Safety Data Sheet
DUO-VIS*

1. Identification of the Substance/Preparation and of the Company/Undertaking

1.1 Product identifier

Product name DUO-VIS*
Product code PID510

1.2 Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Viscosifier.

Uses advised against Consumer use

1.3 Details of the supplier of the safety data sheet

Supplier
M-I Drilling Fluids UK Limited
Westhill Business Park
Westhill AB32 6JL Aberdeenshire
Scotland United Kingdom

+47 51577424

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 001 281 561 1600

National Poison Center Numbers

Germany	+49 69 222 25285

2. Hazards Identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP] Commission Regulation (EU) No 2015/830 of 28 May 2015

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.
EU Specific Hazard Statements
EUH208 - Contains (Glyoxal). May produce an allergic reaction

Precautionary Statements
This product is not classified as hazardous therefore has no (P) precautionary statements assigned.

-

Contains
Glyoxal

2.3 Other hazards

Not classified as PBT/vPvB by current EU criteria
Product dust may be irritating to eyes, skin and respiratory system
Suspended dust may present a dust explosion hazard

3. Composition/information on Ingredients

3.1 Substances

Not applicable

3.2 Mixtures

Chemical Name	EC No	CAS No	Weight-%	Component information	REACH registration number
Glyoxal	203-474-9	107-22-2	<1	Acute Tox. 4 (H332) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) Skin Sens. 1B (H317) Muta. 2 (H341) STOT SE 3 (H335)	Exempt

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 symptoms occur.

Eye Contact — 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

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.

Ingestion — Please see Section 11. Toxicological Information for further information.

Skin contact — 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. Firefighting Measures

5.1 Extinguishing media

Suitable extinguishing media
Water Fog, Alcohol Foam, CO_2, Dry Chemical.

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).

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. Material becomes slippery when wet. Use caution if wet.

6.2 Environmental precautions

Disposal should be in accordance with applicable regional, national and local laws and regulations. Refer to applicable federal, state and local regulations.

Environmental exposure controls
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 minimise spreading. Prevent further leakage or spillage if safe to do so.

Methods for cleaning up
Take precautionary measures against static discharges. Sweep up and shovel into suitable containers for disposal. Avoid dust formation. 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. Persons susceptible to allergic reactions should not handle this product.

Hygiene Measures
Use good work and personal hygiene practices to avoid exposure Do not eat, drink or smoke when using this product 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. Take precautionary measures against static discharges. Keep

airborne concentrations below exposure limits.

Storage precautions Keep containers tightly closed in a dry, cool and well-ventilated place Suspended dust may present a dust explosion hazard Avoid heat, flames and other sources of ignition. Protect from moisture Avoid contact with: Strong oxidising agents

Storage class Chemical storage.

Storage class, TRGS 510, Germany LGK11 - Combustible solids

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

Exposure Limits No biological limit allocated

Component Information

Chemical Name	EU OEL - Third List	Austria	Denmark
Glyoxal	Not determined	Not determined	0.2 ppm Ceiling 0.5 mg/m³ Ceiling
Chemical Name	**France**	**Germany**	**Hungary**
Glyoxal	Not determined	Not determined	Not determined
Chemical Name	**Italy**	**Netherlands**	**Norway**
Glyoxal	Not determined	Not determined	Not determined
Chemical Name	**Poland**	**Portugal**	**Romania**
Glyoxal	Not determined	0.1 mg/m³ TWA inhalable fraction, aerosol and vapor	Not determined
Chemical Name	**Spain**	**Switzerland**	**UK**
Glyoxal	0.1 mg/m³ TWA VLA-ED	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. Local exhaust ventilation.

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 Use protective gloves made of: Butyl Neoprene Nitrile Frequent change is advisable

Respiratory protection No personal respiratory protective equipment normally required, In case of insufficient ventilation wear suitable respiratory equipment, Half mask with a particle filter P2 (BS EN

	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 Dust
Odour	Mild
Colour	Cream - Tan
Odour threshold	Not applicable

Property	Values	Remarks
pH	Not applicable	
pH @ dilution	7	@ 1% sol.
Melting / freezing point	No information available	
Boiling point/range	No information available	
Flash point	No information available	
Evaporation rate	No information available	
Flammability (solid, gas)	Not applicable	
Flammability Limit in Air		
Upper flammability limit	Not applicable	
Lower flammability limit	Not applicable	
Vapour pressure	No information available	
Vapour density	No information available	
Specific gravity	1.5	20 °C
Bulk density	50 lb/ft³ (800 kg/m³)	
Relative density	No information available	
Water solubility	Soluble in water	
Solubility in other solvents	No information available	
Autoignition temperature	> 200 °C / > 392 °F	
Decomposition temperature	No information available	
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

Oxidising 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 polymerisation
Hazardous polymerisation does not occur.

10.4 Conditions to avoid

Take precautionary measures against static charges. Avoid dust formation. Heat, flames and sparks. Protect from moisture.

10.5 Incompatible materials

Strong oxidising agents.

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.

Eye contact Dust may cause mechanical irritation.

Skin contact Prolonged contact may cause redness and irritation.

Ingestion Ingestion may cause stomach discomfort.

Unknown acute toxicity Not applicable.

Toxicology data for the components

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Glyoxal	= 200 mg/kg (Rat)	= 12700 mg/kg (Rabbit)	= 2410 mg/m³, 3-4 hrs

Sensitisation EUH208 - Contains (Glyoxal). May produce an allergic reaction.

Mutagenic effects Contains an known or suspected mutagen.

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.

Routes of entry Inhalation.

Specific target organ toxicity - Single exposure Not classified

Specific target organ toxicity - Repeated exposure Not classified.

Aspiration hazard Not applicable.

Other information 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
Glyoxal	= 215 mg/L LC50 Pimephales promelas 96 h 460 - 680 mg/L LC50 Leuciscus idus 96 h	<= 348.59 mg/L EC50 Pseudokirchneriella subcapitata 96 h > 500 mg/L EC50 Desmodesmus subspicatus 96 h > 500 mg/L EC50	= 404 mg/L EC50 Daphnia magna 48 h

		Desmodesmus subspicatus 72 h	

12.2 Persistence and degradability

The product contains substances which are not expected to be biodegradable. See component information below.

