for data

www.ChemADVISOR.com

Supplier

National Chemical Inventories

National regulatory information

National occupational exposure limits

### HMIS classification

Health	1
Flammability	1
Physical hazard	0
PPE	E

### Disclaimer

The information contained herein is considered in good faith as reliable of the date issued and is based upon on measurements, tests or data derived from supplier's own study or furnished by others. In providing this SDS information, Supplier makes no express or implied warranties as to the information or product; merchantability or fitness of purpose; any express or implied warranty; or non-infringement of intellectual property rights; and supplier assumes no responsibility for any direct, special or consequential damages, results obtained, or the activities of others. To the maximum extent permitted by law, supplier's warranty obligations and buyer's sole remedies are as stated in separate agreement between the parties.

This Document is Confidential and Proprietary. Unless Otherwise Marked, It is an Uncontrolled Copy.

**1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER**

<b>Product Name</b>	<b>PORTLAND CEMENT</b>
<b>Supplier Contact</b>	Cockburn Cement A.B.N. 50.008.673.470
<b>Address</b>	PO Box 38, Hamilton Hill, WA 6963
<b>Manufacturing Plant(s)</b>	Munster Works, Lot 242, Russell Road East, Munster WA 6166 Kwinana Works, Leath Road, Kwinana WA 6167
<b>Telephone</b>	08 9411 1000
<b>Fax</b>	08 9411 1150
<b>Emergency</b>	Bus Hrs 08 9411 1000 A/Hrs 08 9411 1000
<b>Email</b>	orders@cockburncement.com.au
<b>Web Site</b>	<a href="http://www.cockburn.com.au">http://www.cockburn.com.au</a> & <a href="http://www.swacement.com.au">www.swacement.com.au</a>
<b>Synonym(s)</b>	Type General Purpose (GP), High Early Strength (HE), Brightonlite Cream Cement, Cockburn Crème High Early Strength (CCHE), Cockburn Crème General Purpose (CCGP), General Purpose Coarse (GPC), Type Sulphate Resistant (SR)
<b>Use(s)</b>	CONCRETE · BINDING AGENT · GROUT · MORTAR · RENDER · MASONRY CONSTRUCTION

**2. HAZARDS IDENTIFICATION**

This product is classified as hazardous according to Safe Work Australia criteria.  
Not classified as a dangerous good by the criteria of the ADG code, IMDG or IATA.

**GHS Classifications**

Skin Corrosion/Irritation:	Category 2
Serious Eye Damage / Eye Irritation:	Category 1
Specific Target Organ Systemic Toxicity (Repeated Exposure):	Category 2

**SIGNAL WORD****DANGER****Pictograms****Hazard statements**

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H373	May cause damage to lungs and respiratory tract through prolonged or repeated exposure.

**Prevention statements**

P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection.

**Response statements**

P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P304 + P340	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.

**Disposal statements**

P501	Dispose of contents/container in accordance with relevant regulations.
------	--

**PORTLAND CEMENT**

<b>UN No</b>	None Allocated	<b>Hazchem Code</b>	None Allocated	<b>Pkg Group</b>	None Allocated
<b>DG Class</b>	None Allocated	<b>Subsidiary Risk(s)</b>	None Allocated	<b>EPG</b>	None Allocated

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

<b>Ingredient</b>	<b>Formula</b>	<b>Conc.</b>	<b>CAS No.</b>
PORTLAND CEMENT CLINKER	Not Available	< 90%	65997-15-1
*GYPSUM	CaSO <sub>4</sub> 2H <sub>2</sub> O	3 - 8%	10101-41-4
*LIMESTONE	CaCO <sub>3</sub>	0 - 5%	1317-65-3
*GRANULATED BLAST FURNACE SLAG	Not Available	0 - 5%	65996-69-2
CHROMIUM (VI) HEXAVALENT	Cr <sup>6+</sup>	Trace	18540-29-9

\*NOTE: Ingredient may contain crystalline silica (CAS No. 14808-60-7).

**4. FIRST AID MEASURES**

<b>Eye</b>	Flush thoroughly with flowing water for at least 15 minutes and seek medical attention if symptoms persist. If wet cement is splashed into the eyes flush thoroughly with flowing water for 15 minutes and seek urgent medical attention.
<b>Inhalation</b>	Remove from dusty area to fresh air. If symptoms persist, seek medical attention.
<b>Skin</b>	Remove heavily contaminated clothing immediately. Wash off skin thoroughly with water. A shower may be required. Seek medical attention for persistent irritation or burning of the skin
<b>Ingestion</b>	Rinse mouth and lips with water. Do not induce vomiting. Give water to drink to dilute stomach contents. If symptoms persist, seek medical attention.
<b>Advice to Doctor</b>	Treat symptomatically.
<b>First Aid Facilities</b>	Eye wash station.

**Additional Information - Aggravated Medical Conditions**

<b>Inhalation</b>	Over exposure resulting from prolonged and repeated inhalation of dust containing crystalline silica can cause bronchitis, silicosis (scarring of the lung.) It may also increase the risk of scleroderma (a disease affecting the connective tissue of the skin, joints, blood vessels and internal organs) and lung cancer. Epidemiological studies have shown that smoking increases the risk of bronchitis, silicosis (scarring of the lung) and lung cancer in persons exposed to crystalline silica.
<b>Skin</b>	Prolonged and repeated skin contact with cement in wet concrete, mortars and slurries may result in irritant dermatitis.
<b>Eye</b>	Irritating to the eye. If wet cement is splashed into the eye alkaline burns can cause permanent damage.

**5. FIRE FIGHTING**

<b>Flammability</b>	Non flammable. Does not support combustion of other materials.
<b>Fire and Explosion</b>	No fire or explosion hazard exists.
<b>Extinguishing</b>	Non flammable; use suitable extinguishing agent for surrounding fire.
<b>Hazchem Code</b>	None.



### 6. ACCIDENTAL RELEASE MEASURES

<b>Spillage</b>	If spilt (bulk), contact emergency services if appropriate. Wear dust-proof goggles, PVC/rubber gloves, a Class P2 respirator (where an inhalation risk exists), coveralls and rubber boots. Clear area of all unprotected personnel. Prevent spill entering drains or waterways. Collect and place in sealable containers for disposal or reuse. Avoid generating dust.
<b>Emergency Procedures</b>	Follow safety requirements for personal protection under Section 8 Exposure Controls/Personal Protection.

### 7. HANDLING AND STORAGE

<b>Storage</b>	Store off the floor in the original bags in a cool, dry, well ventilated area, removed from excessive moisture and heat. Ensure packages are adequately labelled, protected from physical damage and sealed when not in use.
<b>Handling</b>	Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.
<b>Property/ Environmental</b>	Refer to Section 13.

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

<b>Ventilation</b>	Do not inhale dust/powder. Use with adequate ventilation. Where a dust inhalation hazard exists, mechanical extraction ventilation is recommended. Maintain dust levels below the recommended exposure standard.
<b>Exposure Standards</b>	CALCIUM CARBONATE (1317-65-3) ES-TWA: 10mg/m <sup>3</sup> (Respirable Dust) CHROMIUM (VI) HEXAVALENT(18540-29-9) ES-TWA: 0.05 mg/m <sup>3</sup> (Chromium VI compounds) GYPSUM (10101-41-4) ES-TWA: 10 mg/m <sup>3</sup> (Respirable Dust) PORTLAND CEMENT (65997-15-1) ES-TWA: 10 mg/m <sup>3</sup> (Respirable Dust) SILICA, CRYSTALLINE – QUARTZ (14808-60-7) ES-TWA: 0.1 mg/m <sup>3</sup> (Respirable Dust)
<b>PPE</b>	Wear dust-proof goggles and rubber or PVC gloves. Where an inhalation risk exists, wear a Class P2 respirator. If there is potential for prolonged and/or excessive skin contact, wear coveralls. At high dust levels, wear a Class P3 respirator or a Powered Air Purifying Respirator (PAPR) with Class P3 filter.





## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance</b>	Fine powder ranging in colour from grey to off-white	<b>Solubility (water)</b>	Slight, hardens on mixing with water
<b>Odour</b>	Odourless	<b>Specific Gravity</b>	2.5 to 3.2
<b>pH</b>	Approximately 12 (Alkaline)	<b>% Volatiles</b>	Not Available
<b>Vapour Pressure</b>	Not Available	<b>Flammability</b>	Non Flammable
<b>Vapour Density</b>	Not Available	<b>Flash Point</b>	Not Relevant
<b>Boiling Point</b>	Not Available	<b>Upper Explosion Limit</b>	Not Relevant
<b>Melting Point</b>	> 1200°C	<b>Lower Explosion Limit</b>	Not Relevant
<b>Evaporation Rate</b>	Not Available	<b>Autoignition Temperature</b>	Not Available
<b>Bulk Density</b>	1000 - 1600 kg/m <sup>3</sup>		
<b>Particle Size</b>	10 - 30% of particles are < 7 µm, ie in the respirable range		

## 10. STABILITY AND REACTIVITY

<b>Chemical Stability</b>	Chemically Stable
<b>Conditions to Avoid</b>	Keep free of moisture
<b>Incompatible Materials</b>	Incompatible with oxidising agents (eg hypochlorites), ethanol, acids (eg hydrofluoric acid) and interhalogens (eg chlorine trifluoride). Water contact may increase product
<b>Decomposition Products</b>	Unlikely to evolve toxic gases when heated to decomposition.
<b>Hazardous Reactions</b>	None

## 11. TOXICOLOGICAL INFORMATION

<b>Acute Toxicity</b>	No known toxicity data available for this product.
<b>Eye</b>	Irritant upon contact with powder/dust. Over exposure may result in pain, redness, corneal burns and ulceration with possible permanent damage.
<b>Inhalation</b>	Slightly corrosive. Irritating to the respiratory system, causing coughing and sneezing. Over exposure may result in severe mucous membrane irritation and bronchitis. Hexavalent chromium is reported to cause respiratory sensitisation, however due to the trace amount present, a hazard is not anticipated under normal conditions of use. Crystalline silica can cause silicosis (lung disease) with chronic over exposure, however due to low levels present and product application, adverse health effects are not anticipated.
<b>Skin</b>	Irritating to the skin. Prolonged and repeated contact with powder or wetted form may result in skin rash, dermatitis and sensitisation.
<b>Ingestion</b>	Slightly corrosive. Ingestion may result in burns to the mouth and throat, with vomiting and abdominal pain. Due to product form, ingestion is not considered a likely exposure route.
<b>Mutagenicity</b>	Insufficient data available for this product to classify as a mutagen.
<b>Carcinogenicity</b>	Portland Cement is not classified as a carcinogen by NOHSC. Crystalline silica and hexavalent chromium compounds are classified as carcinogenic to humans (IARC Group 1), however due to low levels present and product application, the criteria for classification is not met.



## 12. ECOLOGICAL INFORMATION

<b>Toxicity</b>	Product forms an alkaline slurry when mixed with water. This product is non toxic to aquatic life forms when present in cured solid form.
<b>Persistence &amp; Degradability</b>	Product is persistent and would have a low degradability.
<b>Mobility in soil</b>	A low mobility would be expected in a landfill situation.

## 13. DISPOSAL CONSIDERATIONS

<b>Waste Disposal</b>	Reuse or recycle where possible. Alternatively, ensure product is covered with moist soil to prevent dust generation and dispose of to an approved landfill site. Contact the manufacturer for additional information.
<b>Legislation</b>	Dispose of in accordance with relevant local legislation. Keep out of sewer and stormwater drains.

## 14. TRANSPORT INFORMATION

Not classified as a dangerous good by the criteria of the ADG Code.

Transport is by rail or road in bulk or bag form.

Drivers of trucks transporting bagged product should ensure that the bags are properly restrained.

<b>Shipping Name</b>	None Allocated	<b>Hazchem Code</b>	None Allocated	<b>Pkg Group</b>	None Allocated
<b>UN No</b>	None Allocated	<b>Subsidiary Risk(s)</b>	None Allocated	<b>EPG</b>	None Allocated
<b>DG Class</b>	None Allocated				

## 15. REGULATORY INFORMATION

<b>Poison Schedule AICS</b>	A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP). All chemicals listed on the Australian Inventory of Chemical Substances (AICS).
-----------------------------	--

## 16. OTHER INFORMATION

**Additional Information** CEMENT CONTACT DERMATITIS: Individuals using wet cement, mortar, grout or concrete could be at risk of developing cement dermatitis. Symptoms of exposure include itchy, tender, swollen, hot, cracked or blistering skin with the potential for sensitisation. The dermatitis is due to the presence of soluble (hexavalent) chromium.

IARC – GROUP 1 – PROVEN HUMAN CARCINOGEN. This product contains an ingredient for which there is sufficient evidence to have been classified by the International Agency for Research into Cancer as a human carcinogen. The use of products known to be human carcinogens should be strictly monitored and controlled.

RESPIRATORS: In general the use of respirators should be limited and engineering controls employed to avoid exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.



## PORTLAND CEMENT

**PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:** The Recommendation for protective equipment contained within this SDS report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

**HEALTH EFFECTS FROM EXPOSURE:** It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare an SDS report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

**ABBREVIATIONS:**

mg/m<sup>3</sup> - Milligrams per cubic metre

ppm - Parts Per Million

ES-TWA - Exposure Standard - Time Weighted Average

CNS - Central Nervous System

NOS - Not Otherwise Specified

pH - relates to hydrogen ion concentration - this value will relate to a scale of 0 - 14, where 0 is highly acidic and 14 is highly alkaline.

CAS# - Chemical Abstract Service Number - used to uniquely identify chemical compounds.

IARC - International Agency for Research on Cancer.

**Report Status**

This document has been compiled by Cockburn Cement the manufacturer of the product and serves as the manufacturer's Safety Data Sheet ("SDS").

While Cockburn Cement has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, Cockburn Cement accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

**Contact Point**

For further information on this product contact:

Telephone: Office hours 08 9411 1000  
After hours 08 9411 1000  
Facsimile: 08 9411 1150  
Web site: <http://www.cockburn.com.au>

**Advice Note**

The information in this document is believed to be accurate. Please check the currency of this SDS by contacting:

08 9411 1000  
or  
<http://www.cockburncement.com.au> or [www.swancement.com.au](http://www.swancement.com.au)

The provision of this information should not be construed as a recommendation to use this product in violation of any patent rights or in breach of any statute or regulation. Users are advised to make their own determination as to the suitability of this information in relation to their particular purposes and specific circumstances. Users should read this SDS and consider the information in the context of how the product will be handled and used in the workplace and in conjunction with other substances or products.





## Safety Data Sheet Class G - Silica Blend D956

### 1. Identification of the substance/mixture and of the company/undertaking

#### 1.1 Product identifier

**Product name** Class G - Silica Blend D956  
**Product code** D956

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** Used as a cementing additive in oilfield applications

**Uses advised against** Consumer use

#### 1.3 Details of the supplier of the safety data sheet

##### Supplier

Schlumberger Oilfield Australia Pty Ltd  
ABN: 74 002 459 225  
ACN: 002 459 225  
256 St. Georges Terrace, Perth WA 6000  
+47 5157 7424

SDS@slb.com

#### 1.4 Emergency Telephone Number

**Emergency telephone** - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 595 3518

### 2. Hazards Identification

#### 2.1 Classification of the substance or mixture

##### GHS Classification

##### Health hazards

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 1
Skin sensitization	Category 1B
Specific target organ toxicity - Single exposure	Category 3
Specific target organ toxicity - Repeated exposure	Category 2

**Environmental hazards** Not classified

**Physical Hazards** Not classified

## 2.2 Label elements



### Signal word

DANGER

### Hazard Statements

H315 - Causes skin irritation

H317 - May cause an allergic skin reaction

H318 - Causes serious eye damage

H335 - May cause respiratory irritation

H373 - May cause damage to organs through prolonged or repeated exposure

### Precautionary statements

P260 - Do not breathe dust/fume/gas/mist/vapors/spray

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water

P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P310 - Immediately call a POISON CENTER or doctor/physician

### Supplementary precautionary statements

P261 - Avoid breathing dust/fume/gas/mist/vapors/spray

P264 - Wash face, hands and any exposed skin thoroughly after handling

P271 - Use only outdoors or in a well-ventilated area

P272 - Contaminated work clothing should not be allowed out of the workplace

P332 + P313 - If skin irritation occurs: Get medical advice/attention

P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention

P362 + P364 - Take off contaminated clothing and wash it before reuse

P403 + P233 - Store in a well-ventilated place. Keep container tightly closed

P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

### Contains

Portland cement

Quartz, Crystalline silica

## 2.3 Other hazards

Not classified as PBT/vPvB by current EU criteria

### Australian statement of hazardous/dangerous nature

Classified as Hazardous according to the criteria of NOHSC.

HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

## 3. Composition/information on Ingredients

### 3.1 Substances

Not applicable

### 3.2 Mixtures

Chemical Name	EC No	CAS No	Weight-%
Portland cement	266-043-4	65997-15-1	60 - 80
Quartz, Crystalline silica	238-878-4	14808-60-7	10-30

**Comments**

This product contains a small quantity of quartz, crystalline silica. Prolonged and repeated exposure to concentrations of crystalline silica exceeding the workplace exposure limit (WEL) may lead to chronic lung disease such as silicosis. IARC Monographs, Vol. 68, 1997, concludes that there is sufficient evidence that inhaled crystalline silica in the form of quartz or cristobalite from occupational sources causes cancer in humans. IARC Classification Group I.

## 4. First Aid Measures

**4.1 First aid measures**

<b>Inhalation</b>	If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.
<b>Ingestion</b>	Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Seek medical attention if irritation occurs.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get medical attention if irritation persists.
<b>Eye Contact</b>	Promptly wash eyes with lots of water while lifting eye lids. Remove contact lenses, if worn. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.

**4.2. Most important symptoms and effects, both acute and delayed**

**General advice** The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible.

**Symptoms**

<b>Inhalation</b>	Please see Section 11. Toxicological Information for further information.
<b>Ingestion</b>	Please see Section 11. Toxicological Information for further information.
<b>Skin contact</b>	Please see Section 11. Toxicological Information for further information.
<b>Eye contact</b>	Please see Section 11. Toxicological Information for further information.

**4.3 Indication of any immediate medical attention and special treatment needed**

**Notes to physician** Treat symptomatically.

## 5. Fire-Fighting Measures

**5.1 Extinguishing media****Suitable extinguishing media**

Use extinguishing media appropriate for surrounding material.

**Extinguishing media which must not be used for safety reasons**

None known.

**5.2. Special hazards arising from the substance or mixture**

**Unusual fire and explosion hazards**

None known.

**Hazardous combustion products**

Thermal decomposition can lead to release of irritating gases and vapors. React with hydrofluoric acid (HF) forming toxic gas (SiF<sub>4</sub>).

**5.3 Advice for firefighters****Special protective equipment for fire-fighters**

As in any fire, wear self-contained breathing apparatus and full protective gear.

**Special Fire-Fighting Procedures**

Containers close to fire should be removed immediately or cooled with water.

**6. Accidental Release Measures****6.1. Personal precautions, protective equipment and emergency procedures**

Do not get on skin or clothing. Wash thoroughly after handling. Avoid dust formation. Do not breathe dust. Use personal protective equipment. See also section 8.

**6.2 Environmental precautions**

The product should not be allowed to enter drains, water courses or the soil.

**Environmental exposure controls**

Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

**6.3 Methods and material for containment and cleaning up****Methods for containment**

Prevent further leakage or spillage if safe to do so. Prevent dust cloud. Cover powder spill with plastic sheet or tarp to minimize spreading.

**Methods for cleaning up**

Do not dry sweep dust. Wet dust with water before sweeping or use a vacuum to collect dust. Pick up and transfer to properly labeled containers. Keep in suitable, closed containers for disposal. Clean contaminated surface thoroughly. After cleaning, flush away traces with water.

**6.4 Reference to other sections**

See section 13 for more information.

**7. Handling and Storage****7.1 Precautions for safe handling****Handling**

Handle in accordance with good industrial hygiene and safety practice. Do not breathe vapors/dust. Avoid contact with skin and eyes. Avoid handling causing generation of dust. Persons susceptible to allergic reactions should not handle this product.

**Hygiene Measures**

Use good work and personal hygiene practices to avoid exposure. Wash thoroughly with soap and water after handling and before eating, drinking, or using tobacco. Do not eat, drink or smoke when using this product. Remove contaminated clothing.

**7.2 Conditions for safe storage, including any incompatibilities**

<b>Technical measures/precautions</b>	Ensure adequate ventilation. Provide appropriate exhaust ventilation at places where dust is formed. Keep airborne concentrations below exposure limits.
<b>Storage precautions</b>	Keep containers tightly closed in a dry, cool and well-ventilated place Protect from moisture Store away from incompatibles, Powdered aluminum Oxidizing agents Hydrofluoric acid (HF) Strong bases Strong acids
<b>Storage class</b>	Chemical storage.
<b>Packaging materials</b>	Use specially constructed containers only.

## 8. Exposure Controls/Personal Protection

### 8.1 Control parameters

**Exposure limits** NUI = Nuisance dust, TWA 4mg/m<sup>3</sup> Respirable Dust, 10mg/m<sup>3</sup> Total Dust.

### Component Information

Chemical Name	Arabic	Australia	Egypt
Portland cement	10 mg/m <sup>3</sup> TWA	10mg/m <sup>3</sup> TWAINhalable dust	Not determined
Quartz, Crystalline silica	0.1 mg/m <sup>3</sup> TWA	0.1mg/m <sup>3</sup> TWAspirable dust	Not determined
Chemical Name	India	Indonesian	Japan
Portland cement	10 mg/m <sup>3</sup> TWA	10 mg/m <sup>3</sup> TWA	4 mg/m <sup>3</sup> OEL 1 mg/m <sup>3</sup> OEL
Quartz, Crystalline silica	Not determined	0.1 mg/m <sup>3</sup> TWA	Not determined
Chemical Name	Kazakhstan	Kuwait	New Zealand
Portland cement	Not determined	Not determined	10 mg/m <sup>3</sup> TWA
Quartz, Crystalline silica	1 mg/m <sup>3</sup> MAC	Not determined	0.1 mg/m <sup>3</sup> TWA Confirmed carcinogen
Chemical Name	Malaysia	Philippines	Russia
Portland cement	10 mg/m <sup>3</sup> TWA	Not determined	Not determined
Quartz, Crystalline silica	0.1 mg/m <sup>3</sup> TWA	Not determined	3 mg/m <sup>3</sup> STEL 1 mg/m <sup>3</sup> TWA Fibrogenic substance glass;regulated under Quartz 1123, 1124
Chemical Name	Thailand	Vietnam	Turkey
Portland cement	Not determined	Not determined	Not determined
Quartz, Crystalline silica	0.025 mg/m <sup>3</sup> TWA	Not determined	Not determined

### 8.2 Exposure controls

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

#### Engineering Controls

Ensure adequate ventilation Provide appropriate exhaust ventilation at places where dust is formed

#### Personal protective equipment

##### Eye protection

Use eye protection according to EN 166, designed to protect against powders and dusts Safety glasses with side-shields Tightly fitting safety goggles

##### Hand protection

Wear gloves according to EN 374 to protect against skin effects from powders Impervious gloves made of: Butyl Neoprene Nitrile Rubber Frequent change is advisable

##### Respiratory protection

In case of insufficient ventilation wear suitable respiratory equipment Suitable mask with particle filter P3 (European Norm 143) At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used.

<b>Skin and body protection</b>	Wear suitable protective clothing Eye wash and emergency shower must be available at the work place.
<b>Hygiene Measures</b>	Wash hands before breaks and immediately after handling the product Remove and wash contaminated clothing before re-use



### 8.2.3 Environmental exposure controls

<b>Environmental exposure</b>	Use appropriate containment to avoid environmental contamination See section 6 for more information
-------------------------------	---

## 9. Physical and Chemical Properties

### 9.1 Information on basic physical and chemical properties

<b>Physical state</b>	Solid
<b>Appearance</b>	Powder
<b>Odor</b>	Odorless
<b>Color</b>	Gray
<b>Odor threshold</b>	Not applicable

<u>Property</u>	<u>Values</u>	<u>Remarks</u>
<b>pH</b>	No information available	
<b>pH @ dilution</b>	11.0 - 13.5	
<b>Melting / freezing point</b>	> 1250 °C/ 2282 °F	
<b>Boiling point/range</b>	No information available	
<b>Flash point</b>	No information available	
<b>Evaporation rate (BuAc =1)</b>	No information available	
<b>Flammability (solid, gas)</b>	Not applicable	
<b>Flammability Limit in Air</b>		
<b>Upper flammability limit</b>	Not applicable	
<b>Lower flammability limit</b>	Not applicable	
<b>Vapor pressure</b>	No information available	
<b>Vapor density</b>	No information available	
<b>Specific gravity</b>	No information available	
<b>Bulk density</b>	No information available	
<b>Relative density</b>	2.75-3.20	
<b>Water solubility</b>	Slightly soluble in water.	
<b>Solubility in other solvents</b>	No information available	
<b>Autoignition temperature</b>	No information available	
<b>Decomposition temperature</b>	No information available	
<b>Kinematic viscosity</b>		
<b>Dynamic viscosity</b>	No information available	
<b>log Pow</b>	No information available	
<b>Explosive properties</b>	Not applicable	
<b>Oxidizing properties</b>	None known.	

### 9.2 Other information

<b>Pour point</b>	No information available
<b>Molecular weight</b>	No information available
<b>VOC content(%)</b>	No information available

**Density** No information available

**Comments**

The data listed above are typical physical and chemical properties and should not be construed as product specification.

## 10. Stability and Reactivity

### 10.1 Reactivity

React with hydrofluoric acid (HF) forming toxic gas (SiF<sub>4</sub>).

### 10.2 Chemical stability

Stable under normal temperature conditions and recommended use.

### 10.3 Possibility of Hazardous Reactions

**Hazardous polymerization**

Hazardous polymerization does not occur.

### 10.4 Conditions to avoid

Protect from moisture.

### 10.5 Incompatible materials

Powdered aluminum. Strong oxidizing agents. Hydrofluoric acid (HF). Strong acids. Strong bases.

### 10.6 Hazardous decomposition products

See Section 5.2.

## 11. Toxicological Information

### 11.1 Information on toxicological effects

**Acute toxicity**

**Inhalation**

Inhalation of dust may cause shortness of breath, tightness of the chest, a sore throat and cough. May cause respiratory irritation. Repeated or prolonged inhalation of crystalline silica dust can cause delayed lung injury, and other diseases, including silicosis and lung cancer.

**Eye contact**

Causes serious eye damage.

**Skin contact**

Causes skin irritation. Contact with moist skin may cause skin burns. May cause an allergic skin reaction.

**Ingestion**

Ingestion may cause irritation to mucous membranes.

**Unknown acute toxicity**

Not applicable.

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Portland cement	No data available	No data available	No data available
Quartz, Crystalline silica	= 500 mg/kg ( Rat )	No data available	No data available

**Sensitization** May cause allergic skin reaction.

<b>Mutagenic effects</b>	This product does not contain any known or suspected mutagens.
<b>Carcinogenicity</b>	Contains a known or suspected carcinogen. Crystalline silica dust is listed by IARC in Group 1 as known to cause lung cancer in humans, if inhaled.
<b>Reproductive toxicity</b>	This product does not contain any known or suspected reproductive hazards.
<b>Routes of exposure</b>	Ingestion. Inhalation. Skin contact. Eye contact.
<b>Routes of entry</b>	Inhalation. Ingestion.
<b>Specific target organ toxicity - Single exposure</b>	Category 3
<b>Specific target organ toxicity - Repeated exposure</b>	Category 2.
<b>Target organ effects</b>	Respiratory system. Lungs.
<b>Aspiration hazard</b>	Not applicable.
<b>Other information</b>	Key literature references and sources for data. See Section 16 for more information.

## 12. Ecological Information

### 12.1 Toxicity

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

#### Toxicity to algae

This product is not considered toxic to algae.

#### Toxicity to fish

This product is not considered toxic to fish.

#### Toxicity to daphnia and other aquatic invertebrates

This product is not considered toxic to invertebrates.

Chemical Name	Toxicity to fish	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates
Portland cement	No information available	No information available	No information available
Quartz, Crystalline silica	No information available	No information available	No information available

### 12.2 Persistence and degradability

No product level data available.

Chemical Name	Persistence and degradability
Quartz, Crystalline silica	Inorganic compound

### 12.3 Bioaccumulative potential

No product level data available.



Chemical Name	Bioaccumulation
Quartz, Crystalline silica	Product/Substance is inorganic

**12.4 Mobility****Mobility**

Slightly soluble in water.

**Mobility in soil**

No information available.

**12.5 Results of PBT and vPvB assessment**

Not classified as PBT/vPvB by current EU criteria.

**12.6 Other adverse effects.**

None known.

**12.7 Other information**

Key literature references and sources for data. See Section 16 for more information.

## 13. Disposal considerations

**13.1 Waste treatment methods**

**Waste from residues/unused products** Dispose of in accordance with local regulations.

**Contaminated packaging** Empty containers should be taken for local recycling, recovery or waste disposal.

## 14. Transport information

**14.1. UN number**

Not regulated

**14.2. UN proper shipping name**

The product is not covered by international regulation on the transport of dangerous goods

**14.3 Hazard class(es)**

<b>ADR/RID/ADN/ADG Hazard class</b>	Not regulated
<b>IMDG/ANTAQ Hazard class</b>	Not regulated
<b>ICAO/ANAC Hazard class/division</b>	Not regulated

**14.4 Packing group**

<b>ADR/RID/ADN/ADG Packing group</b>	Not regulated
<b>IMDG/ANTAQ Packing group</b>	Not regulated
<b>ICAO/ANAC Packing group</b>	Not regulated

**14.5 Environmental hazard**

No

**14.6 Special precautions**

None

**14.7 Transport in bulk according to Annex I/II of MARPOL 73/78 and the IBC Code**

Please contact SDS@slb.com for info regarding transport in Bulk.

**15. Regulatory Information****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****The Globally Harmonized System of Classification and Labeling of Chemicals (GHS)****Australian Standard for the Uniform Scheduling of Drugs and Poisons**Portland cement  
Schedule 4  
Schedule 6  
Schedule 5**National Code of Practice for the Preparation of Material Safety Data Sheets 2nd Edition [NOHSC: 2011 (2003)].****National Occupational Health and Safety Commission's Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004) 3rd Edition].****National Occupational Health and Safety Commission's Exposure Standards for Atmospheric Contaminants in the occupational Environment [NOHSC:1003 (1995)].****Safe Work Australia.****Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).****Not classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG)****International inventories**

<b>USA (TSCA)</b>	Complies
<b>Canada (DSL)</b>	Complies
<b>Philippines (PICCS)</b>	Complies
<b>Japan (ENCS)</b>	Complies
<b>China (IECSC)</b>	Complies
<b>Australia (AICS)</b>	Complies
<b>Korean (KECL)</b>	Complies
<b>New Zealand (NZIoC)</b>	Complies

**16. Other Information****Prepared by** Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Muriel Martin Beurel**Supersedes Date:** 04-Aug-2016

**Revision date** 27-Jul-2018

**Version** 5

**This SDS has been revised in the following section(s)** All sections No changes with regard to classification have been made.

**Key literature references and sources for data**

www.ChemADVISOR.com

Supplier

National Chemical Inventories

National regulatory information

National occupational exposure limits

**HMIS classification**

Health	3*
Flammability	1
Physical hazard	0
PPE	C

**Disclaimer**

The information contained herein is considered in good faith as reliable of the date issued and is based upon on measurements, tests or data derived from supplier's own study or furnished by others. In providing this SDS information, Supplier makes no express or implied warranties as to the information or product; merchantability or fitness of purpose; any express or implied warranty; or non-infringement of intellectual property rights; and supplier assumes no responsibility for any direct, special or consequential damages, results obtained, or the activities of others. To the maximum extent permitted by law, supplier's warranty obligations and buyer's sole remedies are as stated in separate agreement between the parties.

This Document is Confidential and Proprietary. Unless Otherwise Marked, It is an Uncontrolled Copy.



## Safety Data Sheet Bentonite Extender D20

### 1. Identification of the substance/mixture and of the company/undertaking

#### 1.1 Product identifier

**Product name** Bentonite Extender D20  
**Product code** D020

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** Used as a cementing additive in oilfield applications

**Uses advised against** Consumer use

#### 1.3 Details of the supplier of the safety data sheet

##### **Supplier**

Schlumberger Oilfield Australia Pty Ltd  
ABN: 74 002 459 225  
ACN: 002 459 225  
256 St. Georges Terrace, Perth WA 6000  
+47 5157 7424

SDS@slb.com

#### 1.4 Emergency Telephone Number

**Emergency telephone** - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 595 3518

### 2. Hazards Identification

#### 2.1 Classification of the substance or mixture

##### **GHS Classification**

**Health hazards** Not classified

**Environmental hazards** Not classified

**Physical Hazards** Not classified

#### 2.2 Label elements

##### **Signal word**

None

**Hazard Statements**

This product is not classified as hazardous therefore no (H) hazard statements assigned.

**Precautionary statements**

This product is not classified as hazardous therefore has no (P) precautionary statements assigned.

-

**Contains**

Crystalline silica (impurity)

**2.3 Other hazards**

Not classified as PBT/vPvB by current EU criteria  
Product dust may be irritating to eyes, skin and respiratory system

**Australian statement of hazardous/dangerous nature**

Classified as Non-Hazardous according to the criteria of NOHSC.  
NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

### 3. Composition/information on Ingredients

**3.1 Substances****3.2 Mixtures**

Not applicable

Chemical Name	EC No	CAS No	Weight-%
Crystalline silica (impurity)	238-878-4	14808-60-7	1-5

**Comments**

Naturally occurring mineral.

This product contains a small quantity of quartz, crystalline silica. Prolonged and repeated exposure to concentrations of crystalline silica exceeding the workplace exposure limit (WEL) may lead to chronic lung disease such as silicosis. IARC Monographs, Vol. 68, 1997, concludes that there is sufficient evidence that inhaled crystalline silica in the form of quartz or cristobalite from occupational sources causes cancer in humans. IARC Classification Group I.

The product contains other ingredients which do not contribute to the overall classification.

### 4. First Aid Measures

**4.1 First aid measures**

<b>Inhalation</b>	If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.
<b>Ingestion</b>	Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.
<b>Skin contact</b>	Wash skin thoroughly with soap and water. Get medical attention if irritation persists.
<b>Eye Contact</b>	Promptly wash eyes with lots of water while lifting eye lids. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if any discomfort continues.

**4.2. Most important symptoms and effects, both acute and delayed**

<b>General advice</b>	The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible.
-----------------------	--

**Symptoms**

<b>Inhalation</b>	Please see Section 11. Toxicological Information for further information.
<b>Ingestion</b>	Please see Section 11. Toxicological Information for further information.
<b>Skin contact</b>	Please see Section 11. Toxicological Information for further information.
<b>Eye contact</b>	Please see Section 11. Toxicological Information for further information.

**4.3 Indication of any immediate medical attention and special treatment needed**

**Notes to physician** Treat symptomatically.

**5. Fire-Fighting Measures****5.1 Extinguishing media****Suitable extinguishing media**

Use extinguishing media appropriate for surrounding material.

**Extinguishing media which must not be used for safety reasons**

Do not use water jet.

**5.2. Special hazards arising from the substance or mixture****Unusual fire and explosion hazards**

None known.

**Hazardous combustion products**

Thermal decomposition can lead to release of irritating gases and vapors Nitrogen oxides (NOx).

**5.3 Advice for firefighters****Special protective equipment for fire-fighters**

As in any fire, wear self-contained breathing apparatus and full protective gear.

**Special Fire-Fighting Procedures**

Containers close to fire should be removed immediately or cooled with water.

**6. Accidental Release Measures****6.1. Personal precautions, protective equipment and emergency procedures**

Use personal protective equipment. See also section 8. Material becomes slippery when wet. Use caution if wet.

**6.2 Environmental precautions**

The product should not be allowed to enter drains, water courses or the soil.

**Environmental exposure controls**

Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

**6.3 Methods and material for containment and cleaning up**

**Methods for containment**

Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent further leakage or spillage if safe to do so.

**Methods for cleaning up**

Sweep up and shovel into suitable containers for disposal. After cleaning, flush away traces with water.

**6.4 Reference to other sections**

See section 13 for more information.

## 7. Handling and Storage

**7.1 Precautions for safe handling****Handling**

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Avoid dust formation. Material becomes slippery when wet. Use caution if wet.

**Hygiene Measures**

Use good work and personal hygiene practices to avoid exposure. When using do not smoke, eat or drink. Wash hands and face before breaks and immediately after handling the product. Remove contaminated clothing.

**7.2 Conditions for safe storage, including any incompatibilities**

<b>Technical measures/precautions</b>	Ensure adequate ventilation. Keep airborne concentrations below exposure limits.
<b>Storage precautions</b>	Keep containers tightly closed in a dry, cool and well-ventilated place. Avoid wet and humid conditions.
<b>Storage class</b>	Chemical storage.
<b>Packaging materials</b>	Use specially constructed containers only.

## 8. Exposure Controls/Personal Protection

**8.1 Control parameters**

**Exposure limits** NUI = Nuisance dust, TWA 4mg/m<sup>3</sup> Respirable Dust, 10mg/m<sup>3</sup> Total Dust.  
No biological limit allocated

**Component Information**

Chemical Name	Arabic	Australia	Egypt
Crystalline silica (impurity)	0.1 mg/m <sup>3</sup> TWA	0.1 mg/m <sup>3</sup> TWA respirable dust	Not determined
Chemical Name	India	Indonesia	Japan
Crystalline silica (impurity)	Not determined	0.1 mg/m <sup>3</sup> TWA	Not determined
Chemical Name	Kazakhstan	Kuwait	New Zealand
Crystalline silica (impurity)	1 mg/m <sup>3</sup> MAC	Not determined	0.1 mg/m <sup>3</sup> TWA Confirmed carcinogen
Chemical Name	Malaysia	Philippines	Russia
Crystalline silica (impurity)	0.1 mg/m <sup>3</sup> TWA	Not determined	3 mg/m <sup>3</sup> STEL 1 mg/m <sup>3</sup> TWA Fibrogenic substance glass; regulated under Quartz 1123, 1124
Chemical Name	Thailand	Vietnam	Turkey
Crystalline silica (impurity)	0.025 mg/m <sup>3</sup> TWA	Not determined	Not determined

**8.2 Exposure controls**

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

### Engineering Controls

Ensure adequate ventilation Provide appropriate exhaust ventilation at places where dust is formed

### Personal protective equipment

#### Eye protection

Use eye protection according to EN 166, designed to protect against powders and dusts  
Tightly fitting safety goggles Safety glasses with side-shields

#### Hand protection

Wear gloves according to EN 374 to protect against skin effects from powders  
Use protective gloves made of: Neoprene Nitrile  
Frequent change is advisable

#### Respiratory protection

In case of insufficient ventilation wear suitable respiratory equipment Suitable mask with particle filter P3 (European Norm 143) At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used.

#### Skin and body protection

Wear suitable protective clothing Eye wash and emergency shower must be available at the work place.

### Hygiene Measures

Wash hands before eating, drinking or smoking Remove and wash contaminated clothing before re-use



### 8.2.3 Environmental exposure controls

#### Environmental exposure

Use appropriate containment to avoid environmental contamination See section 6 for more information

## 9. Physical and Chemical Properties

### 9.1 Information on basic physical and chemical properties

Physical state	Solid
Appearance	Powder
Odor	Odorless
Color	Cream - Gray
Odor threshold	Not applicable

<u>Property</u>	<u>Values</u>	<u>Remarks</u>
pH	9-10	
pH @ dilution	No information available	
Melting / freezing point	> 450 °C / 842 °F	
Boiling point/range	No information available	
Flash point	Not applicable	
Evaporation rate (BuAc =1)	Not applicable	
Flammability (solid, gas)	Not applicable	
Flammability Limit in Air		
Upper flammability limit	Not applicable	
Lower flammability limit	Not applicable	
Vapor pressure	No information available	
Vapor density	No information available	



<b>Specific gravity</b>	2.3 - 2.6	20 °C
<b>Bulk density</b>	750 – 950 kg/m <sup>3</sup>	
<b>Relative density</b>	No information available	
<b>Water solubility</b>	Insoluble in water	
<b>Solubility in other solvents</b>	No information available	
<b>Autoignition temperature</b>	No information available	
<b>Decomposition temperature</b>	> 500 °C / 932°F	
<b>Kinematic viscosity</b>	Not applicable	
<b>Dynamic viscosity</b>	. Not applicable	
<b>log Pow</b>	No information available	
<b>Explosive properties</b>	Not applicable	
<b>Oxidizing properties</b>	None known.	

### 9.2 Other information

<b>Pour point</b>	No information available
<b>Molecular weight</b>	No information available
<b>VOC content(%)</b>	None
<b>Density</b>	No information available

### **Comments**

The data listed above are typical physical and chemical properties and should not be construed as product specification.

## 10. Stability and Reactivity

### 10.1 Reactivity

No specific reactivity hazards associated with this product.

### 10.2 Chemical stability

Stable under normal temperature conditions and recommended use.

### 10.3 Possibility of Hazardous Reactions

#### **Hazardous polymerization**

Hazardous polymerization does not occur.

### 10.4 Conditions to avoid

Avoid wet and humid conditions. Avoid dust formation.

### 10.5 Incompatible materials

No materials to be especially mentioned.

### 10.6 Hazardous decomposition products

See Section 5.

## 11. Toxicological Information

### 11.1 Information on toxicological effects

#### **Acute toxicity**

#### **Product information**

This product contains a small quantity of quartz, crystalline silica. Prolonged and repeated exposure to concentrations of crystalline silica exceeding the workplace exposure limit (WEL) may lead to chronic lung disease such as silicosis.

<b>Inhalation</b>	Inhalation of dust in high concentration may cause irritation of respiratory system.
<b>Eye contact</b>	Dust may cause mechanical irritation.
<b>Skin contact</b>	Prolonged contact may cause redness and irritation.
<b>Ingestion</b>	Ingestion may cause stomach discomfort.

**Toxicology data for the components**

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Crystalline silica (impurity)	= 500 mg/kg ( Rat )	No data available	No data available

<b>Sensitization</b>	This product does not contain any components suspected to be sensitizing.
<b>Mutagenic effects</b>	This product does not contain any known or suspected mutagens.
<b>Carcinogenicity</b>	Crystalline silica dust is listed by IARC in Group 1 as known to cause lung cancer in humans, if inhaled.
<b>Reproductive toxicity</b>	This product does not contain any known or suspected reproductive hazards.
<b>Routes of exposure</b>	Inhalation.
<b>Routes of entry</b>	Inhalation.
<b>Specific target organ toxicity - Single exposure</b>	Not classified
<b>Specific target organ toxicity - Repeated exposure</b>	Not classified.
<b>Aspiration hazard</b>	Not applicable.
<b>Other information</b>	Key literature references and sources for data. See Section 16 for more information.

## 12. Ecological Information

**12.1 Toxicity**

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Listed on PLONOR list of OSPAR

**Toxicity to algae**

This product is not considered toxic to algae.

**Toxicity to fish**

This product is not considered toxic to fish.

**Toxicity to daphnia and other aquatic invertebrates**

This product is not considered toxic to invertebrates.

**Toxicology data for the components**

Chemical Name	Toxicity to fish	Toxicity to algae	Toxicity to daphnia and other

			<b>aquatic invertebrates</b>
Crystalline silica (impurity)	LC50 Danio rerio (zebra fish) : > 10000 mg/l 96h	EC50: > 1000 mg/l 72h	LC50 Daphnia magna (Water flea): > 10000 mg/l 24h

**12.2 Persistence and degradability**

Not Applicable - Inorganic chemical.

Chemical Name	Persistence and degradability
Crystalline silica (impurity)	Inorganic compound

**12.3 Bioaccumulative potential**

Not Applicable - Inorganic chemical.

Chemical Name	Bioaccumulation
Crystalline silica (impurity)	Product/Substance is inorganic

**12.4 Mobility****Mobility**

Insoluble in water.

Chemical Name	Mobility
Crystalline silica (impurity)	Insoluble in water

**Mobility in soil**

See component information below.

Chemical Name	Mobility in soil
Crystalline silica (impurity)	Not expected to adsorb on soil

**12.5 Results of PBT and vPvB assessment**

Not classified as PBT/vPvB by current EU criteria.

**12.6 Other adverse effects.**

None known.

**12.7 Other information**

Key literature references and sources for data. See Section 16 for more information.

## 13. Disposal considerations

**13.1 Waste treatment methods****Waste from residues/unused products**

Dispose of in accordance with local regulations.

**Contaminated packaging**

Empty containers should be taken for local recycling, recovery or waste disposal.

## 14. Transport information

### 14.1. UN number

Not regulated

### 14.2. UN proper shipping name

The product is not covered by international regulation on the transport of dangerous goods

### 14.3 Hazard class(es)

ADR/RID/ADN/ADG Hazard class Not regulated

IMDG/ANTAQ Hazard class Not regulated

ICAO/ANAC Hazard class/division Not regulated

### 14.4 Packing group

ADR/RID/ADN/ADG Packing group Not regulated

IMDG/ANTAQ Packing group Not regulated

ICAO/ANAC Packing group Not regulated

### 14.5 Environmental hazard

No

### 14.6 Special precautions

Not applicable

### 14.7 Transport in bulk according to Annex I/II of MARPOL 73/78 and the IBC Code

Please contact SDS@slb.com for info regarding transport in Bulk.

## 15. Regulatory Information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

The Globally Harmonized System of Classification and Labeling of Chemicals (GHS)

Australian Standard for the Uniform Scheduling of Drugs and Poisons

No poisons schedule number allocated

National Code of Practice for the Preparation of Material Safety Data Sheets 2nd Edition [NOHSC: 2011 (2003)].

National Occupational Health and Safety Commission's Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004) 3rd Edition].

National Occupational Health and Safety Commission's Exposure Standards for Atmospheric Contaminants in the occupational Environment [NOHSC:1003 (1995)].

Safe Work Australia.

Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).

Not classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG)

Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013 [P.U.(A) 310/2013] (CLASS Regulations)

The Industry Code of Practice on Chemical Classification and Hazard Communication 2014 [P.U. (B) 128/2014] (ICOP)

**International inventories**

USA (TSCA)	Complies
Canada (DSL)	Complies
Philippines (PICCS)	Complies
Japan (ENCS)	Complies
China (IECSC)	Complies
Australia (AICS)	Complies
Korean (KECL)	Complies
New Zealand (NZIoC)	Complies

**16. Other Information**

Prepared by	Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Muriel Martin Beurel
Supersedes Date:	19-Oct-2015
Revision date	11-Oct-2018
Version	6

**This SDS has been revised in the following section(s)** All sections No changes with regard to classification have been made.

**Key literature references and sources for data**

www.ChemADVISOR.com

Supplier

National Chemical Inventories

National regulatory information

National occupational exposure limits

**Disclaimer**

The information contained herein is considered in good faith as reliable of the date issued and is based upon on measurements, tests or data derived from supplier's own study or furnished by others. In providing this SDS information, Supplier makes no express or implied warranties as to the information or product; merchantability or fitness of purpose; any express or implied warranty; or non-infringement of intellectual property rights; and supplier assumes no responsibility for any direct, special or consequential damages, results obtained, or the activities of others. To the maximum extent permitted by law, supplier's warranty obligations and buyer's sole remedies are as stated in separate agreement between the parties.

**This Document is Confidential and Proprietary. Unless Otherwise Marked, It is an Uncontrolled Copy.**

## Safety Data Sheet Antifoam Agent D47

### 1. Identification of the substance/preparation and of the Company/undertaking

#### 1.1 Product identifier

**Product name** Antifoam Agent D47  
**Product code** D047

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** Antifoam in oilfield applications

**Uses advised against** Consumer use

#### 1.3 Details of the supplier of the safety data sheet

##### **Supplier**

Schlumberger Oilfield Australia Pty Ltd  
ABN: 74 002 459 225  
ACN: 002 459 225  
256 St. Georges Terrace, Perth WA 6000  
+47 5157 7424  
SDS@slb.com

#### 1.4 Emergency Telephone Number

**Emergency telephone** - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 595 3518, Canada 001 613 996 6666

### 2. Hazards identification

#### 2.1 Classification of the substance or mixture

**Classification according to (EC) No. 1272/2008**

**Health hazards** Not classified

**Environmental hazards** Not classified

**Physical Hazards** Not classified

#### 2.2 Label elements

##### **Signal word**

None

##### **Hazard statements**

This product is not classified as hazardous therefore no (H) hazard statements assigned.

**Precautionary statements**

This product is not classified as hazardous therefore has no (P) precautionary statements assigned.

-  
-

**Contains****2.3 Other data**

Not classified as PBT/vPvB by current EU criteria

**Australian statement of hazardous/dangerous nature**

Classified as Non-Hazardous according to the criteria of NOHSC.  
NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

**3. Composition/information on ingredients****3.1 Substances**

No classified ingredients, or those having occupational exposure limits, present above the level of disclosure.

**3.2 Mixtures**

Not Applicable

**4. First aid measures****4.1 First-Aid Measures**

<b>Inhalation</b>	If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.
<b>Ingestion</b>	Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Get medical attention immediately if symptoms occur.
<b>Eye contact</b>	Remove contact lenses. Promptly wash eyes with lots of water while lifting eye lids. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.

**4.2 Most important symptoms and effects, both acute and delayed**

**General advice** The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible.

**Main symptoms**

**Inhalation** Please see Section 11. Toxicological Information for further information.

---

<b>Ingestion</b>	Please see Section 11. Toxicological Information for further information.
<b>Skin contact</b>	Please see Section 11. Toxicological Information for further information.
<b>Eye contact</b>	Please see Section 11. Toxicological Information for further information.

#### **4.3 Indication of any immediate medical attention and special treatment needed**

**Notes to physician** Treat symptomatically.

### **5. Fire-fighting measures**

#### **5.1 Extinguishing media**

**Suitable extinguishing media**

Use extinguishing media appropriate for surrounding material.

**Extinguishing media which shall not be used for safety reasons**

Do not use water jet.

#### **5.2 Special hazards arising from the substance or mixture**

**Unusual fire and explosion hazards**

None known.

**Hazardous combustion products**

When heated strongly or burned, oxides of carbon and harmful organic chemical fumes are released.

#### **5.3 Advice for firefighters**

**Special protective equipment for fire-fighters**

As in any fire, wear self-contained breathing apparatus and full protective gear.

**Special Fire-Fighting Procedures**

Containers close to fire should be removed immediately or cooled with water.

### **6. Accidental release measures**

#### **6.1 Personal precautions, protective equipment and emergency procedures**

Use personal protective equipment. See also section 8.

#### **6.2 Environmental precautions**

The product should not be allowed to enter drains, water courses or the soil.

**Environmental exposure controls**

Avoid release to the environment.

#### **6.3 Methods and materials for containment and cleaning up**

**Methods for containment**

Prevent further leakage or spillage if safe to do so. Dike far ahead of liquid spill for later disposal.

**Methods for cleaning up**

Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. After cleaning, flush away traces with water.



---

**6.4 Reference to other sections**

See section 13 for more information.

**7. Handling and storage****7.1 Precautions for safe handling****Handling**

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Do not breathe vapors or spray mist. Avoid spills and splashing during use.

**Hygiene measures**

Use good work and personal hygiene practices to avoid exposure. Wash hands and face before breaks and immediately after handling the product. Remove contaminated clothing. Do not eat, drink or smoke when using this product.

**7.2 Conditions for safe storage, including any incompatibilities**

<b>Technical measures/precautions</b>	Ensure adequate ventilation. Keep airborne concentrations below exposure limits.
<b>Storage precautions</b>	Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from open flames, hot surfaces and sources of ignition. Store away from incompatibles, Strong oxidizing agents
<b>Storage class</b>	Chemical storage.
<b>Packaging material</b>	Use specially constructed containers only.

**7.3 Specific end uses**

See Section 1.2.

**8. Exposure controls/personal protection****8.1 Control parameters**

<b>Exposure limits</b>	The product does not contain any hazardous materials with occupational exposure limits established.
------------------------	---

**Notes**

No biological limit allocated

**8.2 Exposure controls**

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

**Engineering measures to reduce exposure**

Ensure adequate ventilation. Mechanical ventilation or local exhaust ventilation is required.

**Personal protective equipment**

<b>Eye protection</b>	Safety glasses with side-shields.
<b>Hand protection</b>	Wear chemical resistant gloves such as nitrile or neoprene, Be aware that liquid may penetrate the gloves. Frequent change is advisable.
<b>Respiratory protection</b>	No personal respiratory protective equipment normally required, In case of insufficient ventilation wear suitable respiratory equipment, Suitable mask with particle filter P3 (European Norm 143), At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used.
<b>Skin and body protection</b>	Wear appropriate personal protective clothing to prevent skin contact, Eye wash and emergency shower must be available at the work place.

**Hygiene measures**

Wash hands before breaks and immediately after handling the product, Remove and wash contaminated clothing before re-use.



## 9. Physical and chemical properties

**9.1 Information on basic physical and chemical properties**

<b>Physical state</b>	Liquid
<b>Appearance</b>	Viscous
<b>Odor</b>	No information available
<b>Color</b>	Colorless
<b>Odor threshold</b>	Not applicable

<u>Property</u>	<u>Values</u>	<u>Remarks</u>
pH	No information available	
pH @ dilution		
Melting/freezing point	< -35 °C / - 31 °F	
Boiling point/range	No information available	
Flash point	229 °C / 444 °F	PMCC ASTM D-93
Evaporation rate (BuAc =1)	No information available	
Flammability (solid, gas)	Not Applicable	
Flammability Limits in Air		Not applicable
Upper flammability limit	No information available	
Lower flammability limit	No information available	
Vapor pressure	No information available	
Vapor density	No information available	

<b>Specific gravity</b>	No information available
<b>Bulk density</b>	No information available
<b>Relative density</b>	1 @ 21.1°C.
<b>Water solubility</b>	Insoluble in water
<b>Solubility in other solvents</b>	No information available
<b>Autoignition temperature</b>	No information available
<b>Decomposition temperature</b>	No information available
<b>Kinematic viscosity</b>	414-496 cst
<b>Dynamic viscosity</b>	No information available
<b>Log Pow</b>	Not determined

<b>Explosive properties</b>	Not Applicable
<b>Oxidizing properties</b>	None known.

## 9.2 Other information

<b>Pour point</b>	<0°C / 32 °F
<b>Molecular weight</b>	No information available
<b>VOC content(%)</b>	None
<b>Density</b>	No information available

## 10. Stability and reactivity

### 10.1 Reactivity

No specific reactivity hazards associated with this product.

### 10.2 Chemical stability

Stable under normal temperature conditions and recommended use.

### 10.3 Possibility of Hazardous Reactions

#### **Hazardous polymerization**

Hazardous polymerization does not occur.

### 10.4 Conditions to avoid

Keep away from open flames, hot surfaces and sources of ignition.

### 10.5 Incompatible materials

Strong oxidizing agents.

### 10.6 Hazardous decomposition products

When heated strongly or burned, oxides of carbon and harmful organic chemical fumes are released.

## 11. Toxicological information

### 11.1 Information on toxicological effects

#### **Acute toxicity**

**Inhalation** Inhalation of vapors in high concentration may cause irritation of respiratory system.

**Eye contact** May cause slight irritation.

**Skin contact** Prolonged contact may cause redness and irritation.

---

<b>Ingestion</b>	Ingestion may cause stomach discomfort.
<b>Unknown acute toxicity</b>	Not Applicable.
<b>Sensitization</b>	This product does not contain any components suspected to be sensitizing.
<b>Mutagenic effects</b>	This product does not contain any known or suspected mutagens.
<b>Carcinogenicity</b>	This product does not contain any known or suspected carcinogens.
<b>Reproductive toxicity</b>	This product does not contain any known or suspected reproductive hazards.
<b>Routes of exposure</b>	None known.
<b>Routes of entry</b>	No route of entry noted.
<b>Specific target organ toxicity (single exposure)</b>	Not classified
<b>Specific target organ toxicity (repeated exposure)</b>	Not classified.
<b>Aspiration hazard</b>	No hazard from product as supplied.

## 12. Ecological information

### 12.1 Toxicity

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

#### **Toxicity to algae**

This product is not considered toxic to algae.

#### **Toxicity to fish**

This product is not considered toxic to fish.

#### **Toxicity to daphnia and other aquatic invertebrates**

This product is not considered toxic to invertebrates.

### 12.2 Persistence and degradability

Readily biodegradable.

### 12.3 Bioaccumulative potential

Bioaccumulation is unlikely.

#### 12.4 Mobility in soil

##### **Mobility**

The product is insoluble and floats on water.

#### 12.5 Results of PBT and vPvB assessment

Not classified as PBT/vPvB by current EU criteria.