Chemical Name	Persistence and degradability
Glyoxal	Readily biodegradable

12.3 Bioaccumulative potential

Does not bioaccumulate. See component information below.

Chemical Name	Bioaccumulation
Glyoxal	Not likely to bioaccumulate - Bioconcentration factor (BCF) 2.155

12.4 Mobility

Mobility
Soluble in water. See component information below.

Chemical Name	Mobility
Glyoxal	Soluble in water

Mobility in soil
See component information below.

Chemical Name	Mobility in soil
Glyoxal	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 to an approved waste handling site for recycling or disposal.
EWC Waste Disposal No	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 01 99.

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 Hazard class	Not regulated
ICAO Hazard class/division	Not regulated

14.4 Packing group

ADR/RID/ADN/ADG Packing Group	Not regulated
IMDG Packing group	Not regulated
ICAO 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

Germany, Water Endangering Classes (VwVwS)	Water endangering class = 1
Technical Rules for Hazardous Substances (TRGS)	TRGS 220 National aspects when compiling safety data sheets TRGS 510 Storage of hazardous substances in non stationary containers TRGS 900 Occupational exposure limits

Germany
Regulations governing systems for handling substances hazardous to waters
Chemicals act

Commission Regulation (EU) 2015/830 of 28 May 2015 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, 2000/21/EC and 453/2010 including amendments.

This safety data sheet complies with the requirements of Regulation (EC) No. 1272/2008.

Dutch Mining Regulations: In accordance with Mining Regulations 9.2 and Chapter 4 of the Working Conditions Decree.

International inventories

USA, Toxic Substances Control Act inventory (TSCA)	Complies
Canada (DSL)	Complies
Philippines (PICCS)	Complies
Inventory - Japan - Existing and New Chemicals list	Complies
China (IECSC)	Complies
Australia (AICS)	Complies
Korea (KECL)	Complies
Inventory - New Zealand - Inventory of Chemicals (NZIoC)	Complies

Europe - REACH
All products supplied from the European Economic Area (EEA) are compliant with the REACH Regulation EC 1907/2006.For products supplied from the EEA, Schlumberger and/or its suppliers have pre-registered and is registering all of the substances that it and/or its suppliers manufactures in or imports into the EEA that are subject to Title II of the REACH Regulation. All products supplied from outside the EEA are subject to REACH only if imported into the EEA. The importer of the products must comply with REACH for each imported substance. Contact REACH@slb.com for REACH information.

15.2 Chemical Safety Report

No information available

16. Other Information

Prepared by	Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Anne Karin (Anka) Fosse
Supercedes Date:	09/Jul/2018
Revision date	16/Nov/2018
Version	12
This SDS has been revised in the following section(s)	2, 6, 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

Training Advice
Do not handle until all safety precautions have been read and understood
Follow general hygiene considerations recognised as common good workplace practices

HMIS classification

Health	0
Flammability	1
Physical hazard	0
PPE	E

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.

H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H319 - Causes serious eye irritation
H332 - Harmful if inhaled
H335 - May cause respiratory irritation
H341 - Suspected of causing genetic defects if inhaled
EUH208 - Contains (Glyoxal). May produce an allergic reaction

*A mark of M-I L.L.C., a Schlumberger Company

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Flowzan® Biopolymer

Version 1.14 Revision Date 2021-10-21

According to Regulation (EC) No. 1907/2006, Regulation (EC) No. 2015/830

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1

Product information

Product Name : Flowzan® Biopolymer
Material : 1123442, 1016765, 1016826, 1016827

1.2

Relevant identified uses of the substance or mixture and uses advised against

Relevant Identified Uses Supported : Drilling Fluid Additive

1.3

Details of the supplier of the safety data sheet

Company : Chevron Phillips Chemical Company LP
Drilling Specialties Company LLC
10001 Six Pines Drive
The Woodlands, TX 77380

Local : Chevron Phillips Chemicals International N.V.
Airport Plaza (Stockholm Building)
Leonardo Da Vincilaan 19
1831 Diegem
Belgium

SDS Requests: (800) 852-5530
Responsible Party: Product Safety Group
Email:sds@cpchem.com

1.4

Emergency telephone:

Health:
866.442.9628 (North America)
1.832.813.4984 (International)
Transport:
CHEMTREC 800.424.9300 or 703.527.3887(int'l)
Asia: CHEMWATCH (+612 9186 1132) China: 0532 8388 9090
EUROPE: BIG +32.14.584545 (phone) or +32.14583516 (telefax)
Mexico CHEMTREC 01-800-681-9531 (24 hours)
South America SOS-Cotec Inside Brazil: 0800.111.767 Outside Brazil: +55.19.3467.1600

Argentina: +(54)-1159839431

Responsible Department	:	Product Safety and Toxicology Group
E-mail address	:	SDS@CPChem.com
Website	:	www.CPChem.com

SECTION 2: Hazards identification

2.1

Classification of the substance or mixture
REGULATION (EC) No 1272/2008

Not a hazardous substance or mixture.

2.2

Labeling (REGULATION (EC) No 1272/2008)

Not a hazardous substance or mixture.

SECTION 3: Composition/information on ingredients

3.1 - 3.2
Substance or Mixture

Synonyms	:	None Established
Molecular formula	:	Mixture

Contains no hazardous ingredients according to GHS. :

Remarks : Contains no hazardous ingredients according to GHS.

SECTION 4: First aid measures

4.1

Description of 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	:	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.

SECTION 5: Firefighting measures

Flash point	:	Not applicable
Autoignition temperature	:	No data available

5.1
Extinguishing media

Unsuitable extinguishing media	:	High volume water jet.

5.2
Special hazards arising from the substance or mixture

Specific hazards during fire fighting	:	Risks of ignition followed by flame propagation or secondary explosions can be caused by the accumulation of dust, e.g. on floors and ledges.