#### 12.6 Other adverse effects.

None known.

### 13. Disposal considerations

#### 13.1 Waste treatment methods

<b>Waste from residues / unused products</b>	Dispose of in accordance with local regulations.
<b>Contaminated packaging</b>	Empty containers should be taken for local recycling, recovery or waste disposal.
<b>EWC Waste disposal No.</b>	According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used. The following Waste Codes are only suggestions: EWC waste disposal No: 16 03 06 - organic wastes other than those mentioned in 16 03 05

### 14. Transport information

#### 14.1 UN Number

Not regulated

#### 14.2 Proper shipping name

The product is not covered by international regulation on the transport of dangerous goods

#### 14.3 Hazard class(es)

<b>ADR/RID/ADN/ADG Hazard class</b>	Not regulated
<b>IMDG Hazard class</b>	Not regulated
<b>ICAO Hazard class/division</b>	Not regulated

#### 14.4 Packing group

<b>ADR/RID/ADN/ADG Packing group</b>	Not regulated
<b>IMDG Packing group</b>	Not regulated
<b>ICAO Packing group</b>	Not regulated

**14.5 Environmental hazard**

No

**14.6 Special precautions**

Not Applicable

**14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

Please contact SDS@slb.com for info regarding transport in Bulk.

**15. Regulatory information****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

Germany, Water Endangering Classes (VwVwS)      Hazardous to water/Class 1

**Australian Standard for the Uniform Scheduling of Drugs and Poisons**

No Poison Schedule number allocated.

Commission Regulation (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH). Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, including amendments.

This safety data sheet complies with the requirements of Regulation (EC) No. 1272/2008.

National Code of Practice for the Preparation of Material Safety Data Sheets 2nd Edition [NOHSC: 2011 (2003)].

National Occupational Health and Safety Commission's Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004) 3rd Edition].

National Occupational Health and Safety Commission's Exposure Standards for Atmospheric Contaminants in the occupational Environment [NOHSC:1003 (1995)].

Safe Work Australia.

Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).

Not classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for transport by road or rail.

**International inventories**

USA (TSCA)	Complies
European Union (EINECS and ELINCS)	Complies
Canada (DSL)	Complies
Philippines (PICCS)	Complies
Japan (ENCS)	Complies
China (IECSC)	Complies
Australia (AICS)	Complies
Korean (KECL)	Complies
New Zealand (NZIoC)	Complies

**15.2 Chemical Safety Report**

No information available

**16. Other information**

<b>Prepared by</b>	Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Nicola Anderson
<b>Supersedes date</b>	21/Feb/2014
<b>Revision date</b>	04/Feb/2016
<b>Version</b>	2
<b>The following sections have been revised:</b>	Updated according to GHS/CLP, No changes with regard to classification have been made.

**Full text of H-Statements referred to under sections 2 and 3**

This product is not classified as hazardous therefore no (H) hazard statements assigned.

**Disclaimer**

The information contained herein is considered in good faith as reliable of the date issued and is based upon on measurements, tests or data derived from supplier's own study or furnished by others. In providing this SDS information, Supplier makes no express or implied warranties as to the information or product; merchantability or fitness of purpose; any express or implied warranty; or non-infringement of intellectual property rights; and supplier assumes no responsibility for any direct, special or consequential damages, results obtained, or the activities of others. To the maximum extent permitted by law, supplier's warranty obligations and buyer's sole remedies are as stated in separate agreement between the parties.



## Safety Data Sheet Silicate Additive D75

### 1. Identification of the substance/mixture and of the company/undertaking

#### 1.1 Product identifier

**Product name** Silicate Additive D75  
**Product code** D075

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** Used as a cementing additive in oilfield applications

**Uses advised against** Consumer use

#### 1.3 Details of the supplier of the safety data sheet

##### **Supplier**

Schlumberger Oilfield Australia Pty Ltd  
ABN: 74 002 459 225  
ACN: 002 459 225  
256 St. Georges Terrace, Perth WA 6000  
+47 5157 7424

SDS@slb.com

#### 1.4 Emergency Telephone Number

**Emergency telephone** - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 595 3518

### 2. Hazards Identification

#### 2.1 Classification of the substance or mixture

##### **GHS Classification**

**Health hazards** Not classified

**Environmental hazards** Not classified

**Physical Hazards** Not classified

#### 2.2 Label elements

##### **Signal word**

None



**Hazard Statements**

This product is not classified as hazardous therefore no (H) hazard statements assigned.

**Precautionary statements**

This product is not classified as hazardous therefore has no (P) precautionary statements assigned.

**Contains** No hazardous components

**2.3 Other hazards**

Not classified as PBT/vPvB by current EU criteria

**Australian statement of hazardous/dangerous nature**

Classified as Non-Hazardous according to the criteria of NOHSC.  
NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

**3. Composition/information on Ingredients****3.1 Substances**

Not applicable

**3.2 Mixtures**

This product does not contain any hazardous ingredients, or ingredients with national workplace exposure limits.

**4. First Aid Measures****4.1 First aid measures**

<b>Inhalation</b>	If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.
<b>Ingestion</b>	Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Seek medical attention if irritation occurs.
<b>Skin contact</b>	Wash skin thoroughly with soap and water. Get medical attention if irritation persists.
<b>Eye Contact</b>	Promptly wash eyes with lots of water while lifting eye lids. Remove contact lenses, if worn. Get medical attention if any discomfort continues.

**4.2. Most important symptoms and effects, both acute and delayed**

**General advice** The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible.

**Symptoms**

<b>Inhalation</b>	Please see Section 11. Toxicological Information for further information.
<b>Ingestion</b>	Please see Section 11. Toxicological Information for further information.
<b>Skin contact</b>	Please see Section 11. Toxicological Information for further information.
<b>Eye contact</b>	Please see Section 11. Toxicological Information for further information.

**4.3 Indication of any immediate medical attention and special treatment needed**

**Notes to physician** Treat symptomatically.

## **5. Fire-Fighting Measures**

### **5.1 Extinguishing media**

#### **Suitable extinguishing media**

Use extinguishing media appropriate for surrounding material.

#### **Extinguishing media which must not be used for safety reasons**

None known.

### **5.2. Special hazards arising from the substance or mixture**

#### **Unusual fire and explosion hazards**

Contact with metals may evolve flammable hydrogen gas.

#### **Hazardous combustion products**

Thermal decomposition can lead to release of toxic and corrosive gases/vapors

### **5.3 Advice for firefighters**

#### **Special protective equipment for fire-fighters**

As in any fire, wear self-contained breathing apparatus and full protective gear.

#### **Special Fire-Fighting Procedures**

Containers close to fire should be removed immediately or cooled with water.

## **6. Accidental Release Measures**

### **6.1. Personal precautions, protective equipment and emergency procedures**

Use personal protective equipment. See also section 8.

### **6.2 Environmental precautions**

The product should not be allowed to enter drains, water courses or the soil.

#### **Environmental exposure controls**

Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

### **6.3 Methods and material for containment and cleaning up**

#### **Methods for containment**

Prevent further leakage or spillage if safe to do so. Dike far ahead of liquid spill for later disposal.

#### **Methods for cleaning up**

Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. After cleaning, flush away traces with water.

### **6.4 Reference to other sections**

See section 13 for more information.

## **7. Handling and Storage**

**7.1 Precautions for safe handling****Handling**

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes and clothing. Avoid spills and splashing during use. Do not breathe vapors or spray mist.

**Hygiene Measures**

Use good work and personal hygiene practices to avoid exposure. When using do not smoke, eat or drink. Wash hands and face before breaks and immediately after handling the product Remove contaminated clothing

**7.2 Conditions for safe storage, including any incompatibilities**

<b>Technical measures/precautions</b>	Ensure adequate ventilation. Keep airborne concentrations below exposure limits.
<b>Storage precautions</b>	Keep containers tightly closed in a dry, cool and well-ventilated place Keep at temperatures above > 32F /0°C Avoid contact with: Strong acids Metals Aluminum Zinc Steel
<b>Storage class</b>	Chemical storage.
<b>Packaging materials</b>	Use specially constructed containers only.
<b>Packaging materials to be avoided</b>	Metal Aluminium Zinc Steel

**8. Exposure Controls/Personal Protection****8.1 Control parameters**

<b>Exposure limits</b>	The product does not contain any hazardous materials with occupational exposure limits established. No biological limit allocated
------------------------	--

**8.2 Exposure controls**

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

**Engineering Controls**

Ensure adequate ventilation

**Personal protective equipment**

<b>Eye protection</b>	Use eye protection according to EN 166, designed to protect against liquid splashes Safety glasses with side-shields Tightly fitting safety goggles
<b>Hand protection</b>	Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Impervious gloves made of: PVC Rubber Neoprene Nitrile Break through time >480 minutes Glove thickness >0.4 mm
<b>Respiratory protection</b>	Be aware that liquid may penetrate the gloves. Frequent change is advisable. In case of insufficient ventilation wear suitable respiratory equipment Chemical respirator with inorganic vapour cartridge (Grey B). At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used.
<b>Skin and body protection</b>	Wear suitable protective clothing Eye wash and emergency shower must be available at the work place.

**Hygiene Measures**

Wash hands before eating, drinking or smoking Remove and wash contaminated clothing before re-use

**Environmental exposure**

Use appropriate containment to avoid environmental contamination See section 6 for more information

## 9. Physical and Chemical Properties

**9.1 Information on basic physical and chemical properties**

<b>Physical state</b>	Liquid
<b>Appearance</b>	Aqueous solution
<b>Odor</b>	Odorless
<b>Color</b>	Colorless
<b>Odor threshold</b>	Not applicable

<u>Property</u>	<u>Values</u>	<u>Remarks</u>
pH	11	
pH @ dilution	No information available	
Melting / freezing point	- 1 °C / 30 °F	
Boiling point/range	101 °C / 214 °F	
Flash point	Not applicable	
Evaporation rate (BuAc =1)	No information available	
Flammability (solid, gas)	Not applicable	
Flammability Limit in Air		
Upper flammability limit	Not applicable	
Lower flammability limit	Not applicable	
Vapor pressure	<1 kPa	
Vapor density	No information available	
Specific gravity	1.3 - 1.6	@ 20 °C
Bulk density	No information available	
Relative density	No information available	
Water solubility	Soluble in water	
Solubility in other solvents	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Kinematic viscosity	No information available	
Dynamic viscosity	10-10000 mPa s	
log Pow	No information available	

<b>Explosive properties</b>	No information available
<b>Oxidizing properties</b>	No information available

**9.2 Other information**

<b>Pour point</b>	No information available
<b>Molecular weight</b>	No information available
<b>VOC content(%)</b>	No information available
<b>Density</b>	No information available

**Comments**

The data listed above are typical physical and chemical properties and should not be construed as product specification.

## 10. Stability and Reactivity

### 10.1 Reactivity

Contact with metals may evolve flammable hydrogen gas.

### 10.2 Chemical stability

Stable under normal temperature conditions and recommended use.

### 10.3 Possibility of Hazardous Reactions

#### **Hazardous polymerization**

Hazardous polymerization does not occur.

### 10.4 Conditions to avoid

Keep at temperatures above > 32°F / 0°C.

### 10.5 Incompatible materials

Aluminum. Zinc. Metals. Strong acids. Steel.

### 10.6 Hazardous decomposition products

See Section 5.2.

## 11. Toxicological Information

### 11.1 Information on toxicological effects

#### **Acute toxicity**

<b>Inhalation</b>	Inhalation of vapors in high concentration may cause irritation of respiratory system.
<b>Eye contact</b>	May cause slight irritation.
<b>Skin contact</b>	Prolonged contact may cause redness and irritation.
<b>Ingestion</b>	Ingestion may cause stomach discomfort.
<b>Unknown acute toxicity</b>	Not applicable.

**Sensitization** This product does not contain any components suspected to be sensitizing.

**Mutagenic effects** This product does not contain any known or suspected mutagens.

**Carcinogenicity** This product does not contain any known or suspected carcinogens.

**Reproductive toxicity** This product does not contain any known or suspected reproductive hazards.

**Routes of exposure** Inhalation. Skin contact. Eye contact.

---

<b>Routes of entry</b>	None known.
<b>Specific target organ toxicity - Single exposure</b>	Not classified
<b>Specific target organ toxicity - Repeated exposure</b>	Not classified.
<b>Aspiration hazard</b>	Not applicable.
<b>Other information</b>	Key literature references and sources for data. See Section 16 for more information.

## 12. Ecological Information

### 12.1 Toxicity

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment. Large amounts will affect pH and harm aquatic organisms

#### **Toxicity to algae**

This product is not considered toxic to algae.

#### **Toxicity to fish**

This product is not considered toxic to fish.

#### **Toxicity to daphnia and other aquatic invertebrates**

This product is not considered toxic to invertebrates.

### 12.2 Persistence and degradability

No product level data available.

### 12.3 Bioaccumulative potential

No product level data available.

### 12.4 Mobility

#### **Mobility**

Soluble in water.

#### **Mobility in soil**

No information available.

### 12.5 Results of PBT and vPvB assessment

Not classified as PBT/vPvB by current EU criteria.

**12.6 Other adverse effects.**

None known.

**12.7 Other information**

Key literature references and sources for data. See Section 16 for more information.

**13. Disposal considerations****13.1 Waste treatment methods**

**Waste from residues/unused products** Dispose of in accordance with local regulations.

**Contaminated packaging** Empty containers should be taken for local recycling, recovery or waste disposal.

**14. Transport information****14.1. UN number**

Not regulated

**14.2. UN proper shipping name**

The product is not covered by international regulation on the transport of dangerous goods

**14.3 Hazard class(es)**

<b>ADR/RID/ADN/ADG Hazard class</b>	Not regulated
<b>IMDG/ANTAQ Hazard class</b>	Not regulated
<b>ICAO/ANAC Hazard class/division</b>	Not regulated

**14.4 Packing group**

<b>ADR/RID/ADN/ADG Packing group</b>	Not regulated
<b>IMDG/ANTAQ Packing group</b>	Not regulated
<b>ICAO/ANAC Packing group</b>	Not regulated

**14.5 Environmental hazard**

No

**14.6 Special precautions**

Not applicable

**14.7 Transport in bulk according to Annex I/II of MARPOL 73/78 and the IBC Code**

Please contact SDS@slb.com for info regarding transport in Bulk.

**15. Regulatory Information****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

The Globally Harmonized System of Classification and Labeling of Chemicals (GHS)

Australian Standard for the Uniform Scheduling of Drugs and Poisons

No poisons schedule number allocated

National Code of Practice for the Preparation of Material Safety Data Sheets 2nd Edition [NOHSC: 2011 (2003)].

National Occupational Health and Safety Commission's Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004) 3rd Edition].

National Occupational Health and Safety Commission's Exposure Standards for Atmospheric Contaminants in the occupational Environment [NOHSC:1003 (1995)].

Safe Work Australia.

Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).

Not classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG)

#### International inventories

USA (TSCA)	Complies
Canada (DSL)	Complies
Philippines (PICCS)	Complies
Japan (ENCS)	Complies
China (IECSC)	Complies
Australia (AICS)	Complies
Korean (KECL)	Complies
New Zealand (NZIoC)	Complies

## 16. Other Information

**Prepared by** Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Ingrid Helland

**Supersedes Date:** 09-Apr-2014

**Revision date** 19-Sep-2018

**Version** 4

**This SDS has been revised in the following section(s)** 15, 16 There have been changes with regard to classification.

#### **Key literature references and sources for data**

www.ChemADVISOR.com

Supplier

National Chemical Inventories

National regulatory information

National occupational exposure limits

#### **HMIS classification**

Health	1
Flammability	1
Physical hazard	0
PPE	B



**Disclaimer**

The information contained herein is considered in good faith as reliable of the date issued and is based upon on measurements, tests or data derived from supplier's own study or furnished by others. In providing this SDS information, Supplier makes no express or implied warranties as to the information or product; merchantability or fitness of purpose; any express or implied warranty; or non-infringement of intellectual property rights; and supplier assumes no responsibility for any direct, special or consequential damages, results obtained, or the activities of others. To the maximum extent permitted by law, supplier's warranty obligations and buyer's sole remedies are as stated in separate agreement between the parties.

**This Document is Confidential and Proprietary. Unless Otherwise Marked, It is an Uncontrolled Copy.**



## Safety Data Sheet Cement Liquid Dispersant D80

### 1. Identification of the substance/preparation and of the Company/undertaking

#### 1.1 Product identifier

**Product name** Cement Liquid Dispersant D80  
**Product code** D080

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** Used as a cementing additive in oilfield applications

**Uses advised against** Consumer use

#### 1.3 Details of the supplier of the safety data sheet

##### Supplier

Schlumberger Oilfield Australia Pty Ltd  
ABN: 74 002 459 225  
ACN: 002 459 225  
256 St. Georges Terrace, Perth WA 6000  
+47 5157 7424  
SDS@slb.com

#### 1.4 Emergency Telephone Number

**Emergency telephone** - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 595 3518, Canada 001 613 996 6666

### 2. Hazards identification

#### 2.1 Classification of the substance or mixture

**Classification according to (EC) No. 1272/2008**

**Health hazards** Not classified

##### Environmental hazards

Chronic aquatic toxicity	Category 2
--------------------------	------------

**Physical Hazards** Not classified

#### 2.2 Label elements

**Signal word**

None

**Hazard statements**

H411 - Toxic to aquatic life with long lasting effects

**Precautionary statements**

P273 - Avoid release to the environment

P391 - Collect spillage

P501 - Dispose of contents/container in accordance with local regulations.

-

-

**Contains**

Sodium polynaphthalene sulfonate

**2.3 Other data**

Not classified as PBT/vPvB by current EU criteria

**Australian statement of hazardous/dangerous nature**

HAZARDOUS SUBSTANCE. DANGEROUS GOODS.

Classified as Hazardous according to the criteria of NOHSC.

### 3. Composition/information on ingredients

**3.1 Substances**

Not Applicable

**3.2 Mixtures**

Component	EC-No.	CAS-No	Weight % - range	Classification (67/548)	Classification (Reg. 1272/2008)	REACH registration number
Sodium polynaphthalene sulfonate	Polymer	9008-63-3	20-40	-	Aquatic Chronic 2 (H411)	No data available

**Comments**

The product contains other ingredients which do not contribute to the overall classification.

## 4. First aid measures

### 4.1 First-Aid Measures

<b>Inhalation</b>	If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.
<b>Ingestion</b>	Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Get medical attention immediately if symptoms occur.
<b>Eye contact</b>	Remove contact lenses. Promptly wash eyes with lots of water while lifting eye lids. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.

### 4.2 Most important symptoms and effects, both acute and delayed

**General advice** The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible.

#### **Main symptoms**

<b>Inhalation</b>	Please see Section 11. Toxicological Information for further information.
<b>Ingestion</b>	Please see Section 11. Toxicological Information for further information.
<b>Skin contact</b>	Please see Section 11. Toxicological Information for further information.
<b>Eye contact</b>	Please see Section 11. Toxicological Information for further information.

### 4.3 Indication of any immediate medical attention and special treatment needed

**Notes to physician** Treat symptomatically.

## 5. Fire-fighting measures

### 5.1 Extinguishing media

#### **Suitable extinguishing media**

Use extinguishing media appropriate for surrounding material.

#### **Extinguishing media which shall not be used for safety reasons**

None known.

### 5.2 Special hazards arising from the substance or mixture

#### **Unusual fire and explosion hazards**

None known based on information supplied.

#### **Hazardous combustion products**

Fire or high temperatures create: Carbon oxides (COx), Sulphur oxides.

### 5.3 Advice for firefighters

#### **Special protective equipment for fire-fighters**

As in any fire, wear self-contained breathing apparatus and full protective gear.

**Special Fire-Fighting Procedures**

Containers close to fire should be removed immediately or cooled with water.

**Hazchem code ADG**

3Z

## 6. Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. See also section 8.

### 6.2 Environmental precautions

The product should not be allowed to enter drains, water courses or the soil.

**Environmental exposure controls**

Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

### 6.3 Methods and materials for containment and cleaning up

**Methods for containment**

Prevent further leakage or spillage if safe to do so. Dike far ahead of liquid spill for later disposal.

**Methods for cleaning up**

Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. After cleaning, flush away traces with water.

### 6.4 Reference to other sections

See section 13 for more information.

## 7. Handling and storage

### 7.1 Precautions for safe handling

**Handling**

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Do not breathe vapors or spray mist. Avoid spills and splashing during use.

**Hygiene measures**

Use good work and personal hygiene practices to avoid exposure. Wash hands before eating, drinking or smoking. When using do not smoke, eat or drink. Remove contaminated clothing.

### 7.2 Conditions for safe storage, including any incompatibilities

**Technical measures/precautions** Ensure adequate ventilation. Keep airborne concentrations below exposure limits.

**Storage precautions** Keep containers tightly closed in a dry, cool and well-ventilated place. Store in original container. Do not freeze. Store above 0°C. Avoid contact with: Oxidizing agents, Acids.

**Storage class** Chemical storage.

**Packaging material** Store in PVC, PE, or stainless steel.

### 7.3 Specific end uses

See Section 1.2.

## 8. Exposure controls/personal protection

### 8.1 Control parameters

#### Exposure limits

The product does not contain any hazardous materials with occupational exposure limits established.

No biological limit allocated

Component	EU OEL	Austria	Australia	Denmark
Sodium polynaphthalene sulfonate	Not determined	Not determined	Not determined	Not determined

Component	Malaysia	France	Germany	Hungary
Sodium polynaphthalene sulfonate	Not determined	Not determined	Not determined	Not determined

Component	New Zealand	Italy	Netherlands	Norway
Sodium polynaphthalene sulfonate	Not Determined	Not determined	Not determined	Not determined

Component	Poland	Portugal	Romania	Russia
Sodium polynaphthalene sulfonate	Not determined	Not determined	Not determined	Not determined

Component	Spain	Switzerland	Turkey	UK
Sodium polynaphthalene sulfonate	Not determined	Not determined	Not determined	Not determined

### 8.2 Exposure controls

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

#### Engineering measures to reduce exposure

Ensure adequate ventilation.

#### Personal protective equipment

##### Eye protection

Safety glasses with side-shields.

##### Hand protection

Use protective gloves made of: Neoprene, Nitrile, Frequent change is advisable.

##### Respiratory protection

No personal respiratory protective equipment normally required, In case of insufficient ventilation wear suitable respiratory equipment, Type A/P2, At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used.

##### Skin and body protection

Wear suitable protective clothing, Eye wash and emergency shower must be available at the work place.

**Hygiene measures**

Wash hands before eating, drinking or smoking, Remove and wash contaminated clothing before re-use.



## 9. Physical and chemical properties

**9.1 Information on basic physical and chemical properties**

<b>Physical state</b>	Liquid
<b>Appearance</b>	Opaque
<b>Odor</b>	Pungent
<b>Color</b>	Dark brown
<b>Odor threshold</b>	Not applicable

<u>Property</u>	<u>Values</u>	<u>Remarks</u>
pH	6 - 8	
pH @ dilution		
Melting/freezing point	-2 °C / 28 °F	
Boiling point/range	100 °C / 212 °F	
Flash point	No information available	
Evaporation rate (BuAc =1)		
Flammability (solid, gas)	Not Applicable	
Flammability Limits in Air		
Upper flammability limit	Not applicable	
Lower flammability limit	Not applicable	
Vapor pressure	No information available	
Vapor density	>1 (air = 1)	
Specific gravity	1.2	20 °C
Bulk density	No information available	Not applicable
Relative density	No information available	
Water solubility	Soluble	
Solubility in other solvents	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Kinematic viscosity		
Dynamic viscosity	60 mPa s	
Log Pow	No information available	
Explosive properties	None known	
Oxidizing properties	None known.	

**9.2 Other information**

<b>Pour point</b>	No information available
<b>Molecular weight</b>	No information available
<b>VOC content(%)</b>	No information available
<b>Density</b>	No information available

## 10. Stability and reactivity

**10.1 Reactivity**

No specific reactivity hazards associated with this product.

**10.2 Chemical stability**

Stable under normal temperature conditions and recommended use.

### **10.3 Possibility of Hazardous Reactions**

#### **Hazardous polymerization**

Hazardous polymerization does not occur.

### **10.4 Conditions to avoid**

Do not freeze.

### **10.5 Incompatible materials**

Oxidizing agents. Acids.

### **10.6 Hazardous decomposition products**

See Section 5.2.

## **11. Toxicological information**

### **11.1 Information on toxicological effects**

#### **Acute toxicity**

<b>Inhalation</b>	Inhalation of vapors in high concentration may cause irritation of respiratory system.
<b>Eye contact</b>	May cause slight irritation.
<b>Skin contact</b>	Prolonged contact may cause redness and irritation.
<b>Ingestion</b>	Ingestion may cause stomach discomfort.
<b>Unknown acute toxicity</b>	Not Applicable.

<b>Component</b>	<b>LD50 Oral</b>	<b>LD50 Dermal</b>	<b>LC50 Inhalation</b>
Sodium polynaphthalene sulfonate	No data available	No data available	No data available

**Sensitization** This product does not contain any components suspected to be sensitizing.

**Mutagenic effects** This product does not contain any known or suspected mutagens.

**Carcinogenicity** This product does not contain any known or suspected carcinogens.

**Reproductive toxicity** This product does not contain any known or suspected reproductive hazards.

**Routes of exposure** Skin contact. Inhalation. Eye contact.

**Routes of entry** No route of entry noted.

**Specific target organ toxicity (single exposure)** Not classified



<b>Specific target organ toxicity (repeated exposure)</b>	Not classified.
<b>Neurological effects</b>	None known.
<b>Target organ effects</b>	None known.
<b>Aspiration hazard</b>	Not Applicable.

## 12. Ecological information

### 12.1 Toxicity

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

#### **Toxicity to algae**

Toxic to aquatic life with long lasting effects. EC50 (48Hrs) of the polymer = 1.8mg/l.

#### **Toxicity to fish**

This product is not considered toxic to fish.

#### **Toxicity to daphnia and other aquatic invertebrates**

This product is not considered toxic to invertebrates.

Component	Toxicity to fish	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates
Sodium polynaphthalene sulfonate	No information available	No information available	No information available

### 12.2 Persistence and degradability

Product is not biodegradable.

### 12.3 Bioaccumulative potential

No bioaccumulation expected due to high molecular weight.

### 12.4 Mobility in soil

#### **Mobility**

The product is water soluble, and may spread in water systems.

### 12.5 Results of PBT and vPvB assessment

Not classified as PBT/vPvB by current EU criteria.

### 12.6 Other adverse effects.

None known.

## 13. Disposal considerations

### 13.1 Waste treatment methods

<b>Waste from residues / unused products</b>	Dispose of in accordance with local regulations.
<b>Contaminated packaging</b>	Empty containers should be taken for local recycling, recovery or waste disposal.
<b>EWC Waste disposal No.</b>	According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used. The following Waste Codes are only suggestions: EWC waste disposal No: 07 07 99; 16 03 06

## 14. Transport information

### 14.1 UN Number

<b>UN/ID No. (ADR/RID/ADN/ADG)</b>	UN3082
<b>UN No. (IMDG)</b>	UN3082
<b>UN No. (ICAO)</b>	UN3082

### 14.2 Proper shipping name

ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Sodium polynaphthalene sulfonate)

### 14.3 Hazard class(es)

<b>ADR/RID/ADN/ADG Hazard class</b>	9
<b>IMDG Hazard class</b>	9
<b>ICAO Hazard class/division</b>	9

### 14.4 Packing group

<b>ADR/RID/ADN/ADG Packing group</b>	III
<b>IMDG Packing group</b>	III
<b>ICAO Packing group</b>	III



### 14.5 Environmental hazard

Yes

### 14.6 Special precautions

<b>Hazard identification no (ADR)</b>	90
<b>EmS (IMDG)</b>	F-A, S-F

Emergency action code 3Z  
Tunnel restriction code (E)  
Hazchem code ADG 3Z

#### 14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Please contact SDS@slb.com for info regarding transport in Bulk.

## 15. Regulatory information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

#### Australian Standard for the Uniform Scheduling of Drugs and Poisons

No Poisons Schedule number allocated

Commission Regulation (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH). Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, including amendments.

This safety data sheet complies with the requirements of Regulation (EC) No. 1272/2008.

Safe Work Australia.

Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).

ADG Code – Australian Dangerous Goods Code.

Take note of Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values .

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work .

#### International inventories

USA (TSCA)	Complies
European Union (EINECS and ELINCS)	Complies
Canada (DSL)	Complies
Philippines (PICCS)	Complies
Japan (ENCS)	Complies
China (IECSC)	Complies
Australia (AICS)	Complies
Korean (KECL)	Complies
New Zealand (NZIoC)	Complies

### 15.2 Chemical Safety Report

No information available

## 16. Other information

Prepared by Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Ingrid Helland

Supersedes date 22/Apr/2014

**Revision date** 22/Jan/2016

**Version** 2

**The following sections have been revised:** The following sections have been revised:., All sections, There have been changes with regard to classification.

**Full text of H-Statements referred to under sections 2 and 3**

H411 - Toxic to aquatic life with long lasting effects

**Disclaimer**

The information contained herein is considered in good faith as reliable of the date issued and is based upon on measurements, tests or data derived from supplier's own study or furnished by others. In providing this SDS information, Supplier makes no express or implied warranties as to the information or product; merchantability or fitness of purpose; any express or implied warranty; or non-infringement of intellectual property rights; and supplier assumes no responsibility for any direct, special or consequential damages, results obtained, or the activities of others. To the maximum extent permitted by law, supplier's warranty obligations and buyer's sole remedies are as stated in separate agreement between the parties.



## Safety Data Sheet Liquid Retarder D81

### 1. Identification of the substance/mixture and of the company/undertaking

#### 1.1 Product identifier

**Product name** Liquid Retarder D81  
**Product code** D081

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** Used as a cementing additive in oilfield applications

**Uses advised against** Consumer use

#### 1.3 Details of the supplier of the safety data sheet

##### **Supplier**

Schlumberger Oilfield Australia Pty Ltd  
ABN: 74 002 459 225  
ACN: 002 459 225  
256 St. Georges Terrace, Perth WA 6000  
+47 5157 7424

SDS@slb.com

#### 1.4 Emergency Telephone Number

**Emergency telephone** - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 595 3518

### 2. Hazards Identification

#### 2.1 Classification of the substance or mixture

##### **GHS Classification**

**Health hazards** Not classified

**Environmental hazards** Not classified

**Physical Hazards** Not classified

#### 2.2 Label elements

##### **Signal word**

None

**Hazard Statements**

This product is not classified as hazardous therefore no (H) hazard statements assigned.

**Precautionary statements**

This product is not classified as hazardous therefore has no (P) precautionary statements assigned.

**Contains****2.3 Other hazards**

Not classified as PBT/vPvB by current EU criteria

**Australian statement of hazardous/dangerous nature**

Classified as Non-Hazardous according to the criteria of NOHSC.  
NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

**3. Composition/information on ingredients****3.1 Substances**

Not applicable

**3.2 Mixtures**

This product does not contain any hazardous ingredients, or ingredients with national workplace exposure limits.

**4. First Aid Measures****4.1 First aid measures**

<b>Inhalation</b>	If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.
<b>Ingestion</b>	Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.
<b>Skin contact</b>	Wash skin thoroughly with soap and water. Get medical attention if irritation persists.
<b>Eye Contact</b>	Promptly wash eyes with lots of water while lifting eye lids. Remove contact lenses, if worn. Get medical attention if any discomfort continues.

**4.2. Most important symptoms and effects, both acute and delayed**

<b>General advice</b>	The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible.
-----------------------	--

**Symptoms**

<b>Inhalation</b>	Please see Section 11. Toxicological Information for further information.
<b>Ingestion</b>	Please see Section 11. Toxicological Information for further information.
<b>Skin contact</b>	Please see Section 11. Toxicological Information for further information.
<b>Eye contact</b>	Please see Section 11. Toxicological Information for further information.

**4.3 Indication of any immediate medical attention and special treatment needed**

Notes to physician Treat symptomatically.

## 5. Fire-Fighting Measures

### 5.1 Extinguishing media

#### **Suitable extinguishing media**

Water Fog, Alcohol Foam, CO<sub>2</sub>, Dry Chemical.

#### **Extinguishing media which must not be used for safety reasons**

Do not use water jet.

### 5.2. Special hazards arising from the substance or mixture

#### **Unusual fire and explosion hazards**

None known.

#### **Hazardous combustion products**

Thermal decomposition can lead to release of irritating gases and vapors

### 5.3 Advice for firefighters

#### **Special protective equipment for fire-fighters**

As in any fire, wear self-contained breathing apparatus and full protective gear.

#### **Special Fire-Fighting Procedures**

Containers close to fire should be removed immediately or cooled with water.

## 6. Accidental Release Measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. See also section 8.

### 6.2 Environmental precautions

The product should not be allowed to enter drains, water courses or the soil.

#### **Environmental exposure controls**

Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

### 6.3 Methods and material for containment and cleaning up

#### **Methods for containment**

Prevent further leakage or spillage if safe to do so. Dike far ahead of liquid spill for later disposal.

#### **Methods for cleaning up**

Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. After cleaning, flush away traces with water.

### 6.4 Reference to other sections

See section 13 for more information.

## 7. Handling and Storage

**7.1 Precautions for safe handling****Handling**

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Avoid breathing vapors or mists. Avoid spills and splashing during use.

**Hygiene Measures**

Use good work and personal hygiene practices to avoid exposure. Wash hands and face before breaks and immediately after handling the product. Remove contaminated clothing. Do not eat, drink or smoke when using this product.

**7.2 Conditions for safe storage, including any incompatibilities**

<b>Technical measures/precautions</b>	Ensure adequate ventilation.
<b>Storage precautions</b>	Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from direct sunlight. Store away from incompatibles, Strong acids. Strong oxidizing agents
<b>Storage class</b>	Chemical storage.
<b>Packaging materials</b>	Use specially constructed containers only.

**8. Exposure controls/personal protection****8.1 Control parameters**

<b>Exposure limits</b>	The product does not contain any hazardous materials with occupational exposure limits established. No biological limit allocated
------------------------	--

**8.2 Exposure controls**

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

**Engineering Controls**

Ensure adequate ventilation Local exhaust ventilation

**Personal protective equipment**

<b>Eye protection</b>	Use eye protection according to EN 166, designed to protect against liquid splashes Safety glasses with side-shields Tightly fitting safety goggles
<b>Hand protection</b>	Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Impervious gloves made of: Neoprene Nitrile Break through time >480 minutes Glove thickness >0.4 mm
<b>Respiratory protection</b>	Be aware that liquid may penetrate the gloves. Frequent change is advisable. In case of insufficient ventilation wear suitable respiratory equipment Use respirator with organic vapor protection (A, brown) At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used.
<b>Skin and body protection</b>	Wear suitable protective clothing Eye wash and emergency shower must be available at the work place.
<b>Hygiene Measures</b>	Wash hands before eating, drinking or smoking Remove and wash contaminated clothing before re-use





### 8.2.3 Environmental exposure controls

**Environmental exposure** Use appropriate containment to avoid environmental contamination See section 6 for more information

## 9. Physical and Chemical Properties

### 9.1 Information on basic physical and chemical properties

<b>Physical state</b>	Liquid
<b>Appearance</b>	Aqueous solution
<b>Odor</b>	Of burnt sugar / Slight
<b>Color</b>	Dark brown
<b>Odor threshold</b>	Not applicable

<u>Property</u>	<u>Values</u>	<u>Remarks</u>
pH	8 - 9	
pH @ dilution	No information available	
Melting / freezing point	No information available	
Boiling point/range	No information available	
Flash point	Does not flash	
Evaporation rate (BuAc =1)	Not applicable	
Flammability (solid, gas)	Not applicable	
Flammability Limit in Air		
Upper flammability limit	Not applicable	
Lower flammability limit	Not applicable	
Vapor pressure	Not applicable	
Vapor density	No information available	
Specific gravity	1.24 - 1.26	@ 27 °C
Bulk density	No information available	
Relative density	No information available	
Water solubility	Soluble in water	
Solubility in other solvents	No information available	
Autoignition temperature	400 °C / 752 °F	
Decomposition temperature	No information available	
Kinematic viscosity	No information available	
Dynamic viscosity	350 mPa.s	@ 20 °C
log Pow	No information available	

<b>Explosive properties</b>	Not applicable
<b>Oxidizing properties</b>	None known.

### 9.2 Other information

<b>Pour point</b>	No information available
<b>Molecular weight</b>	No information available
<b>VOC content(%)</b>	None
<b>Density</b>	No information available

### Comments

The data listed above are typical physical and chemical properties and should not be construed as product specification.

## 10. Stability and Reactivity

**10.1 Reactivity**

No specific reactivity hazards associated with this product.

**10.2 Chemical stability**

Stable under normal temperature conditions and recommended use.

**10.3 Possibility of Hazardous Reactions****Hazardous polymerization**

Hazardous polymerization does not occur.

**10.4 Conditions to avoid**

Keep away from direct sunlight.

**10.5 Incompatible materials**

Strong oxidizing agents. Strong acids.

**10.6 Hazardous decomposition products**

See Section 5.2.

## 11. Toxicological Information

**11.1 Information on toxicological effects****Acute toxicity**

<b>Inhalation</b>	Inhalation of vapors in high concentration may cause irritation of respiratory system.
<b>Eye contact</b>	May cause slight irritation.
<b>Skin contact</b>	Prolonged contact may cause redness and irritation.
<b>Ingestion</b>	Ingestion may cause stomach discomfort.
<b>Unknown acute toxicity</b>	Not applicable.

**Sensitization** This product does not contain any components suspected to be sensitizing.

**Mutagenic effects** This product does not contain any known or suspected mutagens.

**Carcinogenicity** This product does not contain any known or suspected carcinogens.

**Reproductive toxicity** This product does not contain any known or suspected reproductive hazards.

**Routes of exposure** Skin contact. Eye contact. Inhalation.

**Routes of entry** No route of entry noted.

---

<b>Specific target organ toxicity - Single exposure</b>	Not classified
<b>Specific target organ toxicity - Repeated exposure</b>	Not classified.
<b>Aspiration hazard</b>	Not applicable.
<b>Other information</b>	Key literature references and sources for data. See Section 16 for more information.

## 12. Ecological Information

### 12.1 Toxicity

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.  
Listed on PLONOR list of OSPAR

#### **Toxicity to algae**

This product is not considered toxic to algae.

#### **Toxicity to fish**

This product is not considered toxic to fish.

#### **Toxicity to daphnia and other aquatic invertebrates**

This product is not considered toxic to invertebrates.

### 12.2 Persistence and degradability

No product level data available.

### 12.3 Bioaccumulative potential

Does not bioaccumulate.

### 12.4 Mobility

#### **Mobility**

Soluble in water.

#### **Mobility in soil**

No information available.

### 12.5 Results of PBT and vPvB assessment

Not classified as PBT/vPvB by current EU criteria.

**12.6 Other adverse effects.**

None known.

**12.7 Other information**

Key literature references and sources for data. See Section 16 for more information.

**13. Disposal considerations****13.1 Waste treatment methods**

**Waste from residues / unused products** Dispose of in accordance with local regulations.

**Contaminated packaging** Empty containers should be taken for local recycling, recovery or waste disposal.

**14. Transport information****14.1. UN number**

Not regulated

**14.2. UN proper shipping name**

The product is not covered by international regulation on the transport of dangerous goods

**14.3 Hazard class(es)**

<b>ADR/RID/ADN/ADG Hazard class</b>	Not regulated
<b>IMDG/ANTAQ Hazard class</b>	Not regulated
<b>ICAO/ANAC Hazard class/division</b>	Not regulated

**14.4 Packing group**

<b>ADR/RID/ADN/ADG Packing group</b>	Not regulated
<b>IMDG/ANTAQ Packing group</b>	Not regulated
<b>ICAO/ANAC Packing group</b>	Not regulated

**14.5 Environmental hazard**

No

**14.6 Special precautions**

Not applicable

**14.7 Transport in bulk according to Annex I/II of MARPOL 73/78 and the IBC Code**

Please contact SDS@slb.com for info regarding transport in Bulk.

**15. Regulatory information****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**The Globally Harmonized System of Classification and Labeling of Chemicals (GHS)**

**Australian Standard for the Uniform Scheduling of Drugs and Poisons**

No poisons schedule number allocated

**New Zealand hazard classification** Not classified

HSNO approval no. Not required

Group number Not required

National Code of Practice for the Preparation of Material Safety Data Sheets 2nd Edition [NOHSC: 2011 (2003)].

National Occupational Health and Safety Commission's Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004) 3rd Edition].

National Occupational Health and Safety Commission's Exposure Standards for Atmospheric Contaminants in the occupational Environment [NOHSC:1003 (1995)].

Safe Work Australia.

Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).

Not classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG)

Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013 [P.U.(A) 310/2013] (CLASS Regulations)  
The Industry Code of Practice on Chemical Classification and Hazard Communication 2014 [P.U. (B) 128/2014] (ICOP)

#### International inventories

USA (TSCA)	Complies
Canada (DSL)	Complies
Philippines (PICCS)	Complies
Japan (ENCS)	Complies
China (IECSC)	Complies
Australia (AICS)	Complies
Korean (KECL)	Complies
New Zealand (NZIoC)	Complies

## 16. Other Information

Prepared by Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Muriel Martin Beurel

Supersedes Date: 05-Jun-2015

Revision date 27-Mar-2018

Version 3

This SDS has been revised in the following section(s) All sections No changes with regard to classification have been made.

#### Key literature references and sources for data

www.ChemADVISOR.com

Supplier

National Chemical Inventories

National regulatory information

National occupational exposure limits

**Disclaimer**

The information contained herein is considered in good faith as reliable of the date issued and is based upon on measurements, tests or data derived from supplier's own study or furnished by others. In providing this SDS information, Supplier makes no express or implied warranties as to the information or product; merchantability or fitness of purpose; any express or implied warranty; or non-infringement of intellectual property rights; and supplier assumes no responsibility for any direct, special or consequential damages, results obtained, or the activities of others. To the maximum extent permitted by law, supplier's warranty obligations and buyer's sole remedies are as stated in separate agreement between the parties.

## Safety Data Sheet Cement Retarder D110

### 1. Identification of the substance/mixture and of the company/undertaking

#### 1.1 Product identifier

**Product name** Cement Retarder D110  
**Product code** D110

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** Used as a cementing additive in oilfield applications

**Uses advised against** Consumer use

#### 1.3 Details of the supplier of the safety data sheet

##### **Supplier**

Schlumberger Oilfield Australia Pty Ltd  
ABN: 74 002 459 225  
ACN: 002 459 225  
256 St. Georges Terrace, Perth WA 6000  
+47 5157 7424

SDS@slb.com

#### 1.4 Emergency Telephone Number

**Emergency telephone** - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 595 3518

### 2. Hazards Identification

#### 2.1 Classification of the substance or mixture

##### **GHS Classification**

**Health hazards** Not classified

**Environmental hazards** Not classified

**Physical Hazards** Not classified

#### 2.2 Label elements

##### **Signal word**

None

**Hazard Statements**

This product is not classified as hazardous therefore no (H) hazard statements assigned.

**Precautionary statements**

This product is not classified as hazardous therefore has no (P) precautionary statements assigned.

-

**Contains** No hazardous components

**2.3 Other hazards**

Not classified as PBT/vPvB by current EU criteria

Thermal decomposition can lead to release of irritating gases and vapors

**Australian statement of hazardous/dangerous nature**

Classified as Non-Hazardous according to the criteria of NOHSC.  
NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

**3. Composition/information on ingredients****3.1 Substances**

Not applicable

**3.2 Mixtures**

No classified ingredients, or those having occupational exposure limits, present above the level of disclosure.

**4. First Aid Measures****4.1 First aid measures**

<b>Inhalation</b>	If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.
<b>Ingestion</b>	Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get medical attention immediately if symptoms occur.
<b>Eye Contact</b>	Remove contact lenses, if worn. Promptly wash eyes with lots of water while lifting eye lids. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.

**4.2. Most important symptoms and effects, both acute and delayed**

**General advice** The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible.

**Symptoms**

<b>Inhalation</b>	Please see Section 11. Toxicological Information for further information.
<b>Ingestion</b>	Please see Section 11. Toxicological Information for further information.
<b>Skin contact</b>	Please see Section 11. Toxicological Information for further information.



**Eye contact** Please see Section 11. Toxicological Information for further information.

#### **4.3 Indication of any immediate medical attention and special treatment needed**

**Notes to physician** Treat symptomatically.

### **5. Fire-Fighting Measures**

#### **5.1 Extinguishing media**

**Suitable extinguishing media**

Use extinguishing media appropriate for surrounding material.

**Extinguishing media which must not be used for safety reasons**

None known.

#### **5.2. Special hazards arising from the substance or mixture**

**Unusual fire and explosion hazards**

None known.

**Hazardous combustion products**

Fire or high temperatures create: Carbon oxides (COx), Harmful organic chemical fumes.

#### **5.3 Advice for firefighters**

**Special protective equipment for fire-fighters**

As in any fire, wear self-contained breathing apparatus and full protective gear.

**Special Fire-Fighting Procedures**

Containers close to fire should be removed immediately or cooled with water.

### **6. Accidental Release Measures**

#### **6.1. Personal precautions, protective equipment and emergency procedures**

Use personal protective equipment. See also section 8.

#### **6.2 Environmental precautions**

The product should not be allowed to enter drains, water courses or the soil.

**Environmental exposure controls**

Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

#### **6.3 Methods and material for containment and cleaning up**

**Methods for containment**

Prevent further leakage or spillage if safe to do so. Dike far ahead of liquid spill for later disposal.

**Methods for cleaning up**

Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. After cleaning, flush away traces with water.

#### **6.4 Reference to other sections**

See section 13 for more information.

## 7. Handling and Storage

### 7.1 Precautions for safe handling

#### Handling

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Do not breathe vapors or spray mist. Avoid spills and splashing during use.

#### Hygiene Measures

Use good work and personal hygiene practices to avoid exposure. When using do not smoke, eat or drink. Wash hands and face before breaks and immediately after handling the product

### 7.2 Conditions for safe storage, including any incompatibilities

<b>Technical measures/precautions</b>	Ensure adequate ventilation. Keep airborne concentrations below exposure limits.
<b>Storage precautions</b>	Keep containers tightly closed in a dry, cool and well-ventilated place Do not freeze Store above 0°C Store away from incompatibles, Strong oxidizing agents
<b>Storage class</b>	Chemical storage.
<b>Packaging materials</b>	Use specially constructed containers only. High density polyethylene (HDPE) drum

## 8. Exposure controls/personal protection

### 8.1 Control parameters

<b>Exposure limits</b>	The product does not contain any hazardous materials with occupational exposure limits established.
------------------------	---

#### Notes

No biological limit allocated

### 8.2 Exposure controls

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

#### Engineering Controls

Ensure adequate ventilation

#### Personal protective equipment

##### Eye protection

It is good practice to wear goggles when handling any chemical Use eye protection according to EN 166, designed to protect against liquid splashes Tightly fitting safety goggles

##### Hand protection

Wear chemical resistant gloves such as nitrile or neoprene. Repeated or prolonged contact  
Rubber gloves Neoprene Nitrile  
Break through time >480 minutes  
Glove thickness 0.5 mm

##### Respiratory protection

Be aware that liquid may penetrate the gloves. Frequent change is advisable.  
No personal respiratory protective equipment normally required In case of insufficient

**Skin and body protection** ventilation wear suitable respiratory equipment Respirator with combination filter for vapour/particulate (EN 141) Type A/P2  
Wear suitable protective clothing Eye wash and emergency shower must be available at the work place.

**Hygiene Measures** Wash hands before eating, drinking or smoking Remove and wash contaminated clothing before re-use



### 8.2.3 Environmental exposure controls

**Environmental exposure** Use appropriate containment to avoid environmental contamination See section 6 for more information

## 9. Physical and Chemical Properties

### 9.1 Information on basic physical and chemical properties

<b>Physical state</b>	Liquid
<b>Appearance</b>	Opaque
<b>Odor</b>	Sweet
<b>Color</b>	Brown
<b>Odor threshold</b>	Not applicable

<u>Property</u>	<u>Values</u>	<u>Remarks</u>
<b>pH</b>	6 - 9	
<b>pH @ dilution</b>	No information available	
<b>Melting / freezing point</b>	-4 °C / 24.8 °F	
<b>Boiling point/range</b>	100 °C / 212 °F	
<b>Flash point</b>	> 100 °C / > 212 °F	
<b>Evaporation rate (BuAc =1)</b>	No information available	
<b>Flammability (solid, gas)</b>	Not applicable	
<b>Flammability Limit in Air</b>		
<b>Upper flammability limit</b>	Not applicable	
<b>Lower flammability limit</b>	Not applicable	
<b>Vapor pressure</b>	No information available	
<b>Vapor density</b>	No information available	
<b>Specific gravity</b>	1.14	20 °C
<b>Bulk density</b>	No information available	
<b>Relative density</b>	No information available	
<b>Water solubility</b>	Soluble	
<b>Solubility in other solvents</b>	No information available	
<b>Autoignition temperature</b>	No information available	
<b>Decomposition temperature</b>	>242°C / >467.6 °F	
<b>Kinematic viscosity</b>	No information available	
<b>Dynamic viscosity</b>	1.5cst	@ 40 °C
<b>log Pow</b>	Does not bioaccumulate	
<b>Explosive properties</b>	None known	
<b>Oxidizing properties</b>	None known.	

### 9.2 Other information

<b>Pour point</b>	No information available
<b>Molecular weight</b>	No information available

**VOC content(%)** None  
**Density** No information available

**Comments**

The data listed above are typical physical and chemical properties and should not be construed as product specification.

## 10. Stability and Reactivity

### 10.1 Reactivity

No specific reactivity hazards associated with this product.

### 10.2 Chemical stability

Stable under normal temperature conditions and recommended use.

### 10.3 Possibility of Hazardous Reactions

**Hazardous polymerization**

Hazardous polymerization does not occur.

### 10.4 Conditions to avoid

Do not freeze. Store above 0°C.

### 10.5 Incompatible materials

Strong oxidizing agents.

### 10.6 Hazardous decomposition products

See Section 5.2.

## 11. Toxicological Information

### 11.1 Information on toxicological effects

**Acute toxicity**

<b>Inhalation</b>	Inhalation of vapors in high concentration may cause irritation of respiratory system.
<b>Eye contact</b>	May cause slight irritation.
<b>Skin contact</b>	Prolonged contact may cause redness and irritation.
<b>Ingestion</b>	Ingestion may cause stomach discomfort.
<b>Unknown acute toxicity</b>	Not applicable.

**Sensitization** This product does not contain any components suspected to be sensitizing.

**Mutagenic effects** This product does not contain any known or suspected mutagens.

**Carcinogenicity** This product does not contain any known or suspected carcinogens.

---

<b>Reproductive toxicity</b>	This product does not contain any known or suspected reproductive hazards.
<b>Routes of exposure</b>	Skin contact. Eye contact.
<b>Routes of entry</b>	No route of entry noted.
<b>Specific target organ toxicity - Single exposure</b>	Not classified
<b>Specific target organ toxicity - Repeated exposure</b>	Not classified.
<b>Aspiration hazard</b>	Not applicable.
<b>Other information</b>	Key literature references and sources for data. See Section 16 for more information.

## 12. Ecological Information

### 12.1 Toxicity

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

#### **Toxicity to algae**

This product is not considered toxic to algae.

#### **Toxicity to fish**

Not considered toxic to fish.

#### **Toxicity to daphnia and other aquatic invertebrates**

Not considered toxic.

### 12.2 Persistence and degradability

Product is biodegradable.

### 12.3 Bioaccumulative potential

Does not bioaccumulate.

### 12.4 Mobility

#### **Mobility**

The product is water soluble, and may spread in water systems.

#### **Mobility in soil**

No information available.

**12.5 Results of PBT and vPvB assessment**

Not classified as PBT/vPvB by current EU criteria.

**12.6 Other adverse effects.**

None known.

**12.7 Other information**

Key literature references and sources for data. See Section 16 for more information.

**13. Disposal considerations****13.1 Waste treatment methods**

**Waste from residues / unused products** Dispose of in accordance with local regulations.

**Contaminated packaging** Empty containers should be taken for local recycling, recovery or waste disposal.

**14. Transport information****14.1. UN number**

Not regulated

**14.2. UN proper shipping name**

The product is not covered by international regulation on the transport of dangerous goods

**14.3 Hazard class(es)**

<b>ADR/RID/ADN/ADG Hazard class</b>	Not regulated
<b>IMDG/ANTAQ Hazard class</b>	Not regulated
<b>ICAO/ANAC Hazard class/division</b>	Not regulated

**14.4 Packing group**

<b>ADR/RID/ADN/ADG Packing group</b>	Not regulated
<b>IMDG/ANTAQ Packing group</b>	Not regulated
<b>ICAO/ANAC Packing group</b>	Not regulated

**14.5 Environmental hazard**

No

**14.6 Special precautions**

Not applicable

**14.7 Transport in bulk according to Annex I/II of MARPOL 73/78 and the IBC Code**

Please contact SDS@slb.com for info regarding transport in Bulk.

**15. Regulatory information****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**The Globally Harmonized System of Classification and Labeling of Chemicals (GHS)****Australian Standard for the Uniform Scheduling of Drugs and Poisons**

No poisons schedule number allocated

**National Code of Practice for the Preparation of Material Safety Data Sheets 2nd Edition [NOHSC: 2011 (2003)].****National Occupational Health and Safety Commission's Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004) 3rd Edition].****National Occupational Health and Safety Commission's Exposure Standards for Atmospheric Contaminants in the occupational Environment [NOHSC:1003 (1995)].**

Safe Work Australia.

**Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).****Not classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG)****International inventories**

<b>USA (TSCA)</b>	Complies
<b>Canada (DSL)</b>	Complies
<b>Philippines (PICCS)</b>	Does not comply
<b>Japan (ENCS)</b>	Complies
<b>China (IECSC)</b>	Does not comply
<b>Australia (AICS)</b>	Complies
<b>Korean (KECL)</b>	Does not comply
<b>New Zealand (NZIoC)</b>	Does not comply

<b>16. Other Information</b>
------------------------------

<b>Prepared by</b>	Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Ingrid Helland
<b>Supersedes Date:</b>	20-Feb-2015
<b>Revision date</b>	06-Jun-2018
<b>Version</b>	3
<b>This SDS has been revised in the following section(s)</b>	1, 2, 7, 8, 9, 10, 11, 15, 16 No changes with regard to classification have been made.

**Key literature references and sources for data**

www.ChemADVISOR.com

Supplier

National Chemical Inventories

National regulatory information

National occupational exposure limits

**HMIS classification**

Health	1
Flammability	1
Physical hazard	0
PPE	E

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.



## Safety Data Sheet Multi-Temperature Cement Retarder D161

### 1. Identification of the substance/preparation and of the Company/undertaking

#### 1.1 Product identifier

**Product name** Multi-Temperature Cement Retarder D161  
**Product code** D161

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** Used as a cementing additive in oilfield applications

**Uses advised against** Consumer use

#### 1.3 Details of the supplier of the safety data sheet

##### **Supplier**

Schlumberger Oilfield Australia Pty Ltd  
ABN: 74 002 459 225  
ACN: 002 459 225  
256 St. Georges Terrace, Perth WA 6000  
+47 5157 7424

SDS@slb.com

#### 1.4 Emergency Telephone Number

**Emergency telephone** - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 595 3518

<b>Denmark</b>	Poison Control Hotline (DK): +45 82 12 12 12
<b>Germany</b>	+49 69 222 25285
<b>Italy</b>	Centro Antiveleni Ospedale Niguarda Milan: +39 02 6610 1029
<b>Netherlands</b>	National Poisons Information Center (NL): +31 30 274 88 88 (NB: this service is only available to health professionals)

### 2. Hazards Identification

#### 2.1 Classification of the substance or mixture

**Classification according to Regulation (EC) No. 1272/2008 [CLP]**

##### **Health hazards**

Reproductive toxicity	Category 2
-----------------------	------------

**Environmental hazards** Not classified

**Physical Hazards** Not classified

#### 2.2 Label elements

**Signal word**

WARNING

**Hazard statements**

H361 - Suspected of damaging fertility or the unborn child

**Precautionary statements**

P201 - Obtain special instructions before use

P202 - Do not handle until all safety precautions have been read and understood

P281 - Use personal protective equipment as required

P308 + P313 - IF exposed or concerned: Get medical advice/attention

P280 - Wear protective gloves/protective clothing/eye protection/face protection

-

-

**Contains**

Sodium pentaborate

**2.3 Other hazards**

Not classified as PBT/vPvB by current EU criteria

**Australian statement of hazardous/dangerous nature**

Classified as Hazardous according to the criteria of NOHSC.

HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

### 3. Composition/information on ingredients

**3.1 Substances**

Not applicable

**3.2 Mixtures**

Chemical Name	EC No	CAS No	Weight-%	Regulation (EC) No 1272/2008	REACH registration number
Sodium pentaborate	234-522-7	12007-92-0	5-10	Rep. 2 (H361)	01-2119970731-3 5-XXXX

**Comments**

The product contains other ingredients which do not contribute to the overall classification.

## 4. First aid measures

### 4.1 First aid measures

<b>Inhalation</b>	If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.
<b>Ingestion</b>	Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical attention.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get medical attention immediately if symptoms occur.
<b>Eye Contact</b>	Remove contact lenses, if worn. Promptly wash eyes with lots of water while lifting eye lids. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.

### 4.2. Most important symptoms and effects, both acute and delayed

<b>General advice</b>	The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible.
-----------------------	--

#### **Symptoms**

<b>Inhalation</b>	Please see Section 11. Toxicological Information for further information.
<b>Ingestion</b>	Please see Section 11. Toxicological Information for further information.
<b>Skin contact</b>	Please see Section 11. Toxicological Information for further information.
<b>Eye contact</b>	Please see Section 11. Toxicological Information for further information.

### 4.3 Indication of any immediate medical attention and special treatment needed

<b>Notes to physician</b>	Treat symptomatically.
---------------------------	------------------------

## 5. Fire-fighting measures

### 5.1 Extinguishing media

#### **Suitable extinguishing media**

Water Fog, Alcohol Foam, CO<sub>2</sub>, Dry Chemical.

#### **Extinguishing media which must not be used for safety reasons**

Do not use a solid water stream as it may scatter and spread fire.

### 5.2. Special hazards arising from the substance or mixture

#### **Unusual fire and explosion hazards**

None known.

#### **Hazardous combustion products**

Fire or high temperatures create: Oxides of phosphorus, Carbon oxides (CO<sub>x</sub>).

### 5.3 Advice for firefighters

#### **Special protective equipment for fire-fighters**

As in any fire, wear self-contained breathing apparatus and full protective gear.

**Special Fire-Fighting Procedures**

Containers close to fire should be removed immediately or cooled with water.

## 6. Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. See also section 8.

### 6.2 Environmental precautions

The product should not be allowed to enter drains, water courses or the soil.

**Environmental exposure controls**

Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

### 6.3 Methods and material for containment and cleaning up

**Methods for containment**

Prevent further leakage or spillage if safe to do so. Dike far ahead of liquid spill for later disposal.

**Methods for cleaning up**

Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. After cleaning, flush away traces with water.

### 6.4 Reference to other sections

See section 13 for more information.

## 7. Handling and storage

### 7.1 Precautions for safe handling

**Handling**

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Do not breathe vapors or spray mist. Avoid spills and splashing during use.

**Hygiene Measures**

Use good work and personal hygiene practices to avoid exposure. Wash hands and face before breaks and immediately after handling the product. Remove contaminated clothing. Do not eat, drink or smoke when using this product.

### 7.2 Conditions for safe storage, including any incompatibilities

**Technical measures/precautions** Ensure adequate ventilation.

**Storage precautions** Keep containers tightly closed in a dry, cool and well-ventilated place. Store away from heat and sources of ignition. Avoid extreme temperatures. Store above 0°C. Store away from incompatibles, Strong reducing agents. Strong oxidizing agents.

**Storage class** Chemical storage.

**Packaging materials** Use specially constructed containers only.

### 7.3 Specific end uses

See Section 1.2.

## 8. Exposure controls/personal protection

### 8.1 Control parameters

<b>Chemical Name</b>	<b>EU OEL</b>	<b>Austria</b>	<b>Australia</b>	<b>Denmark</b>
Sodium pentaborate	Not determined	Not determined	Not determined	Not determined
<b>Chemical Name</b>	<b>Malaysia</b>	<b>France</b>	<b>Germany</b>	<b>Hungary</b>
Sodium pentaborate	Not determined	Not determined	Not determined	Not determined
<b>Chemical Name</b>	<b>New Zealand</b>	<b>Italy</b>	<b>Netherlands</b>	<b>Norway</b>
Sodium pentaborate	Not determined	Not determined	Not determined	Not determined
<b>Chemical Name</b>	<b>Poland</b>	<b>Portugal</b>	<b>Romania</b>	<b>Russia</b>
Sodium pentaborate	Not determined	Not determined	Not determined	Not determined
<b>Chemical Name</b>	<b>Spain</b>	<b>Switzerland</b>	<b>Turkey</b>	<b>UK</b>
Sodium pentaborate	Not determined	Not determined	Not determined	Not determined

#### Notes

No biological limit allocated

#### Derived No Effect Level (DNEL)

##### Short term exposure local effects

###### Sodium pentaborate

Inhalation 9.6 mg/m<sup>3</sup>

##### Long term exposure local effects

###### Sodium pentaborate

Inhalation 9.6 mg/m<sup>3</sup>

##### Short term exposure systemic effects

###### Sodium pentaborate

Inhalation 5.5 mg/m<sup>3</sup>

##### Long term exposure systemic effects

###### Sodium pentaborate

Oral 258 mg/kg bw/day

Inhalation 5.5 mg/m<sup>3</sup>

##### Predicted No Effect Concentration (PNEC)

###### Sodium pentaborate

Fresh Water 2.02 mg/L

Sea Water 2.02 mg/L

Soil 5.4 mg/kg soil dw

Impact on sewage treatment 10 mg/L

Intermittent release 13.7 mg/L

### 8.2 Exposure controls

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

#### Engineering Controls

Ensure adequate ventilation. Provide mechanical general and/or local exhaust ventilation to prevent release of vapor or mist into work environment.

#### Personal protective equipment

##### Eye protection

Safety glasses with side-shields.

##### Hand protection

Repeated or prolonged contact Use protective gloves made of: PVC disposable gloves polyvinyl alcohol or nitrile-butyl rubber gloves Be aware that liquid may penetrate the gloves. Frequent change is advisable.

##### Respiratory protection

No personal respiratory protective equipment normally required, In case of insufficient

**Skin and body protection**

ventilation wear suitable respiratory equipment, Respirator with a vapor filter (EN 141), At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used.

Wear appropriate personal protective clothing to prevent skin contact, Eye wash and emergency shower must be available at the work place.

**Hygiene Measures**

Wash hands before eating, drinking or smoking, Remove and wash contaminated clothing before re-use.



## 9. Physical and chemical properties

**9.1 Information on basic physical and chemical properties**

<b>Physical state</b>	Liquid
<b>Appearance</b>	Clear Aqueous solution
<b>Odor</b>	Slight
<b>Color</b>	Colorless
<b>Odor threshold</b>	Not applicable

<u>Property</u>	<u>Values</u>	<u>Remarks</u>
<b>pH</b>	6.9	
<b>pH @ dilution</b>		
<b>Melting / freezing point</b>	-0 °C / 32 °F	
<b>Boiling point/range</b>	100 °C / 212 °F	
<b>Flash point</b>	No information available	
<b>Evaporation rate (BuAc =1)</b>		
<b>Flammability (solid, gas)</b>	Not applicable	
<b>Flammability Limit in Air</b>		
<b>Upper flammability limit</b>	Not applicable	
<b>Lower flammability limit</b>	Not applicable	
<b>Vapor pressure</b>	No information available	
<b>Vapor density</b>	No information available	
<b>Specific gravity</b>	1.1	20 °C
<b>Bulk density</b>	No information available	
<b>Relative density</b>	1.073 - 1.077	
<b>Water solubility</b>	Soluble in water	
<b>Solubility in other solvents</b>	No information available	
<b>Autoignition temperature</b>	No information available	
<b>Decomposition temperature</b>	No information available	
<b>Kinematic viscosity</b>		
<b>Dynamic viscosity</b>	No information available	
<b>log Pow</b>	No information available	
<b>Explosive properties</b>	Not applicable	
<b>Oxidizing properties</b>	None known.	

**9.2 Other information**

<b>Pour point</b>	No information available
<b>Molecular weight</b>	No information available
<b>VOC content(%)</b>	None
<b>Density</b>	No information available

**Comments**

The data listed above are typical physical and chemical properties and should not be construed as product specification.

## 10. Stability and reactivity

**10.1 Reactivity**

No specific reactivity hazards associated with this product.

**10.2 Chemical stability**

Stable under normal temperature conditions and recommended use.

**10.3 Possibility of Hazardous Reactions****Hazardous polymerization**

Hazardous polymerization does not occur.

**10.4 Conditions to avoid**

Avoid heat, flames and other sources of ignition. Avoid extreme temperatures. Do not freeze.

**10.5 Incompatible materials**

Strong oxidizing agents. Strong reducing agents.

**10.6 Hazardous decomposition products**

See also section 5.2.

## 11. Toxicological information

**11.1 Information on toxicological effects****Acute toxicity**

<b>Inhalation</b>	Inhalation of vapors in high concentration may cause irritation of respiratory system.
<b>Eye contact</b>	May cause slight irritation.
<b>Skin contact</b>	Prolonged contact may cause redness and irritation.
<b>Ingestion</b>	Ingestion may cause stomach discomfort. May cause damage to organs through prolonged or repeated exposure.
<b>Unknown acute toxicity</b>	Not applicable.

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Sodium pentaborate	No data available	LD50 > 2000 mg/kg bw	LC50 > 2.03 mg/l

**Sensitization** This product does not contain any components suspected to be sensitizing.

**Mutagenic effects** This product does not contain any known or suspected mutagens.

**Carcinogenicity** This product does not contain any known or suspected carcinogens.

<b>Reproductive toxicity</b>	Product is or contains a chemical which is a known or suspected reproductive hazard.
<b>Routes of exposure</b>	Skin contact. Eye contact. Ingestion.
<b>Routes of entry</b>	Ingestion.
<b>Specific target organ toxicity - Single exposure</b>	Not classified
<b>Specific target organ toxicity - Repeated exposure</b>	Not classified.
<b>Aspiration hazard</b>	No hazard from product as supplied.

## 12. Ecological information

### 12.1 Toxicity

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

#### **Toxicity to algae**

This product is not considered toxic to algae.

#### **Toxicity to fish**

This product is not considered toxic to fish.

#### **Toxicity to daphnia and other aquatic invertebrates**

This product is not considered toxic to invertebrates.

Chemical Name	Toxicity to fish	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates
Sodium pentaborate	LC50: 600 mg/l 96h	No information available	LC50: 86 mg/l 48h

### 12.2 Persistence and degradability

The organic portion of this material is not biodegradable.

### 12.3 Bioaccumulative potential

No product level data available.

### 12.4 Mobility in soil

#### **Mobility**

Soluble in water.

### 12.5 Results of PBT and vPvB assessment



Not classified as PBT/vPvB by current EU criteria.

#### **12.6 Other adverse effects.**

None known.

### **13. Disposal considerations**

#### **13.1 Waste treatment methods**

<b>Waste from residues / unused products</b>	Dispose of in accordance with local regulations.
<b>Contaminated packaging</b>	Empty containers should be taken for local recycling, recovery or waste disposal.
<b>EWC Waste Disposal No</b>	According to the European Waste Catalog, Waste Codes are not product specific, but application specific Waste codes should be assigned by the user based on the application for which the product was used. The following Waste Codes are only suggestions: EWC waste disposal No: 16 10 01 - aqueous liquid wastes containing dangerous substances

### **14. Transport information**

#### **14.1. UN number**

Not regulated

#### **14.2. UN proper shipping name**

The product is not covered by international regulation on the transport of dangerous goods

#### **14.3 Hazard class(es)**

<b>ADR/RID/ADN/ADG Hazard class</b>	Not regulated
<b>IMDG Hazard class</b>	Not regulated
<b>ICAO Hazard class/division</b>	Not regulated

#### **14.4 Packing group**

<b>ADR/RID/ADN/ADG Packing group</b>	Not regulated
<b>IMDG Packing group</b>	Not regulated
<b>ICAO Packing group</b>	Not regulated

#### **14.5 Environmental hazard**

No

#### **14.6 Special precautions**

None

#### **14.7 Transport in bulk according to Annex I/II of MARPOL 73/78 and the IBC Code**

Please contact SDS@slb.com for info regarding transport in Bulk.

### **15. Regulatory information**

#### **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

Germany, Water Endangering Classes (VwVwS) Hazardous to water/Class 1

#### Australian Standard for the Uniform Scheduling of Drugs and Poisons

Australian Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP) No poisons schedule number allocated

Commission Regulation (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH). Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, including amendments.

This safety data sheet complies with the requirements of Regulation (EC) No. 1272/2008.

National Code of Practice for the Preparation of Material Safety Data Sheets 2nd Edition [NOHSC: 2011 (2003)].

National Occupational Health and Safety Commission's Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004) 3rd Edition].

National Occupational Health and Safety Commission's Exposure Standards for Atmospheric Contaminants in the occupational Environment [NOHSC:1003 (1995)].

Safe Work Australia.

Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).

Not classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG).

Dutch Mining Regulations: In accordance with Mining Regulations 9.2 and Chapter 4 of the Working Conditions Decree.

Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013 [P.U.(A) 310/2013] (CLASS Regulations)

The Industry Code of Practice on Chemical Classification and Hazard Communication 2014 [P.U. (B) 128/2014] (ICOP) International inventories

USA (TSCA)	Complies
European Union (EINECS and ELINCS)	Complies
Canada (DSL)	Does not Comply
Philippines (PICCS)	Complies
Japan (ENCS)	Complies
China (IECSC)	Does not Comply
Australia (AICS)	Complies
Korean (KECL)	Does not Comply
New Zealand (NZIoC)	Does not Comply

Denmark Pr. no: 1288609

#### 15.2 Chemical Safety Report

No information available

### 16. Other information

Prepared by Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Muriel Martin Beurel

**Supersedes date** 25-Nov-2015

**Revision date** 11-Feb-2016

**Version** 5

**This SDS has been revised in the following section(s)** The following sections have been revised: 12. Ecological information

**Text of R phrases mentioned in Section 3**

R61 - May cause harm to the unborn child

**Full text of H-Statements referred to under sections 2 and 3**

H361 - Suspected of damaging fertility or the unborn child

**Disclaimer**

The information contained herein is considered in good faith as reliable of the date issued and is based upon on measurements, tests or data derived from supplier's own study or furnished by others. In providing this SDS information, Supplier makes no express or implied warranties as to the information or product; merchantability or fitness of purpose; any express or implied warranty; or non-infringement of intellectual property rights; and supplier assumes no responsibility for any direct, special or consequential damages, results obtained, or the activities of others. To the maximum extent permitted by law, supplier's warranty obligations and buyer's sole remedies are as stated in separate agreement between the parties.

## Safety Data Sheet Antifoam Agent D175A

### 1. Identification of the substance/preparation and of the Company/undertaking

#### 1.1 Product identifier

Product name Antifoam Agent D175A  
Product code D175A

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Used as a cementing additive in oilfield applications  
Uses advised against Consumer use

#### 1.3 Details of the supplier of the safety data sheet

##### Supplier

Schlumberger Oilfield Australia Pty Ltd  
ABN: 74 002 459 225  
ACN: 002 459 225  
256 St. Georges Terrace, Perth WA 6000  
+47 5157 7424

SDS@slb.com

#### 1.4 Emergency Telephone Number

Emergency telephone - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 595 3518, Canada 001 613 996 6666

Norway	Poison information centre: +47 22 59 13 00
--------	--

### 2. Hazards identification

#### 2.1 Classification of the substance or mixture

Classification according to (EC) No. 1272/2008

Health hazards Not classified  
Environmental hazards Not classified  
Physical Hazards Not classified

#### 2.2 Label elements

##### Signal word

None

##### Hazard statements

This product is not classified as hazardous therefore no (H) hazard statements assigned.

**Precautionary Statements - EU (§28, 1272/2008)**

This product is not classified as hazardous therefore has no (P) precautionary statements assigned.

-  
-

**Contains**

Non-crystalline silica

**2.3 Other data**

Not classified as PBT/vPvB by current EU criteria

**Australian statement of hazardous/dangerous nature**

Classified as Non-Hazardous according to the criteria of NOHSC.  
NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

### 3. Composition/information on ingredients

**3.1 Substances**

Not Applicable

**3.2 Mixtures**

Component	EC-No.	CAS-No	Weight % - range	Classification (67/548)	Classification (Reg. 1272/2008)	REACH registration number
Non-crystalline silica	Listed	Proprietary	1 - 5		Not classified	01-2119379499-16-x xxx

**Comments**

No classified ingredients, or those having occupational exposure limits, present above the level of disclosure.  
The product contains other ingredients which do not contribute to the overall classification.

### 4. First aid measures

**4.1 First-Aid Measures****Inhalation**

If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

**Ingestion**

Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.

**Skin contact**

Wash skin thoroughly with soap and water. Get medical attention if irritation persists.

**Eye contact**

Promptly wash eyes with lots of water while lifting eye lids. Remove contact lenses. Get medical attention if any discomfort continues.

**4.2 Most important symptoms and effects, both acute and delayed**

---

<b>General advice</b>	The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible.
<b>Main symptoms</b>	
<b>Inhalation</b>	Please see Section 11. Toxicological Information for further information.
<b>Ingestion</b>	Please see Section 11. Toxicological Information for further information.
<b>Skin contact</b>	Please see Section 11. Toxicological Information for further information.
<b>Eye contact</b>	Please see Section 11. Toxicological Information for further information.

#### **4.3 Indication of any immediate medical attention and special treatment needed**

**Notes to physician** Treat symptomatically.

### **5. Fire-fighting measures**

#### **5.1 Extinguishing media**

**Suitable extinguishing media**

Extinguish with carbon dioxide, dry chemical, foam or waterspray.

**Extinguishing media which shall not be used for safety reasons**

Do not use water jet.

#### **5.2 Special hazards arising from the substance or mixture**

**Unusual fire and explosion hazards**

None known.

**Hazardous combustion products**

Thermal decomposition can lead to release of irritating gases and vapors.

#### **5.3 Advice for firefighters**

**Special protective equipment for fire-fighters**

As in any fire, wear self-contained breathing apparatus and full protective gear.

**Special Fire-Fighting Procedures**

Containers close to fire should be removed immediately or cooled with water.

### **6. Accidental release measures**

#### **6.1 Personal precautions, protective equipment and emergency procedures**

Use personal protective equipment. See also section 8.

#### **6.2 Environmental precautions**

The product should not be allowed to enter drains, water courses or the soil.

**Environmental exposure controls**

Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

#### **6.3 Methods and materials for containment and cleaning up**

**Methods for containment**

Prevent further leakage or spillage if safe to do so. Dike far ahead of liquid spill for later disposal.

**Methods for cleaning up**

Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. After cleaning, flush away traces with water.

**6.4 Reference to other sections**

See section 13 for more information.

## 7. Handling and storage

**7.1 Precautions for safe handling****Handling**

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Do not breathe vapors or spray mist. Avoid spills and splashing during use.

**Hygiene measures**

Use good work and personal hygiene practices to avoid exposure. When using do not smoke, eat or drink. Wash hands and face before breaks and immediately after handling the product Remove contaminated clothing.

**7.2 Conditions for safe storage, including any incompatibilities**

**Technical measures/precautions** Ensure adequate ventilation.

**Storage precautions** Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from open flames, hot surfaces and sources of ignition. Keep at a temperature not exceeding 25 °C Store away from incompatibles, Strong oxidizing agents UV or Ionising Radiation. Steel.

**Storage class** Chemical storage.

**Packaging material** Use specially constructed containers only.

**7.3 Specific end uses**

See Section 1.2.

## 8. Exposure controls/personal protection

**8.1 Control parameters**

**Exposure limits** Because this product is a liquid, the dust-related Workplace Exposure Limits for the components do not apply.

Component	EU OEL	Austria	Australia	Denmark
Non-crystalline silica	Not determined	4 mg/m <sup>3</sup> TWA inhalable fraction	2mg/m <sup>3</sup> TWArespirable dust	Not determined

Component	Malaysia	France	Germany	Hungary

Non-crystalline silica	Not determined	Not determined	4 mg/m <sup>3</sup> TWA	Not determined
<b>Component</b>	<b>New Zealand</b>	<b>Italy</b>	<b>Netherlands</b>	<b>Norway</b>
Non-crystalline silica	Not Determined	Not determined	Not determined	1.5 mg/m <sup>3</sup> TWA respirable dust 1.5 mg/m <sup>3</sup> STEL respirable dust
<b>Component</b>	<b>Poland</b>	<b>Portugal</b>	<b>Romania</b>	<b>Russia</b>
Non-crystalline silica	Not determined	Not determined	Not determined	Not determined
<b>Component</b>	<b>Spain</b>	<b>Switzerland</b>	<b>Turkey</b>	<b>UK</b>
Non-crystalline silica	Not determined	4 mg/m <sup>3</sup> MAK 0.3 mg/m <sup>3</sup> MAK	Not determined	18 mg/m <sup>3</sup> STEL calculated inhalable dust 7.2 mg/m <sup>3</sup> STEL calculated respirable dust 6 mg/m <sup>3</sup> TWA inhalable dust 2.4 mg/m <sup>3</sup> TWA respirable dust

**Derived No Effect Level (DNEL)****Long term exposure systemic effects**

**Non-crystalline silica**  
Inhalation 4 mg/m<sup>3</sup>

**8.2 Exposure controls**

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

**Engineering measures to reduce exposure**

Ensure adequate ventilation. Mechanical ventilation or local exhaust ventilation is required.

**Personal protective equipment**

**Eye protection** Safety glasses with side-shields.  
**Hand protection** Use protective gloves made of:., polyvinyl alcohol or nitrile-butyl rubber gloves, Be aware that liquid may penetrate the gloves. Frequent change is advisable.  
**Respiratory protection** No personal respiratory protective equipment normally required. In case of insufficient ventilation wear suitable respiratory equipment, Respirator with combination filter for vapor/particulate, Type A/P2, At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used.  
**Skin and body protection** Wear suitable protective clothing, Eye wash and emergency shower must be available at the work place.

**Hygiene measures**

Wash hands before eating, drinking or smoking, Remove and wash contaminated clothing before re-use.





## 9. Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Aqueous solution
Odor	Slight
Color	Milky white.
Odor threshold	Not applicable

<u>Property</u>	<u>Values</u>	<u>Remarks</u>
pH	~ 5	
pH @ dilution		
Melting/freezing point	~ 0 °C / 32 °F	
Boiling point/range	100 °C / 212 °F	
Flash point	Not Applicable	
Evaporation rate (BuAc =1)		
Flammability (solid, gas)	Not Applicable	
Flammability Limits in Air		
Upper flammability limit	Not applicable	
Lower flammability limit	Not applicable	
Vapor pressure	2.3 kPa	@ 20 °C
Vapor density	No information available	
Specific gravity	~ 1	@ 25 °C
Bulk density	No information available	
Relative density	No information available	
Water solubility	Dispersible	
Solubility in other solvents	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Kinematic viscosity		
Dynamic viscosity	~ 100 mPa s	@ 25 °C
Log Pow	No information available	
Explosive properties	Not Applicable	
Oxidizing properties	None known.	

### 9.2 Other information

Pour point	No information available
Molecular weight	No information available
VOC content(%)	None
Density	No information available

## 10. Stability and reactivity

### 10.1 Reactivity

No specific reactivity hazards associated with this product.

### 10.2 Chemical stability

Stable under normal temperature conditions and recommended use.

### 10.3 Possibility of Hazardous Reactions

**Hazardous polymerization**

Hazardous polymerization does not occur.

**10.4 Conditions to avoid**

Avoid heat, flames and other sources of ignition.

**10.5 Incompatible materials**

Strong oxidizing agents. UV or Ionising Radiation. Steel.

**10.6 Hazardous decomposition products**

See also section 5.2.

## 11. Toxicological information

**11.1 Information on toxicological effects****Acute toxicity**

<b>Inhalation</b>	Inhalation of vapors in high concentration may cause irritation of respiratory system.
<b>Eye contact</b>	May cause slight irritation.
<b>Skin contact</b>	Prolonged contact may cause redness and irritation.
<b>Ingestion</b>	Ingestion may cause stomach discomfort.
<b>Unknown acute toxicity</b>	Not Applicable.

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Non-crystalline silica	> 5000 mg/kg ( Rat )	> 2000 mg/kg ( Rabbit )	> 2.2 mg/L ( Rat ) 1 h

**Sensitization** This product does not contain any components suspected to be sensitizing.

**Mutagenic effects** This product does not contain any known or suspected mutagens.

**Carcinogenicity** This product does not contain any known or suspected carcinogens.

**Reproductive toxicity** This product does not contain any known or suspected reproductive hazards.

**Routes of exposure** None known.

**Routes of entry** No route of entry noted.

**Specific target organ toxicity (single exposure)** Not classified

**Specific target organ toxicity (repeated exposure)** Not classified.

Aspiration hazard No hazard from product as supplied.

## 12. Ecological information

### 12.1 Toxicity

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

#### Toxicity to algae

This product is not considered toxic to algae.

#### Toxicity to fish

This product is not considered toxic to fish.

#### Toxicity to daphnia and other aquatic invertebrates

This product is not considered toxic to invertebrates.

Component	Toxicity to fish	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates
Non-crystalline silica	= 5000 mg/L LC50 Brachydanio rerio 96 h	= 440 mg/L EC50 Pseudokirchneriella subcapitata 72 h	= 7600 mg/L EC50 Ceriodaphnia dubia 48 h

### 12.2 Persistence and degradability

The product is not expected to be biodegradable.

### 12.3 Bioaccumulative potential

The product does not contain any substances expected to be bioaccumulating.

### 12.4 Mobility in soil

#### Mobility

Dispersible in water.

### 12.5 Results of PBT and vPvB assessment

Not classified as PBT/vPvB by current EU criteria.

### 12.6 Other adverse effects.

None known.

## 13. Disposal considerations

### 13.1 Waste treatment methods

<b>Waste from residues / unused products</b>	Dispose of in accordance with local regulations.
<b>Contaminated packaging</b>	Empty containers should be taken for local recycling, recovery or waste disposal.
<b>EWC Waste disposal No.</b>	According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user based on the application for which the product was used. The following Waste Codes are only suggestions: EWC waste disposal No: 07 02 17 – Waste containing silicones other than those mentioned in 07 02 16

## 14. Transport information

### 14.1 UN Number

Not regulated

### 14.2 Proper shipping name

The product is not covered by international regulation on the transport of dangerous goods

### 14.3 Hazard class(es)

<b>ADR/RID/ADN/ADG Hazard class</b>	Not regulated
<b>IMDG Hazard class</b>	Not regulated
<b>ICAO Hazard class/division</b>	Not regulated

### 14.4 Packing group

<b>ADR/RID/ADN/ADG Packing group</b>	Not regulated
<b>IMDG Packing group</b>	Not regulated
<b>ICAO Packing group</b>	Not regulated

### 14.5 Environmental hazard

No

### 14.6 Special precautions

Not Applicable

### Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Please contact SDS@slb.com for info regarding transport in Bulk.

## 15. Regulatory information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

#### Australian Standard for the Uniform Scheduling of Drugs and Poisons

No Poisons Schedule number allocated

Commission Regulation (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH). Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the

Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, including amendments.

This safety data sheet complies with the requirements of Regulation (EC) No. 1272/2008.

National Code of Practice for the Preparation of Material Safety Data Sheets 2nd Edition [NOHSC: 2011 (2003)].

National Occupational Health and Safety Commission's Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004) 3rd Edition].

National Occupational Health and Safety Commission's Exposure Standards for Atmospheric Contaminants in the occupational Environment [NOHSC:1003 (1995)].

Safe Work Australia.

Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).

Not classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for transport by road or rail.

#### International inventories

USA (TSCA)	Complies
European Union (EINECS and ELINCS)	Does not Comply
Canada (DSL)	Complies
Philippines (PICCS)	Complies
Japan (ENCS)	Does not Comply
China (IECSC)	Complies
Australia (AICS)	Complies
Korean (KECL)	Does not Comply
New Zealand (NZIoC)	Complies

#### 15.2 Chemical Safety Report

No information available

### 16. Other information

<b>Prepared by</b>	Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Nicola Anderson
<b>Supersedes date</b>	19-May-2008
<b>Revision date</b>	19-Jun-2015
<b>Version</b>	3
<b>The following sections have been revised:</b>	Updated according to GHS/CLP, No changes with regard to classification have been made.

#### Full text of H-Statements referred to under sections 2 and 3

This product is not classified as hazardous therefore no (H) hazard statements assigned.