5.3
Advice for firefighters

Special protective equipment for fire-fighters	:	Wear self-contained breathing apparatus for firefighting 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	:	Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard. Provide appropriate exhaust ventilation at places where dust is formed.
Hazardous decomposition products	:	No data available.

SECTION 6: Accidental release measures

6.1
Personal precautions, protective equipment and emergency procedures

Personal precautions	:	Avoid dust formation.

6.2
Environmental precautions

Environmental precautions	:	If the product contaminates rivers and lakes or drains inform respective authorities.

6.3
Methods and materials for containment and cleaning up

Methods for cleaning up	:	Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.
Additional advice	:	Special exposure hazards arising from the substance or mixture itself, combustion products, resulting gases Contaminated surfaces will be extremely slippery. Avoid spillage on floor as the product can become very slippery when wet. Sweep up to prevent slipping hazard. Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration.

6.4
Reference to other sections

Reference to other sections	:	For personal protection see section 8. For disposal

considerations see section 13.

SECTION 7: Handling and storage

7.1

Precautions for safe handling
Handling

Advice on safe handling	:	For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Electrostatic charge may accumulate and create a hazardous condition when handling this material. To minimize this hazard, bonding and grounding may be necessary, but may not by themselves be sufficient.
Advice on protection against fire and explosion	:	Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard. Provide appropriate exhaust ventilation at places where dust is formed.

7.2

Conditions for safe storage, including any incompatibilities

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

8.1

Control parameters
Ingredients with workplace control parameters

SE

Beståndsdelar	Grundval	Värde	Kontrollparametrar	Anmärkning
Saturated monocarboxylic acid, calcium salt	SE AFS	NGV	5 mg/m3	Totalt damm

PT

Componentes	Bases	Valor	Parâmetros de controlo	Nota
Calcium Stearate	PT OEL	VLE-MP	10 mg/m3	A4,

A4 Agente não classificável como carcinogénico no Homem.

LT

Komponentai	Šaltinis	Vertė	Kontrolės parametrai	Pastaba
Saturated monocarboxylic acid, calcium salt	LT OEL	IPRD	5 mg/m3	

IE

Components	Basis	Value	Control parameters	Note
Calcium Stearate	IE OEL	OELV - 8 hrs (TWA)	10 mg/m3	

ES

Componentes	Base	Valor	Parámetros de control	Nota
Saturated monocarboxylic acid, calcium salt	ES VLA	VLA-ED	10 mg/m3	

BE

Bestanddelen	Basis	Waarde	Controleparameters	Opmerking
Saturated monocarboxylic acid, calcium salt	BE OEL	TGG 8 hr	10 mg/m3	

8.2

Exposure controls
Engineering measures

Adequate ventilation to control airborned 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. Wear a NIOSH approved respirator that provides protection when working with this material if exposure to harmful levels of airborne material may occur, such as:. Air-Purifying Respirator for Dusts and Mists / P100. Use a positive pressure, air-supplying respirator if there is potential for uncontrolled release, aerosolization, exposure levels are not known, or other circumstances where air-purifying respirators may not provide adequate protection.

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. Safety glasses.

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

9.1

Information on basic physical and chemical properties

Appearance

Form : Powder
Physical state : solid
Color : Cream to light yellow

Odor	:	Slight
Odor Threshold	:	No data available

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	:	5,5 - 8,5 (as aqueous solution)
Pour point	:	No data available
Boiling point/boiling range	:	Not applicable
Vapor pressure	:	Not applicable
Relative density	:	1,4 - 1,6
Water solubility	:	Completely Soluble
Partition coefficient: n-octanol/water	:	No data available
Viscosity, kinematic	:	No data available
Relative vapor density	:	Not applicable
Evaporation rate	:	No data available

SECTION 10: Stability and reactivity

10.1

Reactivity	:	Stable at normal ambient temperature and pressure.

10.2

Chemical stability	:	This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3

Possibility of hazardous reactions

Hazardous reactions : Further information: Stable under recommended storage conditions., No hazards to be specially mentioned.

10.4

Conditions to avoid : No data available.

10.5

Materials to avoid : No data available.

10.6

Hazardous decomposition products : No data available

Other data : No decomposition if stored and applied as directed.

SECTION 11: Toxicological information

11.1

Information on toxicological effects

Flowzan® Biopolymer

Further information : Dust can cause mechanical irritation of the eyes, skin, and respiratory tract.

SECTION 12: Ecological information

12.1

Toxicity

Ecotoxicity effects

Toxicity to fish : This material is not expected to be harmful to aquatic organisms.

Toxicity to daphnia and other aquatic invertebrates : This material is not expected to be harmful to aquatic organisms.

Toxicity to algae : This material is not expected to be harmful to aquatic organisms.

12.2

Persistence and degradability

Biodegradability : Taking into consideration the properties of several ingredients, the product is estimated to be biodegradable according to OECD classification.

12.3

Bioaccumulative potential

Elimination information (persistence and degradability)

Bioaccumulation : This material is not expected to bioaccumulate.

12.4

Mobility in soil

Mobility : No data available

12.5

Results of PBT and vPvB assessment

Results of PBT assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6

Other adverse effects

Additional ecological information : This material is not expected to be harmful to aquatic organisms.

Ecotoxicology Assessment

Short-term (acute) aquatic hazard : This material is not expected to be harmful to aquatic organisms.

Long-term (chronic) aquatic hazard : This material is not expected to be harmful to aquatic organisms.

SECTION 13: Disposal considerations

13.1

Waste treatment methods

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

14.1 - 14.7

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.

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.