**Disclaimer**

The information contained herein is considered in good faith as reliable of the date issued and is based upon on measurements, tests or data derived from supplier's own study or furnished by others. In providing this SDS information, Supplier makes no express or implied warranties as to the information or product; merchantability or fitness of purpose; any express or implied warranty; or non-infringement of intellectual property rights; and supplier assumes no responsibility for any direct, special or consequential damages, results obtained, or the activities of others. To the maximum extent permitted by law, supplier's warranty obligations and buyer's sole remedies are as stated in separate agreement between the parties.



## Safety Data Sheet MUDPUSH\* II Spacer D182

### 1. Identification of the substance/mixture and of the company/undertaking

#### 1.1 Product identifier

**Product name** MUDPUSH\* II Spacer D182  
**Product code** D182

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** Used as a cementing additive in oilfield applications

**Uses advised against** Consumer use

#### 1.3 Details of the supplier of the safety data sheet

##### **Supplier**

Schlumberger Oilfield Australia Pty Ltd  
ABN: 74 002 459 225  
ACN: 002 459 225  
256 St. Georges Terrace, Perth WA 6000  
+47 5157 7424

SDS@slb.com

#### 1.4 Emergency Telephone Number

**Emergency telephone** - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 595 3518

### 2. Hazards Identification

#### 2.1 Classification of the substance or mixture

##### **GHS Classification**

**Health hazards** Not classified

**Environmental hazards** Not classified

**Physical Hazards** Not classified

#### 2.2 Label elements

##### **Signal word**

None

**Hazard Statements**

This product is not classified as hazardous therefore no (H) hazard statements assigned.

**Precautionary statements**

This product is not classified as hazardous therefore has no (P) precautionary statements assigned.

**2.3 Other hazards**

Not classified as PBT/vPvB by current EU criteria

**Australian statement of hazardous/dangerous nature**

Classified as Non-Hazardous according to the criteria of NOHSC.  
NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

**3. Composition/information on Ingredients****3.1 Substances**

Not applicable

**3.2 Mixtures**

No classified ingredients, or those having occupational exposure limits, present above the level of disclosure.

**4. First Aid Measures****4.1 First aid measures**

<b>Inhalation</b>	If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.
<b>Ingestion</b>	Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.
<b>Skin contact</b>	Wash skin thoroughly with soap and water. Get medical attention if irritation persists.
<b>Eye Contact</b>	Promptly wash eyes with lots of water while lifting eye lids. Remove contact lenses, if worn. Get medical attention if any discomfort continues.

**4.2. Most important symptoms and effects, both acute and delayed**

**General advice** The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible.

**Symptoms**

<b>Inhalation</b>	Please see Section 11. Toxicological Information for further information.
<b>Ingestion</b>	Please see Section 11. Toxicological Information for further information.
<b>Skin contact</b>	Please see Section 11. Toxicological Information for further information.
<b>Eye contact</b>	Please see Section 11. Toxicological Information for further information.

**4.3 Indication of any immediate medical attention and special treatment needed**



Notes to physician Treat symptomatically.

## 5. Fire-Fighting Measures

### 5.1 Extinguishing media

#### **Suitable extinguishing media**

Water Fog, Alcohol Foam, CO<sub>2</sub>, Dry Chemical.

#### **Extinguishing media which must not be used for safety reasons**

High volume water jet.

### 5.2. Special hazards arising from the substance or mixture

#### **Unusual fire and explosion hazards**

Dust may form explosive mixture in air.

#### **Hazardous combustion products**

Fire or high temperatures create: Carbon oxides (CO<sub>x</sub>), Sulphur oxides.

### 5.3 Advice for firefighters

#### **Special protective equipment for fire-fighters**

As in any fire, wear self-contained breathing apparatus and full protective gear.

#### **Special Fire-Fighting Procedures**

Containers close to fire should be removed immediately or cooled with water.

## 6. Accidental Release Measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. See also section 8. Extinguish all ignition sources. Avoid sparks, flames, heat and smoking.

### 6.2 Environmental precautions

The product should not be allowed to enter drains, water courses or the soil.

#### **Environmental exposure controls**

Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

### 6.3 Methods and material for containment and cleaning up

#### **Methods for containment**

Cover powder spill with plastic sheet or tarp to minimize spreading. Prevent further leakage or spillage if safe to do so.

#### **Methods for cleaning up**

Sweep up and shovel into suitable containers for disposal. Take precautionary measures against static discharges. After cleaning, flush away traces with water.

### 6.4 Reference to other sections

See section 13 for more information.

## 7. Handling and Storage

**7.1 Precautions for safe handling****Handling**

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Avoid dust formation. Material becomes slippery when wet. Use caution if wet.

**Hygiene Measures**

Use good work and personal hygiene practices to avoid exposure. When using do not smoke, eat or drink. Wash hands and face before breaks and immediately after handling the product Remove contaminated clothing

**7.2 Conditions for safe storage, including any incompatibilities**

<b>Technical measures/precautions</b>	Ensure adequate ventilation. Keep airborne concentrations below exposure limits.
<b>Storage precautions</b>	Keep containers tightly closed in a dry, cool and well-ventilated place Keep away from open flames, hot surfaces and sources of ignition Keep away from direct sunlight. Incompatible with oxidizing agents
<b>Storage class</b>	Chemical storage.
<b>Packaging materials</b>	Use specially constructed containers only.

**8. Exposure Controls/Personal Protection****8.1 Control parameters**

**Exposure limits** NUI = Nuisance dust, TWA 4mg/m<sup>3</sup> Respirable Dust, 10mg/m<sup>3</sup> Total Dust.

**8.2 Exposure controls**

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

**Engineering Controls**

Ensure adequate ventilation Mechanical ventilation or local exhaust ventilation is required.

**Personal protective equipment**

<b>Eye protection</b>	Use eye protection according to EN 166, designed to protect against dusts Safety glasses with side-shields
<b>Hand protection</b>	Wear gloves according to EN 374 to protect against skin effects from powders Use protective gloves made of: Rubber Neoprene Nitrile Frequent change is advisable
<b>Respiratory protection</b>	In case of insufficient ventilation wear suitable respiratory equipment Half mask with a particle filter P2 (European Norm EN 143 = former DIN 3181) At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used.
<b>Skin and body protection</b>	Wear suitable protective clothing Eye wash and emergency shower must be available at the work place.
<b>Hygiene Measures</b>	Wash hands before eating, drinking or smoking Remove and wash contaminated clothing before re-use



## 9. Physical and Chemical Properties

### 9.1 Information on basic physical and chemical properties

Physical state	Solid
Appearance	Powder
Odor	Mild Sweet
Color	Red brown
Odor threshold	Not applicable

<u>Property</u>	<u>Values</u>	<u>Remarks</u>
pH		
pH @ dilution	~8	650g/l (Soln)
Melting / freezing point	No information available	
Boiling point/range	Not applicable	
Flash point	Not applicable	
Evaporation rate (BuAc =1)	Not applicable	
Flammability (solid, gas)	Not applicable	
Flammability Limit in Air		
Upper flammability limit	Not applicable	
Lower flammability limit	Not applicable	
Vapor pressure	Not applicable	
Vapor density	Not applicable	
Specific gravity	1.3	@ 20 °C
Bulk density	No information available	
Relative density	No information available	
Water solubility	Partly soluble Gel in contact with water	
Solubility in other solvents	No information available	
Autoignition temperature	No information available	
Decomposition temperature	> 242 °C / 468 °F	
Kinematic viscosity	No information available	
Dynamic viscosity	No information available	
log Pow	No information available	
Explosive properties	Suspended dust may present a dust explosion hazard	
Oxidizing properties	None known.	

### 9.2 Other information

Pour point	No information available
Molecular weight	No information available
VOC content(%)	None
Density	No information available

#### Comments

The data listed above are typical physical and chemical properties and should not be construed as product specification.

## 10. Stability and Reactivity

### 10.1 Reactivity

Dust may form explosive mixture in air.

#### **10.2 Chemical stability**

Stable under normal temperature conditions and recommended use.

#### **10.3 Possibility of Hazardous Reactions**

##### **Hazardous polymerization**

Hazardous polymerization does not occur.

#### **10.4 Conditions to avoid**

Avoid dust formation. Keep away from open flames, hot surfaces and sources of ignition. Keep away from direct sunlight.

#### **10.5 Incompatible materials**

Oxidizing agents.

#### **10.6 Hazardous decomposition products**

See Section 5.2.

## **11. Toxicological Information**

### **11.1 Information on toxicological effects**

#### **Acute toxicity**

<b>Inhalation</b>	Inhalation of dust may cause shortness of breath, tightness of the chest, a sore throat and cough.
<b>Eye contact</b>	Dust contact with the eyes can lead to mechanical irritation.
<b>Skin contact</b>	Repeated exposure may cause skin dryness or cracking.
<b>Ingestion</b>	Ingestion may cause stomach discomfort.
<b>Unknown acute toxicity</b>	Not applicable.

**Sensitization** This product does not contain any components suspected to be sensitizing.

**Mutagenic effects** This product does not contain any known or suspected mutagens.

**Carcinogenicity** This product does not contain any known or suspected carcinogens.

**Reproductive toxicity** This product does not contain any known or suspected reproductive hazards.

**Routes of Exposure** Inhalation. Skin contact. Eye contact.

**Routes of entry** No route of entry noted.

**Specific target organ toxicity -** Not classified

---

<b>Single exposure Specific target organ toxicity - Repeated exposure</b>	Not classified.
<b>Aspiration hazard</b>	Not applicable.
<b>Other information</b>	Key literature references and sources for data. See Section 16 for more information.

## 12. Ecological Information

### 12.1 Toxicity

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

#### **Toxicity to algae**

This product is not considered toxic to algae.

#### **Toxicity to fish**

This product is not considered toxic to fish.

#### **Toxicity to daphnia and other aquatic invertebrates**

This product is not considered toxic to invertebrates.

### 12.2 Persistence and degradability

No product level data available.

### 12.3 Bioaccumulative potential

Bioaccumulation is unlikely.

### 12.4 Mobility

#### **Mobility**

Partly soluble. Gel in contact with water.

#### **Mobility in soil**

No information available.

### 12.5 Results of PBT and vPvB assessment

Not classified as PBT/vPvB by current EU criteria.

### 12.6 Other adverse effects.

None known.

#### **12.7 Other information**

Key literature references and sources for data. See Section 16 for more information.

### **13. Disposal considerations**

#### **13.1 Waste treatment methods**

**Waste from residues/unused products** Dispose of in accordance with local regulations.

**Contaminated packaging** Empty containers should be taken for local recycling, recovery or waste disposal.

### **14. Transport information**

#### **14.1. UN number**

Not regulated

#### **14.2. UN proper shipping name**

The product is not covered by international regulation on the transport of dangerous goods

#### **14.3 Hazard class(es)**

**ADR/RID/ADN/ADG Hazard class** Not regulated

**IMDG/ANTAQ Hazard class** Not regulated

**ICAO/ANAC Hazard class/division** Not regulated

#### **14.4 Packing group**

**ADR/RID/ADN/ADG Packing group** Not regulated

**IMDG/ANTAQ Packing group** Not regulated

**ICAO/ANAC Packing group** Not regulated

#### **14.5 Environmental hazard**

No

#### **14.6 Special precautions**

Not applicable

#### **14.7 Transport in bulk according to Annex I/II of MARPOL 73/78 and the IBC Code**

Please contact SDS@slb.com for info regarding transport in Bulk.

### **15. Regulatory Information**

#### **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

This safety data sheet complies with the requirements of:  
The Globally Harmonized System of Classification and Labeling of Chemicals (GHS)

**Australian Standard for the Uniform Scheduling of Drugs and Poisons**

No poisons schedule number allocated

National Code of Practice for the Preparation of Material Safety Data Sheets 2nd Edition [NOHSC: 2011 (2003)].

National Occupational Health and Safety Commission's Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004) 3rd Edition].

National Occupational Health and Safety Commission's Exposure Standards for Atmospheric Contaminants in the occupational Environment [NOHSC:1003 (1995)].

Safe Work Australia.

Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).

Not classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG)

#### International inventories

USA (TSCA)	Complies
Canada (DSL)	Complies
Philippines (PICCS)	Does not comply
Japan (ENCS)	Complies
China (IECSC)	Complies
Australia (AICS)	Complies
Korean (KECL)	Does not comply
New Zealand (NZIoC)	Complies

## 16. Other Information

Prepared by	Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Muriel Martin Beurel
Supersedes Date:	18-Jun-2014
Revision date	05-Apr-2017
Version	2

**This SDS has been revised in the following section(s)** All sections No changes with regard to classification have been made.

#### **Key literature references and sources for data**

www.ChemADVISOR.com

Supplier

National Chemical Inventories

National regulatory information

National occupational exposure limits

#### **Disclaimer**

The information contained herein is considered in good faith as reliable of the date issued and is based upon on measurements, tests or data derived from supplier's own study or furnished by others. In providing this SDS information, Supplier makes no express or implied warranties as to the information or product; merchantability or fitness of purpose; any express or implied warranty; or non-infringement of intellectual property rights; and supplier assumes no

responsibility for any direct, special or consequential damages, results obtained, or the activities of others. To the maximum extent permitted by law, supplier's warranty obligations and buyer's sole remedies are as stated in separate agreement between the parties.

**This Document is Confidential and Proprietary. Unless Otherwise Marked, It is an Uncontrolled Copy.**





## Safety Data Sheet Mid-Range FLAC D255

### 1. Identification of the substance/mixture and of the company/undertaking

#### 1.1 Product identifier

**Product name** Mid-Range FLAC D255  
**Product code** D255

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** Used as a cementing additive in oilfield applications

**Uses advised against** Consumer use

#### 1.3 Details of the supplier of the safety data sheet

##### **Supplier**

Schlumberger Oilfield Australia Pty Ltd  
ABN: 74 002 459 225  
ACN: 002 459 225  
256 St. Georges Terrace, Perth WA 6000  
+47 5157 7424

SDS@slb.com

#### 1.4 Emergency Telephone Number

**Emergency telephone** - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 595 3518

### 2. Hazards Identification

#### 2.1 Classification of the substance or mixture

##### **GHS Classification**

**Health hazards** Not classified

**Environmental hazards** Not classified

**Physical Hazards** Not classified

#### 2.2 Label elements

##### **Signal word**

None

**Hazard Statements**

This product is not classified as hazardous therefore no (H) hazard statements assigned.

**Precautionary statements**

This product is not classified as hazardous therefore has no (P) precautionary statements assigned.

-

**Contains**

2-methylpropan-2-ol

**2.3 Other hazards**

Not classified as PBT/vPvB by current EU criteria

Suspended dust may present a dust explosion hazard

**Australian statement of hazardous/dangerous nature**

Classified as Non-Hazardous according to the criteria of NOHSC.  
NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

**3. Composition/information on Ingredients****3.1 Substances**

Not applicable

**3.2 Mixtures**

Chemical Name	EC No	CAS No	Weight-%
2-methylpropan-2-ol	200-889-7	75-65-0	<5

**Comments**

The product contains other ingredients which do not contribute to the overall classification.

**4. First Aid Measures****4.1 First aid measures**

<b>Inhalation</b>	If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.
<b>Ingestion</b>	Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get medical attention immediately if symptoms occur.
<b>Eye Contact</b>	Promptly wash eyes with lots of water while lifting eye lids. Remove contact lenses, if worn. Get medical attention if any discomfort continues.

**4.2. Most important symptoms and effects, both acute and delayed**

<b>General advice</b>	The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible.
-----------------------	--

**Symptoms**

---

<b>Inhalation</b>	Please see Section 11. Toxicological Information for further information.
<b>Ingestion</b>	Please see Section 11. Toxicological Information for further information.
<b>Skin contact</b>	Please see Section 11. Toxicological Information for further information.
<b>Eye contact</b>	Please see Section 11. Toxicological Information for further information.

#### **4.3 Indication of any immediate medical attention and special treatment needed**

**Notes to physician** Treat symptomatically.

### **5. Fire-Fighting Measures**

#### **5.1 Extinguishing media**

**Suitable extinguishing media**

Use extinguishing media appropriate for surrounding material.

**Extinguishing media which must not be used for safety reasons**

None known.

#### **5.2. Special hazards arising from the substance or mixture**

**Unusual fire and explosion hazards**

Dust may form explosive mixture in air.

**Hazardous combustion products**

Fire or high temperatures create: Carbon oxides (COx), Nitrogen oxides (NOx), Ammonia, Hydrogen cyanide (hydrocyanic acid).

#### **5.3 Advice for firefighters**

**Special protective equipment for fire-fighters**

As in any fire, wear self-contained breathing apparatus and full protective gear.

**Special Fire-Fighting Procedures**

Containers close to fire should be removed immediately or cooled with water.

### **6. Accidental Release Measures**

#### **6.1. Personal precautions, protective equipment and emergency procedures**

Use personal protective equipment. Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. See also section 8.

#### **6.2 Environmental precautions**

The product should not be allowed to enter drains, water courses or the soil.

**Environmental exposure controls**

Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

#### **6.3 Methods and material for containment and cleaning up**

**Methods for containment**

Prevent further leakage or spillage if safe to do so. Cover powder spill with plastic sheet or tarp to minimize spreading.

**Methods for cleaning up**

Avoid generating or breathing dust. Take precautionary measures against static discharges. Take up mechanically and collect in suitable container for disposal. After cleaning, flush away traces with water.

**6.4 Reference to other sections**

See section 13 for more information.

## 7. Handling and Storage

**7.1 Precautions for safe handling****Handling**

Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Avoid dust formation. Do not breathe dust. Material becomes slippery when wet. Use caution if wet.

**Hygiene Measures**

Use good work and personal hygiene practices to avoid exposure. When using do not smoke, eat or drink. Wash hands and face before breaks and immediately after handling the product Remove contaminated clothing

**7.2 Conditions for safe storage, including any incompatibilities**

**Technical measures/precautions** Ensure adequate ventilation. Keep airborne concentrations below exposure limits. Take precautionary measures against static discharges.

**Storage precautions** Keep containers tightly closed in a dry, cool and well-ventilated place Keep away from open flames, hot surfaces and sources of ignition Avoid excessive heat for prolonged periods of time. Keep away from direct sunlight. Incompatible with oxidizing agents Strong acids

**Storage class** Chemical storage.

**Packaging materials** Use specially constructed containers only.

## 8. Exposure Controls/Personal Protection

**8.1 Control parameters**

**Exposure limits** NUI = Nuisance dust, TWA 4mg/m<sup>3</sup> Respirable Dust, 10mg/m<sup>3</sup> Total Dust.  
No biological limit allocated

**Component Information**

<b>Chemical Name</b>	<b>Arabic</b>	<b>Australia</b>	<b>Egypt</b>
2-methylpropan-2-ol	100 ppm TWA 303 mg/m <sup>3</sup> TWA	150ppmSTEL 455mg/m <sup>3</sup> STEL 100ppmTWA 303mg/m <sup>3</sup> TWA	100 ppm TWA 303 mg/m <sup>3</sup> TWA
<b>Chemical Name</b>	<b>India</b>	<b>Indonesian</b>	<b>Japan</b>
2-methylpropan-2-ol	Not determined	100 ppm TWA 303 mg/m <sup>3</sup> TWA	50 ppm OEL 150 mg/m <sup>3</sup> OEL
<b>Chemical Name</b>	<b>Kazakhstan</b>	<b>Kuwait</b>	<b>New Zealand</b>
2-methylpropan-2-ol	10 mg/m <sup>3</sup> MAC	Not determined	150 ppm STEL 455 mg/m <sup>3</sup> STEL 100 ppm TWA 303 mg/m <sup>3</sup> TWA
<b>Chemical Name</b>	<b>Malaysia</b>	<b>Philippines</b>	<b>Russia</b>
2-methylpropan-2-ol	100 ppm TWA 303 mg/m <sup>3</sup> TWA	100 ppm TWA 300 mg/m <sup>3</sup> TWA	10 mg/m <sup>3</sup> MAC
<b>Chemical Name</b>	<b>Thailand</b>	<b>Vietnam</b>	<b>Turkey</b>
2-methylpropan-2-ol	100 ppm TWA	Not determined	Not determined

## 8.2 Exposure controls

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

### Engineering Controls

Ensure adequate ventilation Provide appropriate exhaust ventilation at places where dust is formed

### Personal protective equipment

#### Eye protection

Use eye protection according to EN 166, designed to protect against dusts Safety glasses with side-shields Tightly fitting safety goggles

#### Hand protection

Wear gloves according to EN 374 to protect against skin effects from powders Impervious gloves made of: Rubber gloves Butyl Neoprene Nitrile Frequent change is advisable

#### Respiratory protection

In case of insufficient ventilation wear suitable respiratory equipment Half mask with a particle filter P2 (European Norm EN 143 = former DIN 3181) At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used.

#### Skin and body protection

Wear suitable protective clothing Eye wash and emergency shower must be available at the work place.

#### Hygiene Measures

Wash hands before eating, drinking or smoking Remove and wash contaminated clothing before re-use



### 8.2.3 Environmental exposure controls

#### Environmental exposure

Use appropriate containment to avoid environmental contamination See section 6 for more information

## 9. Physical and Chemical Properties

### 9.1 Information on basic physical and chemical properties

Physical state	Solid
Appearance	Granules
Odor	None
Color	White
Odor threshold	Not applicable

<u>Property</u>	<u>Values</u>	<u>Remarks</u>
pH	Not applicable	
pH @ dilution	4 - 9	@ 5 g/l
Melting / freezing point	> 250 °C / 482 °F	
Boiling point/range	Not applicable	
Flash point	Not applicable	
Evaporation rate (BuAc =1)	Not applicable	
Flammability (solid, gas)	Not applicable	
Flammability Limit in Air		
Upper flammability limit	Not applicable	
Lower flammability limit	Not applicable	
Vapor pressure	Not applicable	

Vapor density	Not applicable
Specific gravity	1.15 - 1.35
Bulk density	~ 0.20 - 0.40
Relative density	No information available
Water solubility	Soluble in water
Solubility in other solvents	No information available
Autoignition temperature	No information available
Decomposition temperature	>150°C / >302° F
Kinematic viscosity	No information available
Dynamic viscosity	No information available
log Pow	No information available

Explosive properties	Suspended dust may present a dust explosion hazard
Oxidizing properties	None known.

### 9.2 Other information

Pour point	No information available
Molecular weight	No information available
VOC content(%)	No information available
Density	No information available

### **Comments**

The data listed above are typical physical and chemical properties and should not be construed as product specification.

## **10. Stability and Reactivity**

### 10.1 Reactivity

Dust may form explosive mixture in air.

### 10.2 Chemical stability

Stable under normal temperature conditions and recommended use.

### 10.3 Possibility of Hazardous Reactions

#### **Hazardous polymerization**

Hazardous polymerization does not occur.

### 10.4 Conditions to avoid

Avoid dust formation. Keep away from direct sunlight. Avoid excessive heat for prolonged periods of time. Keep away from open flames, hot surfaces and sources of ignition.

### 10.5 Incompatible materials

Incompatible with oxidizing agents. Strong acids.

### 10.6 Hazardous decomposition products

See Section 5.2.

## **11. Toxicological Information**

### 11.1 Information on toxicological effects

#### **Acute toxicity**

##### **Inhalation**

Inhalation of dust in high concentration may cause irritation of respiratory system.

<b>Eye contact</b>	Dust may cause mechanical irritation.
<b>Skin contact</b>	Prolonged contact may cause redness and irritation.
<b>Ingestion</b>	Ingestion may cause stomach discomfort.
<b>Unknown acute toxicity</b>	Not applicable.

**Toxicology data for the components**

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
2-methylpropan-2-ol	= 2200 mg/kg ( Rat )	> 2 g/kg ( Rabbit )	> 10000 ppm ( Rat ) 4 h

<b>Sensitization</b>	This product does not contain any components suspected to be sensitizing.
<b>Mutagenic effects</b>	This product does not contain any known or suspected mutagens.
<b>Carcinogenicity</b>	This product does not contain any known or suspected carcinogens.
<b>Reproductive toxicity</b>	This product does not contain any known or suspected reproductive hazards.
<b>Routes of Exposure</b>	Skin contact. Eye contact. Inhalation.
<b>Routes of entry</b>	Inhalation.
<b>Specific target organ toxicity - Single exposure</b>	Not classified
<b>Specific target organ toxicity - Repeated exposure</b>	Not classified.
<b>Aspiration hazard</b>	Not applicable.
<b>Other information</b>	Key literature references and sources for data. See Section 16 for more information.

## 12. Ecological Information

**12.1 Toxicity**

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

**Toxicity to algae**

See component information below.

**Toxicity to fish**

See component information below.

**Toxicity to daphnia and other aquatic invertebrates**

See component information below.

**Toxicology data for the components**

Chemical Name	Toxicity to fish	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates
2-methylpropan-2-ol	6130 - 6700 mg/L LC50 Pimephales promelas 96 h	> 1000 mg/L EC50 Desmodesmus subspicatus 72 h	4607 - 6577 mg/L EC50 Daphnia magna 48 h = 933 mg/L EC50

			Daphnia magna 48 h
--	--	--	--------------------

**12.2 Persistence and degradability**

Not readily biodegradable.

**12.3 Bioaccumulative potential**

Does not bioaccumulate.

**log Pow**  
<0

**12.4 Mobility****Mobility**

The product is water soluble, and may spread in water systems.

**Mobility in soil**

No information available.

**12.5 Results of PBT and vPvB assessment**

Not classified as PBT/vPvB by current EU criteria.

**12.6 Other adverse effects.**

None known.

**12.7 Other information**

Key literature references and sources for data. See Section 16 for more information.

**13. Disposal considerations****13.1 Waste treatment methods****Waste from residues/unused products**

Dispose of in accordance with local regulations.

**Contaminated packaging**

Empty containers should be taken for local recycling, recovery or waste disposal.

**14. Transport information****14.1. UN number**

Not regulated



**14.2. UN proper shipping name**

The product is not covered by international regulation on the transport of dangerous goods

**14.3 Hazard class(es)**

ADR/RID/ADN/ADG Hazard class Not regulated  
IMDG/ANTAQ Hazard class Not regulated  
ICAO/ANAC Hazard class/division Not regulated

**14.4 Packing group**

ADR/RID/ADN/ADG Packing group Not regulated  
IMDG/ANTAQ Packing group Not regulated  
ICAO/ANAC Packing group Not regulated

**14.5 Environmental hazard**

No

**14.6 Special precautions**

Not applicable

**14.7 Transport in bulk according to Annex I/II of MARPOL 73/78 and the IBC Code**

Please contact SDS@slb.com for info regarding transport in Bulk.

## 15. Regulatory Information

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

This safety data sheet complies with the requirements of:  
The Globally Harmonized System of Classification and Labeling of Chemicals (GHS)

**Australian Standard for the Uniform Scheduling of Drugs and Poisons**

No poisons schedule number allocated

**New Zealand Hazard Classification** Not classified

**HSNO approval no.** Not required

**Group number** Not required

**National Code of Practice for the Preparation of Material Safety Data Sheets 2nd Edition [NOHSC: 2011 (2003)].**

**National Occupational Health and Safety Commission's Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004) 3rd Edition].**

**National Occupational Health and Safety Commission's Exposure Standards for Atmospheric Contaminants in the occupational Environment [NOHSC:1003 (1995)].**

**Safe Work Australia.**

**Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).**

**Not classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG)**

**International inventories**

USA (TSCA)	Does not comply
Canada (DSL)	Complies
Philippines (PICCS)	Does not comply
Japan (ENCS)	Does not comply
China (IECSC)	Complies
Australia (AICS)	Complies
Korean (KECL)	Does not comply
New Zealand (NZIoC)	Complies

## 16. Other Information

Prepared by	Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Muriel Martin Beurel
Supersedes Date:	04-Jan-2018
Revision date	11-Jul-2019
Version	3

**This SDS has been revised in the following section(s)** 15. Regulatory Information No changes with regard to classification have been made.

### Key literature references and sources for data

www.ChemADVISOR.com

Supplier

National Chemical Inventories

National regulatory information

National occupational exposure limits

### HMIS classification

Health	1
Flammability	1
Physical hazard	0
PPE	E

### Disclaimer

The information contained herein is considered in good faith as reliable of the date issued and is based upon on measurements, tests or data derived from supplier's own study or furnished by others. In providing this SDS information, Supplier makes no express or implied warranties as to the information or product; merchantability or fitness of purpose; any express or implied warranty; or non-infringement of intellectual property rights; and supplier assumes no responsibility for any direct, special or consequential damages, results obtained, or the activities of others. To the maximum extent permitted by law, supplier's warranty obligations and buyer's sole remedies are as stated in separate agreement between the parties.

This Document is Confidential and Proprietary. Unless Otherwise Marked, It is an Uncontrolled Copy.



## 1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

<b>Product Name</b>	<b>PORTLAND CEMENT</b>
<b>Supplier Contact</b>	Cockburn Cement A.B.N. 50.008.673.470
<b>Address</b>	PO Box 38, Hamilton Hill, WA 6963
<b>Manufacturing Plant(s)</b>	Munster Works, Lot 242, Russell Road East, Munster WA 6166 Kwinana Works, Leath Road, Kwinana WA 6167
<b>Telephone</b>	08 9411 1000
<b>Fax</b>	08 9411 1150
<b>Emergency</b>	Bus Hrs 08 9411 1000 A/Hrs 08 9411 1000
<b>Email</b>	orders@cockburncement.com.au
<b>Web Site</b>	<a href="http://www.cockburn.com.au">http://www.cockburn.com.au</a> & <a href="http://www.swacement.com.au">www.swacement.com.au</a>
<b>Synonym(s)</b>	Type General Purpose (GP), High Early Strength (HE), Brightonlite Cream Cement, Cockburn Crème High Early Strength (CCHE), Cockburn Crème General Purpose (CCGP), General Purpose Coarse (GPC), Type Sulphate Resistant (SR)
<b>Use(s)</b>	CONCRETE · BINDING AGENT · GROUT · MORTAR · RENDER · MASONRY CONSTRUCTION

## 2. HAZARDS IDENTIFICATION

This product is classified as hazardous according to Safe Work Australia criteria.  
Not classified as a dangerous good by the criteria of the ADG code, IMDG or IATA.

### GHS Classifications

Skin Corrosion/Irritation:	Category 2
Serious Eye Damage / Eye Irritation:	Category 1
Specific Target Organ Systemic Toxicity (Repeated Exposure):	Category 2

### SIGNAL WORD

**DANGER**

### Pictograms



### Hazard statements

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H373	May cause damage to lungs and respiratory tract through prolonged or repeated exposure.

### Prevention statements

P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection.

### Response statements

P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P304 + P340	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.

### Disposal statements

P501	Dispose of contents/container in accordance with relevant regulations.
------	--

**PORTLAND CEMENT**

<b>UN No</b>	None Allocated	<b>Hazchem Code</b>	None Allocated	<b>Pkg Group</b>	None Allocated
<b>DG Class</b>	None Allocated	<b>Subsidiary Risk(s)</b>	None Allocated	<b>EPG</b>	None Allocated

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

<b>Ingredient</b>	<b>Formula</b>	<b>Conc.</b>	<b>CAS No.</b>
PORTLAND CEMENT CLINKER	Not Available	< 90%	65997-15-1
*GYPSUM	CaSO <sub>4</sub> 2H <sub>2</sub> O	3 - 8%	10101-41-4
*LIMESTONE	CaCO <sub>3</sub>	0 - 5%	1317-65-3
*GRANULATED BLAST FURNACE SLAG	Not Available	0 - 5%	65996-69-2
CHROMIUM (VI) HEXAVALENT	Cr <sup>6+</sup>	Trace	18540-29-9

\*NOTE: Ingredient may contain crystalline silica (CAS No. 14808-60-7).

**4. FIRST AID MEASURES**

<b>Eye</b>	Flush thoroughly with flowing water for at least 15 minutes and seek medical attention if symptoms persist. If wet cement is splashed into the eyes flush thoroughly with flowing water for 15 minutes and seek urgent medical attention.
<b>Inhalation</b>	Remove from dusty area to fresh air. If symptoms persist, seek medical attention.
<b>Skin</b>	Remove heavily contaminated clothing immediately. Wash off skin thoroughly with water. A shower may be required. Seek medical attention for persistent irritation or burning of the skin
<b>Ingestion</b>	Rinse mouth and lips with water. Do not induce vomiting. Give water to drink to dilute stomach contents. If symptoms persist, seek medical attention.
<b>Advice to Doctor</b>	Treat symptomatically.
<b>First Aid Facilities</b>	Eye wash station.

**Additional Information - Aggravated Medical Conditions**

<b>Inhalation</b>	Over exposure resulting from prolonged and repeated inhalation of dust containing crystalline silica can cause bronchitis, silicosis (scarring of the lung.) It may also increase the risk of scleroderma (a disease affecting the connective tissue of the skin, joints, blood vessels and internal organs) and lung cancer. Epidemiological studies have shown that smoking increases the risk of bronchitis, silicosis (scarring of the lung) and lung cancer in persons exposed to crystalline silica.
<b>Skin</b>	Prolonged and repeated skin contact with cement in wet concrete, mortars and slurries may result in irritant dermatitis.
<b>Eye</b>	Irritating to the eye. If wet cement is splashed into the eye alkaline burns can cause permanent damage.

**5. FIRE FIGHTING**

<b>Flammability</b>	Non flammable. Does not support combustion of other materials.
<b>Fire and Explosion</b>	No fire or explosion hazard exists.
<b>Extinguishing</b>	Non flammable; use suitable extinguishing agent for surrounding fire.
<b>Hazchem Code</b>	None.



### 6. ACCIDENTAL RELEASE MEASURES

<b>Spillage</b>	If spilt (bulk), contact emergency services if appropriate. Wear dust-proof goggles, PVC/rubber gloves, a Class P2 respirator (where an inhalation risk exists), coveralls and rubber boots. Clear area of all unprotected personnel. Prevent spill entering drains or waterways. Collect and place in sealable containers for disposal or reuse. Avoid generating dust.
<b>Emergency Procedures</b>	Follow safety requirements for personal protection under Section 8 Exposure Controls/Personal Protection.

### 7. HANDLING AND STORAGE

<b>Storage</b>	Store off the floor in the original bags in a cool, dry, well ventilated area, removed from excessive moisture and heat. Ensure packages are adequately labelled, protected from physical damage and sealed when not in use.
<b>Handling</b>	Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.
<b>Property/ Environmental</b>	Refer to Section 13.

### 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

<b>Ventilation</b>	Do not inhale dust/powder. Use with adequate ventilation. Where a dust inhalation hazard exists, mechanical extraction ventilation is recommended. Maintain dust levels below the recommended exposure standard.
<b>Exposure Standards</b>	CALCIUM CARBONATE (1317-65-3) ES-TWA: 10mg/m <sup>3</sup> (Respirable Dust) CHROMIUM (VI) HEXAVALENT(18540-29-9) ES-TWA: 0.05 mg/m <sup>3</sup> (Chromium VI compounds) GYPSUM (10101-41-4) ES-TWA: 10 mg/m <sup>3</sup> (Respirable Dust) PORTLAND CEMENT (65997-15-1) ES-TWA: 10 mg/m <sup>3</sup> (Respirable Dust) SILICA, CRYSTALLINE – QUARTZ (14808-60-7) ES-TWA: 0.1 mg/m <sup>3</sup> (Respirable Dust)
<b>PPE</b>	Wear dust-proof goggles and rubber or PVC gloves. Where an inhalation risk exists, wear a Class P2 respirator. If there is potential for prolonged and/or excessive skin contact, wear coveralls. At high dust levels, wear a Class P3 respirator or a Powered Air Purifying Respirator (PAPR) with Class P3 filter.





## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance</b>	Fine powder ranging in colour from grey to off-white	<b>Solubility (water)</b>	Slight, hardens on mixing with water
<b>Odour</b>	Odourless	<b>Specific Gravity</b>	2.5 to 3.2
<b>pH</b>	Approximately 12 (Alkaline)	<b>% Volatiles</b>	Not Available
<b>Vapour Pressure</b>	Not Available	<b>Flammability</b>	Non Flammable
<b>Vapour Density</b>	Not Available	<b>Flash Point</b>	Not Relevant
<b>Boiling Point</b>	Not Available	<b>Upper Explosion Limit</b>	Not Relevant
<b>Melting Point</b>	> 1200°C	<b>Lower Explosion Limit</b>	Not Relevant
<b>Evaporation Rate</b>	Not Available	<b>Autoignition Temperature</b>	Not Available
<b>Bulk Density</b>	1000 - 1600 kg/m <sup>3</sup>		
<b>Particle Size</b>	10 - 30% of particles are < 7 µm, ie in the respirable range		

## 10. STABILITY AND REACTIVITY

<b>Chemical Stability</b>	Chemically Stable
<b>Conditions to Avoid</b>	Keep free of moisture
<b>Incompatible Materials</b>	Incompatible with oxidising agents (eg hypochlorites), ethanol, acids (eg hydrofluoric acid) and interhalogens (eg chlorine trifluoride). Water contact may increase product
<b>Decomposition Products</b>	Unlikely to evolve toxic gases when heated to decomposition.
<b>Hazardous Reactions</b>	None

## 11. TOXICOLOGICAL INFORMATION

<b>Acute Toxicity</b>	No known toxicity data available for this product.
<b>Eye</b>	Irritant upon contact with powder/dust. Over exposure may result in pain, redness, corneal burns and ulceration with possible permanent damage.
<b>Inhalation</b>	Slightly corrosive. Irritating to the respiratory system, causing coughing and sneezing. Over exposure may result in severe mucous membrane irritation and bronchitis. Hexavalent chromium is reported to cause respiratory sensitisation, however due to the trace amount present, a hazard is not anticipated under normal conditions of use. Crystalline silica can cause silicosis (lung disease) with chronic over exposure, however due to low levels present and product application, adverse health effects are not anticipated.
<b>Skin</b>	Irritating to the skin. Prolonged and repeated contact with powder or wetted form may result in skin rash, dermatitis and sensitisation.
<b>Ingestion</b>	Slightly corrosive. Ingestion may result in burns to the mouth and throat, with vomiting and abdominal pain. Due to product form, ingestion is not considered a likely exposure route.
<b>Mutagenicity</b>	Insufficient data available for this product to classify as a mutagen.
<b>Carcinogenicity</b>	Portland Cement is not classified as a carcinogen by NOHSC. Crystalline silica and hexavalent chromium compounds are classified as carcinogenic to humans (IARC Group 1), however due to low levels present and product application, the criteria for classification is not met.



## 12. ECOLOGICAL INFORMATION

<b>Toxicity</b>	Product forms an alkaline slurry when mixed with water. This product is non toxic to aquatic life forms when present in cured solid form.
<b>Persistence &amp; Degradability</b>	Product is persistent and would have a low degradability.
<b>Mobility in soil</b>	A low mobility would be expected in a landfill situation.

## 13. DISPOSAL CONSIDERATIONS

<b>Waste Disposal</b>	Reuse or recycle where possible. Alternatively, ensure product is covered with moist soil to prevent dust generation and dispose of to an approved landfill site. Contact the manufacturer for additional information.
<b>Legislation</b>	Dispose of in accordance with relevant local legislation. Keep out of sewer and stormwater drains.

## 14. TRANSPORT INFORMATION

Not classified as a dangerous good by the criteria of the ADG Code.

Transport is by rail or road in bulk or bag form.

Drivers of trucks transporting bagged product should ensure that the bags are properly restrained.

<b>Shipping Name</b>	None Allocated	<b>Hazchem Code</b>	None Allocated	<b>Pkg Group</b>	None Allocated
<b>UN No</b>	None Allocated	<b>Subsidiary Risk(s)</b>	None Allocated	<b>EPG</b>	None Allocated
<b>DG Class</b>	None Allocated				

## 15. REGULATORY INFORMATION

<b>Poison Schedule AICS</b>	A poison schedule number has not been allocated to this product using the criteria in the Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP). All chemicals listed on the Australian Inventory of Chemical Substances (AICS).
-----------------------------	--

## 16. OTHER INFORMATION

**Additional Information** CEMENT CONTACT DERMATITIS: Individuals using wet cement, mortar, grout or concrete could be at risk of developing cement dermatitis. Symptoms of exposure include itchy, tender, swollen, hot, cracked or blistering skin with the potential for sensitisation. The dermatitis is due to the presence of soluble (hexavalent) chromium.

IARC – GROUP 1 – PROVEN HUMAN CARCINOGEN. This product contains an ingredient for which there is sufficient evidence to have been classified by the International Agency for Research into Cancer as a human carcinogen. The use of products known to be human carcinogens should be strictly monitored and controlled.

RESPIRATORS: In general the use of respirators should be limited and engineering controls employed to avoid exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.



## PORTLAND CEMENT

**PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:** The Recommendation for protective equipment contained within this SDS report is provided as a guide only. Factors such as method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

**HEALTH EFFECTS FROM EXPOSURE:** It should be noted that the effects from exposure to this product will depend on several factors including: frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare an SDS report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

**ABBREVIATIONS:**

mg/m<sup>3</sup> - Milligrams per cubic metre

ppm - Parts Per Million

ES-TWA - Exposure Standard - Time Weighted Average

CNS - Central Nervous System

NOS - Not Otherwise Specified

pH - relates to hydrogen ion concentration - this value will relate to a scale of 0 - 14, where 0 is highly acidic and 14 is highly alkaline.

CAS# - Chemical Abstract Service Number - used to uniquely identify chemical compounds.

IARC - International Agency for Research on Cancer.

**Report Status**

This document has been compiled by Cockburn Cement the manufacturer of the product and serves as the manufacturer's Safety Data Sheet ("SDS").

While Cockburn Cement has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, Cockburn Cement accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

**Contact Point**

For further information on this product contact:

Telephone: Office hours 08 9411 1000  
After hours 08 9411 1000  
Facsimile: 08 9411 1150  
Web site: <http://www.cockburn.com.au>

**Advice Note**

The information in this document is believed to be accurate. Please check the currency of this SDS by contacting:

08 9411 1000  
or  
<http://www.cockburncement.com.au> or [www.swancement.com.au](http://www.swancement.com.au)

The provision of this information should not be construed as a recommendation to use this product in violation of any patent rights or in breach of any statute or regulation. Users are advised to make their own determination as to the suitability of this information in relation to their particular purposes and specific circumstances. Users should read this SDS and consider the information in the context of how the product will be handled and used in the workplace and in conjunction with other substances or products.





## Safety Data Sheet Class G - Silica Blend D956

### 1. Identification of the substance/mixture and of the company/undertaking

#### 1.1 Product identifier

**Product name** Class G - Silica Blend D956  
**Product code** D956

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Recommended Use** Used as a cementing additive in oilfield applications

**Uses advised against** Consumer use

#### 1.3 Details of the supplier of the safety data sheet

##### Supplier

Schlumberger Oilfield Australia Pty Ltd  
ABN: 74 002 459 225  
ACN: 002 459 225  
256 St. Georges Terrace, Perth WA 6000  
+47 5157 7424

SDS@slb.com

#### 1.4 Emergency Telephone Number

**Emergency telephone** - (24 Hour) Australia +61 2801 44558, Asia Pacific +65 3158 1074, China +86 10 5100 3039, Europe +44 (0) 1235 239 670, Middle East and Africa +44 (0) 1235 239 671, New Zealand +64 9929 1483, USA 001 281 595 3518

### 2. Hazards Identification

#### 2.1 Classification of the substance or mixture

##### GHS Classification

##### Health hazards

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 1
Skin sensitization	Category 1B
Specific target organ toxicity - Single exposure	Category 3
Specific target organ toxicity - Repeated exposure	Category 2

**Environmental hazards** Not classified

**Physical Hazards** Not classified

## 2.2 Label elements



### Signal word

DANGER

### Hazard Statements

H315 - Causes skin irritation

H317 - May cause an allergic skin reaction

H318 - Causes serious eye damage

H335 - May cause respiratory irritation

H373 - May cause damage to organs through prolonged or repeated exposure

### Precautionary statements

P260 - Do not breathe dust/fume/gas/mist/vapors/spray

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water

P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P310 - Immediately call a POISON CENTER or doctor/physician

### Supplementary precautionary statements

P261 - Avoid breathing dust/fume/gas/mist/vapors/spray

P264 - Wash face, hands and any exposed skin thoroughly after handling

P271 - Use only outdoors or in a well-ventilated area

P272 - Contaminated work clothing should not be allowed out of the workplace

P332 + P313 - If skin irritation occurs: Get medical advice/attention

P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention

P362 + P364 - Take off contaminated clothing and wash it before reuse

P403 + P233 - Store in a well-ventilated place. Keep container tightly closed

P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

### Contains

Portland cement

Quartz, Crystalline silica

## 2.3 Other hazards

Not classified as PBT/vPvB by current EU criteria

### Australian statement of hazardous/dangerous nature

Classified as Hazardous according to the criteria of NOHSC.

HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

## 3. Composition/information on Ingredients

### 3.1 Substances

Not applicable

### 3.2 Mixtures

Chemical Name	EC No	CAS No	Weight-%
Portland cement	266-043-4	65997-15-1	60 - 80
Quartz, Crystalline silica	238-878-4	14808-60-7	10-30

**Comments**

This product contains a small quantity of quartz, crystalline silica. Prolonged and repeated exposure to concentrations of crystalline silica exceeding the workplace exposure limit (WEL) may lead to chronic lung disease such as silicosis. IARC Monographs, Vol. 68, 1997, concludes that there is sufficient evidence that inhaled crystalline silica in the form of quartz or cristobalite from occupational sources causes cancer in humans. IARC Classification Group I.

## 4. First Aid Measures

**4.1 First aid measures**

<b>Inhalation</b>	If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.
<b>Ingestion</b>	Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Seek medical attention if irritation occurs.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get medical attention if irritation persists.
<b>Eye Contact</b>	Promptly wash eyes with lots of water while lifting eye lids. Remove contact lenses, if worn. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.

**4.2. Most important symptoms and effects, both acute and delayed**

**General advice** The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible.

**Symptoms**

<b>Inhalation</b>	Please see Section 11. Toxicological Information for further information.
<b>Ingestion</b>	Please see Section 11. Toxicological Information for further information.
<b>Skin contact</b>	Please see Section 11. Toxicological Information for further information.
<b>Eye contact</b>	Please see Section 11. Toxicological Information for further information.

**4.3 Indication of any immediate medical attention and special treatment needed**

**Notes to physician** Treat symptomatically.

## 5. Fire-Fighting Measures

**5.1 Extinguishing media****Suitable extinguishing media**

Use extinguishing media appropriate for surrounding material.

**Extinguishing media which must not be used for safety reasons**

None known.

**5.2. Special hazards arising from the substance or mixture**

**Unusual fire and explosion hazards**

None known.

**Hazardous combustion products**

Thermal decomposition can lead to release of irritating gases and vapors. React with hydrofluoric acid (HF) forming toxic gas (SiF<sub>4</sub>).

**5.3 Advice for firefighters****Special protective equipment for fire-fighters**

As in any fire, wear self-contained breathing apparatus and full protective gear.

**Special Fire-Fighting Procedures**

Containers close to fire should be removed immediately or cooled with water.

**6. Accidental Release Measures****6.1. Personal precautions, protective equipment and emergency procedures**

Do not get on skin or clothing. Wash thoroughly after handling. Avoid dust formation. Do not breathe dust. Use personal protective equipment. See also section 8.

**6.2 Environmental precautions**

The product should not be allowed to enter drains, water courses or the soil.

**Environmental exposure controls**

Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

**6.3 Methods and material for containment and cleaning up****Methods for containment**

Prevent further leakage or spillage if safe to do so. Prevent dust cloud. Cover powder spill with plastic sheet or tarp to minimize spreading.

**Methods for cleaning up**

Do not dry sweep dust. Wet dust with water before sweeping or use a vacuum to collect dust. Pick up and transfer to properly labeled containers. Keep in suitable, closed containers for disposal. Clean contaminated surface thoroughly. After cleaning, flush away traces with water.

**6.4 Reference to other sections**

See section 13 for more information.

**7. Handling and Storage****7.1 Precautions for safe handling****Handling**

Handle in accordance with good industrial hygiene and safety practice. Do not breathe vapors/dust. Avoid contact with skin and eyes. Avoid handling causing generation of dust. Persons susceptible to allergic reactions should not handle this product.

**Hygiene Measures**

Use good work and personal hygiene practices to avoid exposure. Wash thoroughly with soap and water after handling and before eating, drinking, or using tobacco. Do not eat, drink or smoke when using this product. Remove contaminated clothing.

**7.2 Conditions for safe storage, including any incompatibilities**

<b>Technical measures/precautions</b>	Ensure adequate ventilation. Provide appropriate exhaust ventilation at places where dust is formed. Keep airborne concentrations below exposure limits.
<b>Storage precautions</b>	Keep containers tightly closed in a dry, cool and well-ventilated place Protect from moisture Store away from incompatibles, Powdered aluminum Oxidizing agents Hydrofluoric acid (HF) Strong bases Strong acids
<b>Storage class</b>	Chemical storage.
<b>Packaging materials</b>	Use specially constructed containers only.

## 8. Exposure Controls/Personal Protection

### 8.1 Control parameters

**Exposure limits** NUI = Nuisance dust, TWA 4mg/m<sup>3</sup> Respirable Dust, 10mg/m<sup>3</sup> Total Dust.

### Component Information

Chemical Name	Arabic	Australia	Egypt
Portland cement	10 mg/m <sup>3</sup> TWA	10mg/m <sup>3</sup> TWAINhalable dust	Not determined
Quartz, Crystalline silica	0.1 mg/m <sup>3</sup> TWA	0.1mg/m <sup>3</sup> TWarespirable dust	Not determined
Chemical Name	India	Indonesian	Japan
Portland cement	10 mg/m <sup>3</sup> TWA	10 mg/m <sup>3</sup> TWA	4 mg/m <sup>3</sup> OEL 1 mg/m <sup>3</sup> OEL
Quartz, Crystalline silica	Not determined	0.1 mg/m <sup>3</sup> TWA	Not determined
Chemical Name	Kazakhstan	Kuwait	New Zealand
Portland cement	Not determined	Not determined	10 mg/m <sup>3</sup> TWA
Quartz, Crystalline silica	1 mg/m <sup>3</sup> MAC	Not determined	0.1 mg/m <sup>3</sup> TWA Confirmed carcinogen
Chemical Name	Malaysia	Philippines	Russia
Portland cement	10 mg/m <sup>3</sup> TWA	Not determined	Not determined
Quartz, Crystalline silica	0.1 mg/m <sup>3</sup> TWA	Not determined	3 mg/m <sup>3</sup> STEL 1 mg/m <sup>3</sup> TWA Fibrogenic substance glass;regulated under Quartz 1123, 1124
Chemical Name	Thailand	Vietnam	Turkey
Portland cement	Not determined	Not determined	Not determined
Quartz, Crystalline silica	0.025 mg/m <sup>3</sup> TWA	Not determined	Not determined

### 8.2 Exposure controls

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

#### Engineering Controls

Ensure adequate ventilation Provide appropriate exhaust ventilation at places where dust is formed

#### Personal protective equipment

##### Eye protection

Use eye protection according to EN 166, designed to protect against powders and dusts  
Safety glasses with side-shields Tightly fitting safety goggles

##### Hand protection

Wear gloves according to EN 374 to protect against skin effects from powders Impervious gloves made of: Butyl Neoprene Nitrile Rubber Frequent change is advisable

##### Respiratory protection

In case of insufficient ventilation wear suitable respiratory equipment Suitable mask with particle filter P3 (European Norm 143) At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used.

<b>Skin and body protection</b>	Wear suitable protective clothing Eye wash and emergency shower must be available at the work place.
<b>Hygiene Measures</b>	Wash hands before breaks and immediately after handling the product Remove and wash contaminated clothing before re-use



### 8.2.3 Environmental exposure controls

<b>Environmental exposure</b>	Use appropriate containment to avoid environmental contamination See section 6 for more information
-------------------------------	---

## 9. Physical and Chemical Properties

### 9.1 Information on basic physical and chemical properties

<b>Physical state</b>	Solid
<b>Appearance</b>	Powder
<b>Odor</b>	Odorless
<b>Color</b>	Gray
<b>Odor threshold</b>	Not applicable

<u>Property</u>	<u>Values</u>	<u>Remarks</u>
<b>pH</b>	No information available	
<b>pH @ dilution</b>	11.0 - 13.5	
<b>Melting / freezing point</b>	> 1250 °C/ 2282 °F	
<b>Boiling point/range</b>	No information available	
<b>Flash point</b>	No information available	
<b>Evaporation rate (BuAc =1)</b>	No information available	
<b>Flammability (solid, gas)</b>	Not applicable	
<b>Flammability Limit in Air</b>		
<b>Upper flammability limit</b>	Not applicable	
<b>Lower flammability limit</b>	Not applicable	
<b>Vapor pressure</b>	No information available	
<b>Vapor density</b>	No information available	
<b>Specific gravity</b>	No information available	
<b>Bulk density</b>	No information available	
<b>Relative density</b>	2.75-3.20	
<b>Water solubility</b>	Slightly soluble in water.	
<b>Solubility in other solvents</b>	No information available	
<b>Autoignition temperature</b>	No information available	
<b>Decomposition temperature</b>	No information available	
<b>Kinematic viscosity</b>		
<b>Dynamic viscosity</b>	No information available	
<b>log Pow</b>	No information available	
<b>Explosive properties</b>	Not applicable	
<b>Oxidizing properties</b>	None known.	

### 9.2 Other information

<b>Pour point</b>	No information available
<b>Molecular weight</b>	No information available
<b>VOC content(%)</b>	No information available

**Density** No information available

**Comments**

The data listed above are typical physical and chemical properties and should not be construed as product specification.

## 10. Stability and Reactivity

### 10.1 Reactivity

React with hydrofluoric acid (HF) forming toxic gas (SiF<sub>4</sub>).

### 10.2 Chemical stability

Stable under normal temperature conditions and recommended use.

### 10.3 Possibility of Hazardous Reactions

#### **Hazardous polymerization**

Hazardous polymerization does not occur.

### 10.4 Conditions to avoid

Protect from moisture.

### 10.5 Incompatible materials

Powdered aluminum. Strong oxidizing agents. Hydrofluoric acid (HF). Strong acids. Strong bases.

### 10.6 Hazardous decomposition products

See Section 5.2.

## 11. Toxicological Information

### 11.1 Information on toxicological effects

#### **Acute toxicity**

#### **Inhalation**

Inhalation of dust may cause shortness of breath, tightness of the chest, a sore throat and cough. May cause respiratory irritation. Repeated or prolonged inhalation of crystalline silica dust can cause delayed lung injury, and other diseases, including silicosis and lung cancer.

#### **Eye contact**

Causes serious eye damage.

#### **Skin contact**

Causes skin irritation. Contact with moist skin may cause skin burns. May cause an allergic skin reaction.

#### **Ingestion**

Ingestion may cause irritation to mucous membranes.

#### **Unknown acute toxicity**

Not applicable.

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Portland cement	No data available	No data available	No data available
Quartz, Crystalline silica	= 500 mg/kg ( Rat )	No data available	No data available

**Sensitization** May cause allergic skin reaction.

<b>Mutagenic effects</b>	This product does not contain any known or suspected mutagens.
<b>Carcinogenicity</b>	Contains a known or suspected carcinogen. Crystalline silica dust is listed by IARC in Group 1 as known to cause lung cancer in humans, if inhaled.
<b>Reproductive toxicity</b>	This product does not contain any known or suspected reproductive hazards.
<b>Routes of exposure</b>	Ingestion. Inhalation. Skin contact. Eye contact.
<b>Routes of entry</b>	Inhalation. Ingestion.
<b>Specific target organ toxicity - Single exposure</b>	Category 3
<b>Specific target organ toxicity - Repeated exposure</b>	Category 2.
<b>Target organ effects</b>	Respiratory system. Lungs.
<b>Aspiration hazard</b>	Not applicable.
<b>Other information</b>	Key literature references and sources for data. See Section 16 for more information.

## 12. Ecological Information

### 12.1 Toxicity

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

#### Toxicity to algae

This product is not considered toxic to algae.

#### Toxicity to fish

This product is not considered toxic to fish.

#### Toxicity to daphnia and other aquatic invertebrates

This product is not considered toxic to invertebrates.

Chemical Name	Toxicity to fish	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates
Portland cement	No information available	No information available	No information available
Quartz, Crystalline silica	No information available	No information available	No information available

### 12.2 Persistence and degradability

No product level data available.

Chemical Name	Persistence and degradability
Quartz, Crystalline silica	Inorganic compound

### 12.3 Bioaccumulative potential

No product level data available.



Chemical Name	Bioaccumulation
Quartz, Crystalline silica	Product/Substance is inorganic

**12.4 Mobility****Mobility**

Slightly soluble in water.

**Mobility in soil**

No information available.

**12.5 Results of PBT and vPvB assessment**

Not classified as PBT/vPvB by current EU criteria.