Maritime transport in bulk according to IMO instruments

SECTION 15: Regulatory information

15.1

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

Commission Regulation (EU) 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

15.2

Major Accident Hazard Legislation : ZEU_SEVES3 Update:
Not applicable

Other Registrations

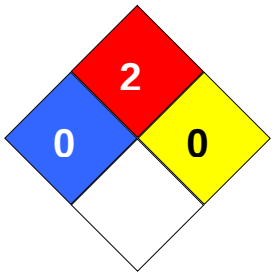
Regulation	Registration number
Danish PR number:	1764847

Notification status

Europe REACH	:	On the inventory, or in compliance with the inventory
Switzerland CH INV	:	On the inventory, or in compliance with the inventory
United States of America (USA) TSCA	:	All substances listed as active on the TSCA inventory
Canada DSL	:	All components of this product are on the Canadian DSL
Other AIIC	:	On the inventory, or in compliance with the inventory
New Zealand NZIoC	:	On the inventory, or in compliance with the inventory
Japan ENCS	:	On the inventory, or in compliance with the inventory
Philippines PICCS	:	On the inventory, or in compliance with the inventory
Taiwan TCSI	:	On the inventory, or in compliance with the inventory
Korea KECI	:	Not 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: 2
Reactivity Hazard: 0



Further information

Legacy SDS Number : 463650

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 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	PEL	Permissible Exposure Limit

	Chemicals Association		
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

NUOSEPT 78

SECTION 1: Identification of the substance/mixture and of the company/ undertaking

1.1 Product identifier

Product name : NUOSEPT 78

Code : 83256

EC number : Not available.

CAS number : Not available.

Product description : Not available.

Product type : Liquid.

Other means of identification : Not available.

Product registration number : -

1.2 Relevant identified uses of the substance or mixture and uses advised against

1.3 Details of the supplier of the safety data sheet

e-mail address of person responsible for this SDS : B.J. Vernooij, SDS Specialist (vernooib@troycorp.com)

Supplier

TROY CHEMICAL COMPANY BV
Poortweg 4C
2612PA Delft
The Netherlands
Phone: + 31 (0) 10 899 0142
Fax: +31 (0) 10 592-8877

Hours of operation : Monday - Friday: 08.30 - 17.00 (CET)

1.4 Emergency telephone number

Emergency telephone number : +1 703-741-5970 (EN)

National advisory body/Poison Center

Austria: Vergiftungsinformationszentrale, 01/406 43 43	Belgium: Centre anti-poison/ Antigiftcentrum 070 245245	Czech Republic: 1.7 Nouzové telefonní číslo: Toxikologické informační středisko, Na Bojišti 1, 128 08 Praha 2: telefon (24 hodin/den) 224919293, 224915402, 224914575	Denmark: Giftinformation: +45 35 31 60 60	Estonia: Mürgistusteabekeskus: 16662 Hädaabinumber: 112	Finland: Myrkytyskeskus 09-471977 or 09 4711
France: ORFILA (INRS): + 33 (0)1 45 42 59 59	Germany: Giftnotrufzentrale Berlin: +49 030 - 192 40	Hungary: Egészségügyi Toxikológiai Tájékoztató Szolgálat (ETTSZ) 1096 Budapest, Nagyvárad tér 2. +36-80-201199 (ingyenes, éjjel-nappal) +36-1-4766464	Ireland: NPIC (8am to 10 pm daily): Phone 01-8092166	Italy: Ospedale Niguarda Cà Granda, Milan 0266101029	Lithuania: Poison centre: 236 20 52
Netherlands: NVIC (medical personnel, 24/7): Tel: 088 755 8000	Norway: Norwegian poison information center: 22 59 13 00	Poland: 112 (ogólny telefon alarmowy), 998 (straż pożarna), 999 (pogotowie medyczne); Ośrodki Informacji Toksykologicznej: +58 682 04 04 (Gdańsk), +12 411 99 99 (Kraków), +61 847 69 46 (Poznań), + 48 607 218 174 (Warszawa)	Slovakia: Slovensko: Národné toxikologické informačné centrum Limbova 5 833 05 Bratislava Tel. 02/5477 4166, 02/5477 4605 http://www.ntic.sk/ntic_en.php?adr=safetydata	Slovenia: Center za obveščanje 112	Portugal: Centro de Informação Antivenenos: +351 800 250 250
Sweden: 112	Switzerland: Schweizerisches Toxikologisches Informationszentrum: +41 - 1-145	Turkey: Not available.	United Kingdom (UK): NPIS 0870 600 6266	Spain: INSTITUTO NACIONAL DE TOXICOLOGÍA 91 562 04 20	Greece: Children's hospital "P. Kyriakou", Thivon & Levadias 1, GR 11527, Goudi, Athens Tel. +30 210 7793 777
Latvia: Valsts ugunsdzēsības un glābšanas dienests: 112, Toksikoloģijas un sepses klīnikas Saindēšanās un zāļu informācijas centrs, Hipokrāta 2, Rīga, Latvija, LV-1038; strādā 24 h diennaktī. Tel. nr. +371 67042473"	Croatia: Broj za izvanredna stanja: 112 Broj za medicinske informacije za Hrvatsku: 01 23 48 342 (Centar za kontrolu otrovanja)	Serbia: Broj telefona Nacionalnog centra za kontrola trovanja: ++381 11-662 381 (24 sata)	Bulgaria: Национален Токсикологичен Център (Токсикология Пирогов) - 02/9154409	Iceland: (+354) 543-2222	Romania: +40 21.318.36.06 (Disponibil in intervalul orar 8.00 – 16.00), Birou RSI si Informare Toxicologica din cadrul INSP, Str. D.Leonte Nr. 1-3, Bucuresti, Romania

SECTION 1: Identification of the substance/mixture and of the company/ undertaking

Luxembourg: Centre Antipoisons / Giftinformationszentrum, Tel.: (+352) 8002 5500)	Cyprus: 1401	Malta: Medicines and Poisons Information Service at Mater Dei Hospital (MDH) +356 2545 6508 Emergency number: 112			

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mono-constituent substance

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Acute Tox. 4, H302
Acute Tox. 2, H330
Eye Irrit. 2, H319
Skin Sens. 1, H317
STOT RE 1, H372 (respiratory system) (inhalation)

See Section 16 for the full text of the H statements declared above.

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

2.2 Label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : Harmful if swallowed.
May cause an allergic skin reaction.
Causes serious eye irritation.
Fatal if inhaled.
Causes damage to organs through prolonged or repeated exposure. (respiratory system) (inhalation)

Precautionary statements

General : Not applicable.

Prevention : Wear protective gloves. Wear eye or face protection. In case of inadequate ventilation wear respiratory protection. Do not breathe vapor. Do not eat, drink or smoke when using this product. Wash thoroughly after handling.

Response : Get medical advice or attention if you feel unwell. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor. Take off contaminated clothing and wash it before reuse. IF ON SKIN: Wash with plenty of water. If skin irritation or rash occurs: Get medical advice or attention. 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 or attention.

Storage : Not applicable.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

Supplemental label elements : Not applicable.

Special packaging requirements

Containers to be fitted with child-resistant fastenings : Not applicable.

Tactile warning of danger : Not applicable.

2.3 Other hazards

SECTION 2: Hazards identification

Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII : Not available.

Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII : Not available.

Other hazards which do not result in classification : None known.

SECTION 3: Composition/information on ingredients

Substance/mixture : Mono-constituent substance

Product/ingredient name	Identifiers	%	Classification Regulation (EC) No. 1272/2008 [CLP]	Type
2,2',2"-(hexahydro-1,3,5-triazine-1,3,5-triyl)triethanol	REACH #: Biocide EC: 225-208-0 CAS: 4719-04-4 Index: 613-114-00-6	78	Acute Tox. 4, H302 Acute Tox. 2, H330 Eye Irrit. 2, H319 Skin Sens. 1, H317 STOT RE 1, H372 (respiratory system) (inhalation) **See Section 16 for the full text of the H statements declared above.**	[A]

Type

[A] Constituent
[B] Impurity
[C] Stabilizing additive

Other hazards which do not result in classification

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Inhalation : Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Skin contact : Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

SECTION 4: First aid measures

Ingestion : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. If necessary, call a poison center or physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Fatal if inhaled.

Skin contact : May cause an allergic skin reaction.

Ingestion : Harmful if swallowed.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Inhalation : No specific data.

Skin contact : Adverse symptoms may include the following:
irritation
redness

Ingestion : No specific data.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Specific treatments : No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Use an extinguishing agent suitable for the surrounding fire. Warehousing: All materials except Oxidizers can be extinguished by replacing the available air with CO2 when a stationary CO2 installation is installed.

Unsuitable extinguishing media : None known.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture : In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous combustion products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
nitrogen oxides

5.3 Advice for firefighters

SECTION 5: Firefighting measures

Special precautions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3 Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product.

6.4 Reference to other sections : See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s). (Applicable when exposure scenario is available.)

7.1 Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

SECTION 7: Handling and storage

7.2 Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

7.3 Specific end use(s)

Recommendations : Not available.

Industrial sector specific solutions : Not available.

SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s). (Applicable when exposure scenario is available.)

8.1 Control parameters

Occupational exposure limits

Europe

No exposure limit value known.

Germany

2,2',2"-(hexahydro-1,3,5-triazine-1,3,5-triyl)triethanol — **DFG MAC-values list (Germany, 7/2018). Skin sensitizer.**

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

Derived No effect levels

Product/ingredient name	Type	Exposure	Value	Population	Effects
2,2',2"-(hexahydro-1,3,5-triazine-1,3,5-triyl)triethanol	DNEL	Long term Inhalation	0.2 mg/m³	Workers	Local

Predicted no effect concentrations

No PNECs available.

8.2 Exposure controls

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

SECTION 8: Exposure controls/personal protection

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. (EN166) If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Wear suitable gloves tested to EN374. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. (EN343)

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state : Liquid.

Color : Clear. Colorless to light yellow.

Odor : Not available.

Odor threshold : Not available.

pH : 9 to 12 [Conc. (% w/w): 1%]

Melting point/freezing point : Not available.

Initial boiling point and boiling range : >100°C

Flash point : Closed cup: 68°C [Pensky-Martens.]

Evaporation rate : Not available.

Flammability (solid, gas) : Not available.

Burning time : Not applicable.

Burning rate : Not applicable.

Upper/lower flammability or explosive limits : Not available.

Vapor pressure : Not available.

Vapor density : Not available.

Relative density : 1.145 to 1.175

Solubility(ies) : Soluble in the following materials: cold water and hot water.

Dispersibility properties : Not available.

Partition coefficient: n-octanol/water : Not available.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

SECTION 9: Physical and chemical properties

Viscosity : Not available.

Explosive properties : Not available.

Oxidizing properties : Not available.

9.2 Other information

No additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity : No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability : The product is stable.

10.3 Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid : No specific data.

10.5 Incompatible materials : No specific data.

10.6 Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
NUOSEPT 78	LC50 Inhalation Dusts and mists	Rat	0.37 mg/l	4 hours
	LD50 Dermal	Rat	>2000 mg/kg	-
	LD50 Oral	Rat - Female	1009 to 3950 mg/kg	-
2,2',2"-(hexahydro-1,3,5-triazine-1,3,5-triyl) triethanol	LD50 Dermal	Rabbit	>2000 mg/kg	-
	LD50 Oral	Rat	500 to 2000 mg/kg	-

Conclusion/Summary : Not available.

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
NUOSEPT 78	Eyes - Cornea opacity	Rabbit	59	-	21 days
	Skin - Mild irritant	Rabbit	-	-	-

Conclusion/Summary

Skin : Non-irritating to the skin. (similar material)

Sensitizer

Product/ingredient name	Route of exposure	Species	Result
NUOSEPT 78	skin	Mouse	Sensitizing
2,2',2"-(hexahydro-1,3,5-triazine-1,3,5-triyl) triethanol	skin	Guinea pig	Sensitizing

Conclusion/Summary : Not available.

Mutagenicity

SECTION 11: Toxicological information

Product/ingredient name	Test	Experiment	Result
NUOSEPT 78	-	Experiment: In vivo Subject: Mammalian-Animal	Negative

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Route of exposure	Target organs
2,2',2"-(hexahydro-1,3,5-triazine-1,3,5-triyl)triethanol	Category 1	inhalation	respiratory system

Aspiration hazard

Not available.

Information on the likely routes of exposure : Not available.

Potential acute health effects

Inhalation : Fatal if inhaled.

Ingestion : Harmful if swallowed.

Skin contact : May cause an allergic skin reaction.

Eye contact : Causes serious eye irritation.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation : No specific data.

Ingestion : No specific data.

Skin contact : Adverse symptoms may include the following:
irritation
redness

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

Conclusion/Summary : Not available.

General : Causes damage to organs through prolonged or repeated exposure if inhaled. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

SECTION 11: Toxicological information

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Other information : Not available.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
2,2',2"-(hexahydro-1,3,5-triazine-1,3,5-triyl) triethanol	Acute EC50 26.1 ppm Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 39 ppm Fresh water	Fish - Lepomis macrochirus	96 hours

Conclusion/Summary : Not available.

12.2 Persistence and degradability

Conclusion/Summary : Not available.

12.3 Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
2,2',2"-(hexahydro-1,3,5-triazine-1,3,5-triyl) triethanol	-2	-	low

12.4 Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

PBT : Not available.

P: Not available. B: Not available. T: Yes.

vPvB : Not available.

vP: Not available. vB: Not available.

12.6 Other adverse effects : No known significant effects or critical hazards.

SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods

Product

Methods of disposal : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

Hazardous waste : The classification of the product may meet the criteria for a hazardous waste.

Packaging

SECTION 13: Disposal considerations

Methods of disposal : The generation of waste should be avoided or minimized wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Special precautions : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

	ADR/RID	IMDG	IATA
14.1 UN number	UN2810	UN2810	UN2810
14.2 UN proper shipping name	TOXIC LIQUID, ORGANIC, N. O.S. (2,2',2"-(hexahydro-1,3,5-triazine-1,3,5-triyl) triethanol)	TOXIC LIQUID, ORGANIC, N. O.S. (2,2',2"-(hexahydro-1,3,5-triazine-1,3,5-triyl) triethanol)	TOXIC LIQUID, ORGANIC, N. O.S. (2,2',2"-(hexahydro-1,3,5-triazine-1,3,5-triyl) triethanol)
14.3 Transport hazard class(es)	6.1 T1 	6.1 	6.1 
14.4 Packing group	II	II	II
14.5 Environmental hazards	No.	No.	No.
14.6 Special precautions for user	**Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.	**Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.	**Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.
Additional information	**Tunnel code** (D/E)	**Emergency schedules** F-A, S-A	-

14.7 Transport in bulk according to IMO instruments : Not available.

SECTION 15: Regulatory information

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

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorization

Substances of very high concern

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Not applicable.

Other EU regulations

SECTION 15: Regulatory information

Priority List Chemicals : Not determined

Industrial emissions (integrated pollution prevention and control) - Air : Not listed

Industrial emissions (integrated pollution prevention and control) - Water : Not listed

National regulations

Product registration : **Australia inventory (AICS)**: All components are listed or exempted.
Canada inventory: All components are listed or exempted.
China inventory (IECSC): All components are listed or exempted.
Europe inventory: All components are listed or exempted.
Japan inventory (ENCS): All components are listed or exempted.
Japan inventory (ISHL): All components are listed or exempted.
Korea inventory: All components are listed or exempted.
Mexico inventory: All components are listed or exempted.
New Zealand Inventory of Chemicals (NZIoC): All components are listed or exempted.
Philippines inventory (PICCS): All components are listed or exempted.
Thailand inventory: Not determined.
Turkey inventory: All components are listed or exempted.
Taiwan Chemical Substances Inventory (TCSI): All components are listed or exempted.
United States inventory (TSCA 8b): All components are listed or exempted.
Vietnam inventory: All components are listed or exempted.

Product registration number : -

Denmark

List name : 5-6

Germany

Storage code : 6.1A

Hazard class for water : 1

Chemical Weapons Convention List Schedule I Chemicals : Not listed

Chemical Weapons Convention List Schedule II Chemicals : Not listed

Chemical Weapons Convention List Schedule III Chemicals : Not listed

15.2 Chemical Safety Assessment : This product contains substances for which Chemical Safety Assessments are still required.

SECTION 16: Other information

Indicates information that has changed from previously issued version.

Abbreviations and acronyms : ATE = Acute Toxicity Estimate
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
DNEL = Derived No Effect Level
EUH statement = CLP-specific Hazard statement
PNEC = Predicted No Effect Concentration
RRN = REACH Registration Number
PBT = Persistent, Bioaccumulative and Toxic

SECTION 16: Other information

vPvB = Very Persistent and Very Bioaccumulative
LD50 = Median lethal dose
LC50 = Median lethal concentration
EC50 = Half maximal effective concentration
ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road
IMDG = International Maritime Dangerous Goods
IATA = International Air Transport Association
TWA = Time Weighted Average
PEAK = peak concentration

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Acute Tox. 4, H302	On basis of test data
Acute Tox. 2, H330	On basis of test data
Eye Irrit. 2, H319	On basis of test data
Skin Sens. 1, H317	On basis of test data
STOT RE 1, H372 (respiratory system) (inhalation)	According to package

Full text of abbreviated H 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.

Full text of classifications [CLP/GHS] :

Acute Tox. 2	ACUTE TOXICITY - Category 2
Acute Tox. 4	ACUTE TOXICITY - Category 4
Eye Irrit. 2	SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2
Skin Sens. 1	SKIN SENSITIZATION - Category 1
STOT RE 1	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 1

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Date of previous issue : November 05, 2020.

Version : 4

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.
Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

Safety Data Sheet
POTASSIUM CHLORIDE

1. Identification of the Substance/Preparation and of the Company/Undertaking

1.1 Product identifier

Product name POTASSIUM CHLORIDE
Product code PID10258
Country Limitations For use only in North Sea countries (NSG)

Synonyms Potassium Chloride 88-99%

1.2 Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Completion fluid additive. Drilling fluid additive.

Uses advised against Consumer use

1.3 Details of the supplier of the safety data sheet

Supplier
M-I Drilling Fluids UK Limited
Westhill Business Park
Westhill AB32 6JL Aberdeenshire
Scotland United Kingdom

+47 51577424

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 001 281 561 1600

Denmark	Poison Control Hotline (DK): +45 82 12 12 12
Norway	Poison information centre: +47 22 59 13 00

2. Hazards Identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP] Commission Regulation (EU) No 2015/830 of 28 May 2015

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
Potassium chloride

2.3 Other hazards

Thermal decomposition can lead to release of irritating gases and vapours
Not classified as PBT/vPvB by current EU criteria

3. Composition/information on Ingredients

3.1 Substances

Chemical Name	EC No	CAS No	Weight-%	Component information	REACH registration number
Potassium chloride	231-211-8	7447-40-7	60-100	Not classified	Exempt

3.2 Mixtures

Not applicable

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 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

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.
Ingestion	Please see Section 11. Toxicological Information for further information.
Skin contact	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. Firefighting Measures

5.1 Extinguishing media

Suitable extinguishing media
Water Fog, Alcohol Foam, CO_2, Dry Chemical.

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: Chlorides.

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. Cover powder spill with plastic sheet or tarp to minimise spreading.

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.

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 contact with: Strong oxidising agents Strong acids Strong alkalies. Protect from moisture
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

Exposure Limits NUI = Nuisance dust, TWA 4mg/m^3 Respirable Dust, 10mg/m^3 Total Dust.

Component Information

Chemical Name	EU OEL - Third List	Austria	Denmark
Potassium chloride	Not determined	Not determined	Not determined
Chemical Name	**France**	**Germany**	**Hungary**
Potassium chloride	Not determined	Not determined	Not determined
Chemical Name	**Italy**	**Netherlands**	**Norway**
Potassium chloride	Not determined	Not determined	Not determined
Chemical Name	**Poland**	**Portugal**	**Romania**
Potassium chloride	Not determined	Not determined	Not determined
Chemical Name	**Spain**	**Switzerland**	**UK**
Potassium chloride	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 Controls
Ensure adequate ventilation. Mechanical ventilation or local exhaust ventilation is required. See section 7 for more information.

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 Use protective gloves made of: Neoprene Nitrile PVC Frequent change is advisable
Respiratory protection	No personal respiratory protective equipment normally required, In case of insufficient ventilation wear suitable respiratory equipment, Half mask with a particle filter P2 (BS EN 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 Dust

Odour	Odourless
Colour	White
Odour threshold	Not applicable

Property	**Values**	**Remarks**
pH	Not applicable	
pH @ dilution	~7	@ 1%
Melting / freezing point	768-773 °C / 1414-1423 °F	
Boiling point/range	1406-1413 °C / 2562-2575 °F	
Flash point	No information available	
Evaporation rate	No information available	
Flammability (solid, gas)	Not applicable	
Flammability Limit in Air		
Upper flammability limit	Not applicable	
Lower flammability limit	Not applicable	
Vapour pressure	No information available	
Vapour density	No information available	
Specific gravity	No information available	
Bulk density	No information available	
Relative density	1.98	@ 20 °C.
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	No information available	
log Pow	No information available	

Explosive properties	Not applicable
Oxidising 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

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 polymerisation
Hazardous polymerisation does not occur.

10.4 Conditions to avoid

Avoid dust formation. Protect from moisture.

10.5 Incompatible materials

Strong oxidising agents. Strong acids. Strong alkalies.

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.

Eye contact Dust may cause mechanical irritation.

Skin contact Prolonged contact may cause redness and irritation.

Ingestion Ingestion may cause stomach discomfort.

Unknown acute toxicity Not applicable.

Toxicology data for the components

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Potassium chloride	= 2600 mg/kg (Rat)	No data available	No data available

Sensitisation 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.

Routes of entry Inhalation.

Specific target organ toxicity - Single exposure Not classified

Specific target organ toxicity - Repeated exposure Not classified.

Aspiration hazard Not applicable.

Other information 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 aquatic invertebrates
Potassium chloride	750 - 1020 mg/L LC50 Pimephales promelas 96 h = 1060 mg/L LC50 Lepomis macrochirus 96 h	= 2500 mg/L EC50 Desmodesmus subspicatus 72 h	= 83 mg/L EC50 Daphnia magna 48 h = 825 mg/L EC50 Daphnia magna 48 h

12.2 Persistence and degradability

Not Applicable - Inorganic chemical.

12.3 Bioaccumulative potential

Not Applicable - Inorganic chemical.

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 to an approved waste handling site for recycling or disposal.
EWC Waste Disposal No	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: 06 03 99

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 Hazard class	Not regulated
ICAO Hazard class/division	Not regulated

14.4 Packing group

ADR/RID/ADN/ADG Packing Group	Not regulated
IMDG Packing group	Not regulated
ICAO 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

Commission Regulation (EU) 2015/830 of 28 May 2015 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, 2000/21/EC and 453/2010 including amendments.

This safety data sheet complies with the requirements of Regulation (EC) No. 1272/2008.

Dutch Mining Regulations: In accordance with Mining Regulations 9.2 and Chapter 4 of the Working Conditions Decree.

International inventories

USA, Toxic Substances Control Act inventory (TSCA)	Complies
Canada (DSL)	Complies
Philippines (PICCS)	Complies
Inventory - Japan - Existing and New Chemicals list	Complies
China (IECSC)	Complies
Australia (AICS)	Complies
Korea (KECL)	Complies
Inventory - New Zealand - Inventory of Chemicals (NZIoC)	Complies

Europe - REACH
All products supplied from the European Economic Area (EEA) are compliant with the REACH Regulation EC 1907/2006.For products supplied from the EEA, Schlumberger and/or its suppliers have pre-registered and is registering all of the substances that it and/or its suppliers manufactures in or imports into the EEA that are subject to Title II of the REACH Regulation. All products supplied from outside the EEA are subject to REACH only if imported into the EEA. The importer of the products must comply with REACH for each imported substance. Contact REACH@slb.com for REACH information.

Denmark Pr. no. 336939

For use only in North Sea countries (NSG)

15.2 Chemical Safety Report

No information available

16. Other Information

Prepared by	Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Anne Karin (Anka) Fosse
Supercedes Date:	12/Feb/2018
Revision date	04/Oct/2018
Version	7
This SDS has been revised in the following section(s)	1, 15, 16 For use only in North Sea countries (NSG) 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

Training Advice
Do not handle until all safety precautions have been read and understood
Follow general hygiene considerations recognised as common good workplace practices

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.
This Document is Confidential and Proprietary. Unless Otherwise Marked, It is an Uncontrolled Copy.

Safety Data Sheet
POTASSIUM CHLORIDE BRINE

1. Identification of the substance/preparation and of the Company/undertaking

1.1 Product identifier

Product name POTASSIUM CHLORIDE BRINE
Product code PID1290
Denmark Pr. no. 1164884

1.2 Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Drilling fluid additive. Completion brine.

Uses advised against Consumer use

1.3 Details of the supplier of the safety data sheet

Supplier
M-I Drilling Fluids UK Limited
C/O Schlumberger
Enterprise Drive
Westhill Industrial Estate
Westhill, AB32 6TQ
Scotland UK
+47 51577424

MISDS@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 001 281 561 1600

Denmark	Poison Control Hotline (DK): +45 82 12 12 12
Germany	+49 69 222 25285
Norway	Poison information centre: +47 22 59 13 00

2. Hazards Identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

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
Potassium chloride

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-%	Classification according to 67/548/EEC	Regulation (EC) No 1272/2008	REACH registration number
Potassium chloride	231-211-8	7447-40-7	5-30	-	Not classified	Exempt

Comments
The product contains other ingredients which do not contribute to the overall classification.

4. First aid measures

4.1 First Aid

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

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.
Ingestion	Please see Section 11. Toxicological Information for further information.
Skin contact	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
Water Fog, Alcohol Foam, CO_2, Dry Chemical.

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: Chlorides.

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. Dyke 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 Avoid contact with: Strong oxidising agents Strong acids Strong alkalies.
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

Exposure Limits

Because this product is a liquid, the dust-related Workplace Exposure Limits for the components do not apply.
No biological limit allocated

Chemical Name	EU OEL - Third List	Austria	Australia	Denmark
Potassium chloride	Not determined	Not determined	Not determined	Not determined
Chemical Name	**Malaysia**	**France**	**Germany**	**Hungary**
Potassium chloride	Not determined	Not determined	Not determined	Not determined
Chemical Name	**New Zealand**	**Italy**	**Netherlands**	**Norway**
Potassium chloride	Not determined	Not determined	Not determined	Not determined
Chemical Name	**Poland**	**Portugal**	**Romania**	**Russia**
Potassium chloride	Not determined	Not determined	Not determined	5 mg/m³ MAC
Chemical Name	**Spain**	**Switzerland**	**Turkey**	**UK**
Potassium chloride	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. Provide mechanical general and/or local exhaust ventilation to prevent release of vapor or mist into work environment.

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 Neoprene
Break through time >480 minutes
Glove thickness >=0.4 mm
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, Chemical respirator with inorganic vapour cartridge (Grey B), 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	No information available
Odour	Odourless
Colour	Colourless
Odour threshold	Not applicable

Property	**Values**	**Remarks**
pH	~ 7	Conc.solution
pH @ dilution		
Melting / freezing point	-7 °C / 19.4 °F	
Boiling point/range	102 °C / 215 °F	
Flash point	No information available	
Evaporation rate	No information available	
Flammability (solid, gas)	Not applicable	
Flammability Limit in Air		
Upper flammability limit	Not applicable	
Lower flammability limit	Not applicable	
Vapour pressure	No information available	
Vapour density	No information available	
Specific gravity	No information available	
Bulk density	No information available	
Relative density	1.08-1.57 s.g (8.33-9.7 lb/gal)	@ 20 °C.
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	No information available	
log Pow	No information available	

Explosive properties	Not applicable
Oxidising 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 polymerisation
Hazardous polymerisation does not occur.

10.4 Conditions to avoid

None known.

10.5 Incompatible materials

Strong oxidising agents. Strong acids. Strong alkalies.

10.6 Hazardous decomposition products

See Section 5.2.

11. Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Inhalation Inhalation of vapours 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.

Unknown acute toxicity Not applicable.

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Potassium chloride	= 2600 mg/kg (Rat)	No data available	No data available

Sensitisation 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	Not applicable.

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.

Chemical Name	Toxicity to fish	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates
Potassium chloride	750 - 1020 mg/L LC50 Pimephales promelas 96 h = 1060 mg/L LC50 Lepomis macrochirus 96 h	= 2500 mg/L EC50 Desmodesmus subspicatus 72 h	= 83 mg/L EC50 Daphnia magna 48 h = 825 mg/L EC50 Daphnia magna 48 h

12.2 Persistence and degradability

Not Applicable - Inorganic chemical.

12.3 Bioaccumulative potential

Not Applicable - Inorganic chemical.

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

Waste from residues / unused products	Dispose of in accordance with local regulations.
Contaminated packaging	Empty containers should be transported/delivered using a registered waste carrier for local recycling or waste disposal.
EWC Waste Disposal No	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: 06 03 14 - solid salts and solutions other than those mentioned in 06 03 11 and 06 03 13

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 Hazard class	Not regulated
ICAO Hazard class/division	Not regulated

14.4 Packing group

ADR/RID/ADN/ADG Packing Group	Not regulated
IMDG Packing group	Not regulated
ICAO 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
The product has been assessed and contained in Chapters 17/18 of the IBC Code and the latest MEPC.2/Circular and is permitted to be carried under Annex II of MARPOL and resolution A.673 (16) Offshore Supply Vessel Code. Ship Type:- 3. Pollution Category:- Z. Proper Shipping Name: Potassium