**12.6 Other adverse effects.**

None known.

**12.7 Other information**

Key literature references and sources for data. See Section 16 for more information.

## 13. Disposal considerations

**13.1 Waste treatment methods**

**Waste from residues/unused products** Dispose of in accordance with local regulations.

**Contaminated packaging** Empty containers should be taken for local recycling, recovery or waste disposal.

## 14. Transport information

**14.1. UN number**

Not regulated

**14.2. UN proper shipping name**

The product is not covered by international regulation on the transport of dangerous goods

**14.3 Hazard class(es)**

<b>ADR/RID/ADN/ADG Hazard class</b>	Not regulated
<b>IMDG/ANTAQ Hazard class</b>	Not regulated
<b>ICAO/ANAC Hazard class/division</b>	Not regulated

**14.4 Packing group**

<b>ADR/RID/ADN/ADG Packing group</b>	Not regulated
<b>IMDG/ANTAQ Packing group</b>	Not regulated
<b>ICAO/ANAC Packing group</b>	Not regulated

**14.5 Environmental hazard**

No

**14.6 Special precautions**

None

**14.7 Transport in bulk according to Annex I/II of MARPOL 73/78 and the IBC Code**

Please contact SDS@slb.com for info regarding transport in Bulk.

**15. Regulatory Information****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture****The Globally Harmonized System of Classification and Labeling of Chemicals (GHS)****Australian Standard for the Uniform Scheduling of Drugs and Poisons**Portland cement  
Schedule 4  
Schedule 6  
Schedule 5**National Code of Practice for the Preparation of Material Safety Data Sheets 2nd Edition [NOHSC: 2011 (2003)].****National Occupational Health and Safety Commission's Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004) 3rd Edition].****National Occupational Health and Safety Commission's Exposure Standards for Atmospheric Contaminants in the occupational Environment [NOHSC:1003 (1995)].****Safe Work Australia.****Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).****Not classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG)****International inventories**

<b>USA (TSCA)</b>	Complies
<b>Canada (DSL)</b>	Complies
<b>Philippines (PICCS)</b>	Complies
<b>Japan (ENCS)</b>	Complies
<b>China (IECSC)</b>	Complies
<b>Australia (AICS)</b>	Complies
<b>Korean (KECL)</b>	Complies
<b>New Zealand (NZIoC)</b>	Complies

**16. Other Information****Prepared by** Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Muriel Martin Beurel**Supersedes Date:** 04-Aug-2016

**Revision date** 27-Jul-2018**Version** 5**This SDS has been revised in the following section(s)** All sections No changes with regard to classification have been made.**Key literature references and sources for data**

www.ChemADVISOR.com

Supplier

National Chemical Inventories

National regulatory information

National occupational exposure limits

**HMIS classification**

Health	3*
Flammability	1
Physical hazard	0
PPE	C

**Disclaimer**

The information contained herein is considered in good faith as reliable of the date issued and is based upon on measurements, tests or data derived from supplier's own study or furnished by others. In providing this SDS information, Supplier makes no express or implied warranties as to the information or product; merchantability or fitness of purpose; any express or implied warranty; or non-infringement of intellectual property rights; and supplier assumes no responsibility for any direct, special or consequential damages, results obtained, or the activities of others. To the maximum extent permitted by law, supplier's warranty obligations and buyer's sole remedies are as stated in separate agreement between the parties.

This Document is Confidential and Proprietary. Unless Otherwise Marked, It is an Uncontrolled Copy.



## Appendix B

### Environmental performance objectives, standards and measurement criteria

Aspect	Potential Impact	Environmental Protection Objective	Environmental Protection Standards	Measurement criteria
Flora and vegetation, habitat	Introduction and spread of weeds / dieback	No spread or introduction of weed species or dieback that is attributable to the Project.	No access into the adjacent UCL or areas of native vegetation.	Incident records demonstrate no incidences of access into areas of the adjacent UCL or areas of native vegetation.
			All Project activities, including vehicle and machinery movements, occur inside the Project Area or on existing roads and tracks.	Incident records demonstrate no incidences of Project activities, including vehicle and machinery movements, outside of the Project Area or existing roads and tracks.
			All Project activities undertaken in accordance with the landowner access agreement.	Incident records demonstrate compliance with landowner access agreement.
			All imported fill or construction material to be free from weeds and dieback on entry to the Project Area.	Fill or construction material delivery records indicate materials are certified "dieback and weed free".
			All vehicles, machinery, equipment and personnel to be clean on entry into the Project Area at Natta Road.	Hygiene records indicate all vehicles have been checked and cleaned on entry to the Project Area at Natta Road.
			The location of dieback and weeds within the Project Area visually identified and recorded as baseline, prior to construction activities commencing.	Environmental inspection records undertaken during the activity demonstrate no increase in occurrence of weeds above baseline.
			All personnel to be instructed (e.g. via inductions) on weed and dieback risks and correct hygiene procedures.	Induction records demonstrate 100% of site personnel have completed site specific inductions, that includes weed and dieback hygiene procedures.
	Loss of conservation significant flora or fauna habitat	No loss of conservation significant flora or fauna habitat as a result of the Project.	All Project activities undertaken in accordance with the landowner agreement.	Incident records demonstrate compliance with landowner access agreement.
			All Project activities, including vehicle and machinery movements, occur inside the Project Area or on existing roads and tracks.	Incident records demonstrate no incidences of Project activities, including vehicle and machinery movements, outside of the Project Area or existing roads and tracks
			No clearing of native vegetation or fauna habitat as a result of Project activities.	Incident records demonstrate no incidences of clearing of native vegetation or fauna habitat.
		All personnel instructed on conservation significant values of the Project Area and surrounding areas and related responsibilities via inductions.	Induction records demonstrate 100% of site personnel have completed site specific inductions, that includes conservation significant values and responsibilities.	

Aspect	Potential Impact	Environmental Protection Objective	Environmental Protection Standards	Measurement criteria
Fauna / stock	Fauna and stock mortalities/ disturbance	No conservation significant fauna or livestock deaths or disturbance attributable to Project activities.	All project vehicles to be operated within designated speed limits.	Incident records demonstrate no incidences of vehicles travelling in excess of Project Area designated speed limits.
			Site lighting directed towards operations.	Site inspection records confirm lighting directed towards operations.
			All vehicles and machinery to be fitted with noise control devices	Site inspection records confirm all vehicles and machinery fitted with noise control devices.
			All Project activities, including vehicle and machinery movements, occur inside the Project Area or on existing roads and tracks.	Incident records demonstrate no incidences of Project activities, including vehicle and machinery movements, outside of the Project Area or existing roads and tracks.
			Perimeter fencing installed around well site.	Site inspection records confirm fencing installed and maintained around the site perimeter and sumps, turkeys nests and the flare pit.
			Fencing installed around sumps, turkeys nest and the flare pit.	
			Fauna egress matting installed in all open water storage areas within the Project Area.	Site inspection records confirm egress matting installed and maintained in all open water storage areas within the Project Area.
			Site water storage areas inspected at least once daily for presence of fauna.	Site inspection records confirm no fauna trapped within site water storage areas.
			Project activities, other than those associated with drilling, well testing and completions to be conducted during daylight hours only.	Site inspection records confirm site activities undertaken during daylight hours.
			Pets and firearms prohibited from entry and/or use within the Project Area.	Incident records demonstrate no incidences of pets and firearms within the Project Area.
All personnel to be instructed on risks to fauna and livestock disturbance a result of site activities, including vehicle and machinery movements, water storage areas, and lighting.	Induction records show 100% of onsite personnel have completed site specific inductions that includes controls to prevent fauna/livestock disturbance or vehicle strike, including vehicle and machinery movements, water storage areas, and lighting.			
Attraction of fauna to waste receptacles and rubbish from Project left on site	No disposal of waste outside of waste receptables within the Project Area.	All putrescible waste stored in bins that have a tightly secured lid.	Daily inspection records confirm: <ul style="list-style-type: none"> <li>Putrescible wastes is stored in bins with secured lids.</li> <li>No visible wind-blown waste materials.</li> <li>No visible waste materials stored or disposed of outside of waste receptacles.</li> <li>No visible evidence of fauna feeding on Project wastes.</li> </ul>	

Aspect	Potential Impact	Environmental Protection Objective	Environmental Protection Standards	Measurement criteria
Fauna / stock	Attraction of fauna to waste receptacles and rubbish from Project left on site	No disposal of waste outside of waste receptacles within the Project Area.	All waste material disposed of to a licensed facility using a licensed waste contractor.	Waste disposal records confirm the use of a licensed waste contractor and licensed waste disposal facility.
			Well site perimeter fencing installed.	Site inspection records confirm fencing installed and maintained around the site perimeter.
		No access of fauna to Project operations area.	Well site perimeter fencing installed.	Site inspection records confirm fencing installed and maintained around the site perimeter.
	Disturbance to fauna [and people]	No noise or visual impact on surrounding landholders or native fauna.	Site lighting directed towards operations.	Site inspection records confirm lighting directed towards operations.
			All vehicles and machinery to be fitted with noise control devices.	Site inspection records confirm all vehicles and machinery fitted with noise control devices.
			All personnel will be instructed (e.g. via inductions) on risk of noise and visual impacts.	Induction records show 100% of onsite personnel have completed site specific inductions that includes stakeholder concerns and related responsibilities.
Air emissions	Generation of dust	Minimise fugitive dust emissions within the Project Area.	Screening or sheeting material to be spread over the well site and access road as part of site construction activities.	Site inspection records undertaken post construction confirm that screening or sheeting material has been spread over the well site and access road.
			All project vehicles to be operated within designated speed limits.	Incident records demonstrate no incidences of vehicles travelling in excess of Project Area designated speed limits.
			All personnel instructed on vehicle speeds on access roads and within operational areas via inductions.	Induction records demonstrate 100% of site personnel have completed site specific inductions, that includes site speed limits.
			All Project activities, including vehicle and machinery movements, occur inside the Project Area or on existing roads and tracks.	Incident records demonstrate no incidences of Project activities, including vehicle and machinery movements, outside of the Project Area or existing roads and tracks.
			Dust suppression techniques to be used within the Project Area to minimise windborne dust.	No complaints regarding windborne dust as a result of Project activities.
			Fuel usage volumes are recorded. Fuel usage will be as required to operate safely and effectively.	Emissions records demonstrate fuel usage volumes are recorded.

Aspect	Potential Impact	Environmental Protection Objective	Environmental Protection Standards	Measurement criteria
Air emissions	Greenhouse gas emissions	Reduce greenhouse gas emissions to ALARP.	The well is constructed and maintained in accordance with the Well Integrity Management Plan.	Site inspection records demonstrates that the well is constructed and operated in accordance with the Well Integrity Management Plan.
			Gas volumes flared are recorded. Gas volumes will be reduced to ALARP by maintaining well control during drilling and designing test flow periods to be as short as allowable to obtain the necessary reservoir data.	Emissions records demonstrate volume of gas flared is recorded.
			Fuel usage volumes are recorded. Fuel usage will be as required to operate safely and effectively.	Emissions records demonstrate fuel usage volumes are recorded.
Soil, surface water and groundwater	Erosion of soil	No soil erosion within the Project Area attributable to the Project.	Screening or sheeting material to be spread over the well site and access road as part of site construction activities.	Site inspection records undertaken post construction confirm that screening or sheeting material has been spread over the well site and access road.
			If soil erosion is visually identified within the Project Area, the following activities will be undertaken: <ul style="list-style-type: none"> <li>Civil equipment mobilised to repair and/or stabilise the site.</li> <li>Erosion fences installed where required to prevent further degradation.</li> <li>Erosion repair works visually monitored post rainfall events.</li> </ul>	Site inspection and incident records confirm all incidences of soil erosion have been repaired, with reporting to detail any erosion repair activities and to ongoing monitoring after rain events.
	Alteration of surface flows	No interruption to surface water flow within Project Area.	Stormwater drains, culverts or pipes to be installed as required to redirect surface flow as part of site construction activities.	Site inspection records to demonstrate the installation of surface flow management structures and confirm they are maintained free from blockages/obstructions.
			Site rehabilitated to remove all infrastructure, including drainage controls, to reinstate land suitable for former land use in accordance with landowner agreement.	Site inspection records undertaken post site demobilisation confirm removal of all site infrastructure, including drainage controls.



Aspect	Potential Impact	Environmental Protection Objective	Environmental Protection Standards	Measurement criteria
Soil, surface water and groundwater	Contamination of soil, groundwater or surface water resulting from - leaks or spills of hazardous materials (e.g. in refuelling, hydraulic line bursts, spills, etc.)	No contamination of soil (as defined in the Contaminated Sites Act 2003 (CS Act)); or groundwater; or surface water as a result of operational activities.	All vehicles and machinery will only be refuelled, serviced or maintained where spill containment is in use.	Weekly Site inspection records confirm spill kits and containment are in place for all vehicle and machinery refuelling service and maintenance areas.
			Spill response equipment will be readily available during all refuelling activities.	Site inspection records confirm spill kits are readily available during refuelling activities.
			Hazardous materials will be stored in containment facilities designed to hold 110% of the capacity of the largest container or 25% of the total, whichever is greater (e.g. banded areas; leak proof trays).	Weekly Site inspection records confirm all hazardous materials and including contaminated wastes, are stored in accordance with the specified environmental performance standard.
			Storage containers will be closed when not in use.	Weekly Site inspection records confirm storage containers are closed when not in use.
			Storage containers labelled with the technical product name as per the Safety Data Sheet.	Weekly Site inspection records confirm storage containers are labelled with the technical product name as per the Safety Data Sheet.
			Spill response equipment will be readily available at site of hazardous material storage or use.	Weekly Site inspection records confirm spill response equipment will be readily available at site of hazardous material storage or use.
			All spills are recorded in the spills register.	The spills register confirms all spill events have been recorded, including details of clean up measures.
			The flare pit is monitored by site personnel during flaring activities.	Site inspection records demonstrate that the flare pit is monitored during flaring activities.
			The water level in the sump and flare pits is monitored during and after high rainfall events while drilling is occurring.	Incident records demonstrate no overflow events from sumps or flare pits during or after high rainfall events.
			Drilling program to be undertaken by qualified drilling contractors in accordance with Project environmental approvals and permits, including this EP.	Internal audit records demonstrate Contractor compliance with the requirements of Project environmental approvals and permits, including this EP.
Cuttings from water-based drilling are discharged into a lined sump located on the well site.	Site inspection records confirm that cuttings from water-based drilling are discharged into a lined sump located on the well site.			

Aspect	Potential Impact	Environmental Protection Objective	Environmental Protection Standards	Measurement criteria
Soil, surface water and groundwater	Contamination of soil, groundwater or surface water resulting from - leaks or spills of hazardous materials (e.g. in refuelling, hydraulic line bursts, spills, etc.)	No contamination of soil (as defined in the CS Act; or groundwater; or surface water as a result of operational activities.	Only fluids and chemicals listed within the DMIRS approved Project Chemical Disclosure (WER-HSE-PGK-001 R1) to be stored and used on site.	Site inspection records confirm only fluids and chemicals listed within the DMIRS approved site Project Chemical Disclosure (WER-HSE-PGK-001 R1) are stored and used on site.
			Water based muds only to be used on site.	Site inspection records confirm the use of WBM during drilling.
			For testing, the first half of the flare pit (repurposed turkey's nest) will have a layer of laterite with a bentonite cover installed.	Site inspection records confirm that for testing, the first half of the flare pit is lined with a layer of laterite with a bentonite cover installed
			Entrained fluids to be separated and removed from gas prior to flaring.	Site inspection records confirm that liquid is separated from the gas and removed prior to flaring by either: <ul style="list-style-type: none"> <li>• Low pressure degasser applied during drilling.</li> <li>• A gauge tank for initial well unloading.</li> <li>• A test separator applied during well testing if required.</li> </ul>
			The soil remaining in all sumps and the flare pit to be tested for presence of contaminants upon completion of operations prior to backfill.	Results of testing of material in sumps/bunds prior to backfilling/rehabilitation demonstrate contaminant levels in the material are acceptable to remain in pit for backfilling.
			All equipment, plant and materials and facilities removed from the site, other than those retained at the request of the landowner.	Site inspection and incident records following decommissioning confirm removal of vehicles, equipment, plant and materials and facilities from the well site.
			The site to be returned to pre-disturbance condition in accordance with land-owner access agreement.	Site inspection records undertaken upon completion of site activities confirm no site contamination evident.
			Soil remaining in all sumps and the flare pit to be tested for presence of contaminants upon completion of operations prior to backfill.	Results of testing of material in sumps / bunds prior to backfilling/rehabilitation demonstrate contaminant levels in the material are acceptable to remain in pit for backfilling.
			All contaminated and other waste material will be disposed of to a licensed facility using a licensed contractor.	Waste disposal records confirm the use of a licensed waste contractor and licensed waste disposal facility.

Aspect	Potential Impact	Environmental Protection Objective	Environmental Protection Standards	Measurement criteria
Soil, surface water and groundwater	Contamination of soil, groundwater or surface water resulting from - leaks or spills of hazardous materials (e.g. in refuelling, hydraulic line bursts, spills, etc.)	No contamination of soil (as defined in the CS Act; or groundwater; or surface water as a result of operational activities.	No spills outside of secondary containment.	Daily site inspection checklist confirms there is no evidence of spills outside of secondary containment.
			All spills are recorded and immediately cleaned up in accordance with the Project specific OSCP (WER-HSE-PLN-001) and ERP [WAO-HSE-PLN-001].	Daily site inspection checklist confirms there is no evidence of spills that have not been responded to and cleaned up in accordance with OSCP (WER-HSE-PLN-001) and ERP [WAO-HSE-PLN-001].
			All spills are recorded in the spills register.	The spills register confirms all spill events have been recorded, including details of clean up measures.
			Operations personnel will be trained in spill response and will undertake drills in accordance with the OSCP (WER-HSE-PLN-001) and ERP [WAO-HSE-PLN-001].	Training and drill records will verify that operators are trained and competent in emergency and spill response.
			All personnel to be instructed (e.g. via inductions) on spill response procedures and responsibilities.	Induction records show 100% of onsite personnel have completed site specific inductions that includes spill response procedures and responsibilities.
			Groundwater monitoring undertaken in accordance with the Groundwater Monitoring Plan [WER03-HSE-PLN-005].	Results of quarterly groundwater monitoring demonstrates there has been no groundwater contamination as a result of Project activities.
			The quarterly groundwater monitoring program to continue in accordance with the Groundwater Monitoring Plan.	Results of quarterly groundwater monitoring undertaken following decommissioning, demonstrates that groundwater contamination as a result of Project activities has been ameliorated to the satisfaction of DMIRS.
		No unplanned releases of hazardous materials to the environment resulting from loss of well control.	The well is constructed and maintained in accordance with the Well Integrity Management Plan.	Site inspection records demonstrates that the well is constructed and operated in accordance with the Well Integrity Management Plan.
			The well is constructed and maintained in accordance with the Well Integrity Management Plan (STD-COE-PLN-003).	Site inspection records demonstrates that the well is constructed and operated in accordance with the Well Integrity Management Plan (STD-COE-PLN-003).
			Well site physically inspected at least quarterly during well suspension period.	Site inspection and incident records for the well suspension period confirm no incidents involving loss of well control.

Aspect	Potential Impact	Environmental Protection Objective	Environmental Protection Standards	Measurement criteria
Soil, surface water and groundwater	Contamination of soil, groundwater or surface water resulting from - leaks or spills of hazardous materials (e.g. in refuelling, hydraulic line bursts, spills, etc.)	No unplanned releases of hazardous materials to the environment resulting from loss of well control.	All spills are recorded and immediately cleaned up in accordance with the Project specific OSCP.	Daily site inspection checklist confirms there is no evidence of spills that have not been responded to and cleaned up in accordance with OSCP.
			All vehicles, equipment, plant and materials removed from the well site during well suspension.	Site inspection and incident records for the well suspension period confirm removal of vehicles, equipment, plant and materials removed from the well site.
	Contamination of soil, surface waters or groundwater resulting from leaks or spills from sewage systems	No contamination of soil (as defined in the CS Act; or groundwater; or surface water as a result of operational activities.	Effluent discharged to an approved on-site wastewater treatment system that discharges to an irrigation field for disposal of treated wastewater.	Weekly site inspection records and incident records confirm that there are no incidences of leaks or spills from the on-site wastewater treatment system.
			All contaminated waste material disposed of to a licensed facility using a licensed contractor.	Waste disposal records confirm the use of a licensed waste contractor and licensed waste disposal facility.

Aspect	Potential Impact	Environmental Protection Objective	Environmental Protection Standards	Measurement criteria
Fire	Fire	No fires as a result of Project activities.	Fire-fighting equipment will be maintained within operational areas at all times.	Site inspection records confirm firefighting equipment is maintained within operational areas.
			All vehicles and machinery on site, will be operated on diesel fuel.	Site inspection records confirm all vehicles and machinery present on site are diesel fuelled.
			Smoking only allowed in designated smoking areas.	Weekly site inspection records confirm smoking only undertaken within designated areas.
			All Project activities, including vehicle and machinery movements, occur inside the Project Area or on existing roads and tracks.	Incident records demonstrate no incidences of Project activities, including vehicle and machinery movements, outside of the Project Area or existing roads and tracks.
			Drilling program to be undertaken by qualified drilling contractors in accordance with Project environmental approvals and permits, including this EP.	Internal audit records demonstrate Contractor compliance with the requirements of Project environmental approvals and permits, including this EP.
			A blowout preventer to be installed after cementing the surface casing, for the duration of drilling.	Site inspection records confirm the installation and maintenance of blowout preventer after cementing the surface casing, during drilling.
			A 20 m fire break maintained around the well site during Project activities.	Weekly site inspection records confirm a 20m firebreak is maintained around the well site.
			The flare pit to be monitored during flaring.	Daily inspection and incident records confirm no incidents of fire resulting from use of the flare pit during flaring.
			A pilot light, automatic sparker or other measure installed as part of the flare system.	Daily inspection and incident records confirm no incidents of loss of ignition during flaring.
			The flare to be oriented horizontally and located within an earthen bund.	Site inspection records demonstrate that the flare pit is monitored during flaring activities.
Operations personnel will be trained in accordance with the ERP.	Training and drill records will verify that operators are trained in accordance with the ERP.			
Strike Energy will consult with local fire authorities regarding local fire risks prior to, and during operations.	Stakeholder consultation records confirm consultation between Strike Energy and the Contract Manager and the local fire authorities, prior to and during operations.			

Aspect	Potential Impact	Environmental Protection Objective	Environmental Protection Standards	Measurement criteria
Fire	Fire	No damage to well infrastructure.	The well constructed and maintained and suspended in accordance with the following standards as per the Well Integrity Management Plan.	Site inspection records demonstrates that the well is suspended accordance with the Well Integrity Management Plan.
			A 20 m fire break maintained around the well site during Project activities.	Site inspection and incident records for the well suspension period confirm maintenance of 20m firebreak around the well site.
			Well site physically inspected at least quarterly during well suspension period.	Site inspection and incident records for the well suspension period confirm no incidents involving fire.
			All vehicles, equipment, plant and materials removed from the well site during well suspension.	Site inspection and incident records for the well suspension period confirm removal of vehicles, equipment, plant and materials removed from the well site.
Infrastructure	Damage to well infrastructure	No damage to well infrastructure.	Well site perimeter fencing and signage maintained during well suspension.	Site inspection records confirm no damage to well infrastructure. Any evidence of damage to be recorded and repaired as soon as possible.
			Well site physically inspected at least quarterly during well suspension period.	Site inspection and incident records for the well suspension period confirm no incidents involving fire.
			All vehicles, equipment, plant and materials removed from the well site during well suspension.	Site inspection and incident records for the well suspension period confirm removal of vehicles, equipment, plant and materials removed from the well site.
	Damage to landowner's infrastructure	No damage to, or loss of, third-party infrastructure as a result of Project activities.	Site personnel restricted to Project Area at all times.	Site inspection, incident and complaint records confirm no damage to, or loss of, third party infrastructure as a result of Project activities.

Aspect	Potential Impact	Environmental Protection Objective	Environmental Protection Standards	Measurement criteria
Heritage	Disturbance to indigenous or non-indigenous heritage sites	No disturbance to indigenous or non-indigenous heritage sites as a result of Project activities.	No access into the adjacent UCL or areas of native vegetation.	Incident records demonstrate no incidences of access into areas of the adjacent UCL or areas of native vegetation.
			All Project activities undertaken in accordance with the landowner agreement.	Incident records demonstrate compliance with landowner access agreement.
			All Project activities, including vehicle and machinery movements, occur inside the Project Area or on existing roads and tracks.	Incident records demonstrate no incidences of Project activities, including vehicle and machinery movements, outside of the Project Area or existing roads and tracks.
			All personnel will be instructed (e.g. via inductions) on heritage values and significant values and related responsibilities.	Induction records show 100% of onsite personnel have completed site specific inductions that includes heritage values and significant values and related responsibilities.
Amenity	Disturbance to surrounding landholders (noise/visual impacts)	No noise or visual impact on surrounding landholders [or native fauna].	Site lighting directed towards operations.	Site inspection records confirm lighting directed towards operations.
			All vehicles and machinery to be fitted with noise control devices	Site inspection records confirm all vehicles and machinery fitted with noise control devices.
			The flare to be oriented horizontally and located within an earthen bund.	Site inspection records demonstrate that the flare pit is monitored during flaring activities.
			Strike Energy undertakes consultation with identified stakeholders prior to and during operations.	Records of stakeholder consultation demonstrate that the Shire, local residents and landowners have been informed of project activities prior to commencement.
				Complaints records demonstrate that: <ul style="list-style-type: none"> <li>All complaints are addressed directly with the complainant with within 1 week of receipt of the complaint.</li> <li>No unresolved complaints from surrounding landholders.</li> </ul>
			All Project activities undertaken in accordance with the landowner agreement.	Incident records demonstrate compliance with landowner access agreement.
All personnel will be instructed (e.g. via inductions) on risk of noise and visual impacts.	Induction records show 100% of onsite personnel have completed site specific inductions that includes stakeholder concerns and related responsibilities.			

Aspect	Potential Impact	Environmental Protection Objective	Environmental Protection Standards	Measurement criteria
Amenity	Unauthorised access to surrounding landowners by Project personnel	No disruption to surrounding landowners and local residents attributable to Project activities.	All Project activities, including vehicle and machinery movements, occur inside the Project Area or on existing roads and tracks.	Incident records demonstrate no incidences of Project activities, including vehicle and machinery movements, outside of the Project Area or existing roads and tracks.
	Breach of landowner's agreement		All Project activities undertaken in accordance with the landowner agreement.	Site inspection, Incident and complaint records demonstrate no incidences of non-compliance with landowner access agreement.
	Damage to landowner's infrastructure		Site personnel restricted to Project Area at all times.	Site inspection, incident and complaint records confirm no damage to, or loss of, third party infrastructure as a result of Project activities.
	Disruption to landowners and/or local residents	No disruption to surrounding landowners and local residents attributable to Project activities.	Stakeholder consultation is undertaken in accordance with Stakeholder Management Plan.	Records of stakeholder consultation demonstrate that the Shire, local residents and landowners have been informed of project activities prior to commencement, during and upon completion.
			No community complaints attributable to Project activities.	Complaints records demonstrate that: <ul style="list-style-type: none"> <li>All complaints are addressed directly with the complainant with within 1 week of receipt of the complaint.</li> <li>No unresolved complaints from surrounding landholders.</li> </ul>
			All personnel instructed on landowner and stakeholder sensitivities and related responsibilities (including traffic management).	Induction records demonstrate 100% of site personnel have completed site specific inductions, that includes stakeholder sensitivities and related responsibilities (including traffic management).
	Additional vehicles on local roads causing disruption to local traffic	No disruption to local traffic attributable to Project activities.	No community complaints attributable to Project vehicle activities on local roads.	Complaints records demonstrate that: <ul style="list-style-type: none"> <li>All complaints are addressed directly with the complainant with within 1 week of receipt of the complaint.</li> <li>No unresolved complaints from surrounding landholders/local residents.</li> </ul>



© JBS&G Australia Pty Ltd T/A Strategen-JBS&G

This document is and shall remain the property of Strategen-JBS&G. The document may only be used for the purposes for which it was commissioned and in accordance with the Terms of Engagement for the commission. Unauthorised use of this document in any form whatsoever is prohibited.

**Document Distribution**

Rev No.	Copies	Recipient	Date
5	1 x Electronic	G Heinjus (Strike Energy)	09/06/2020

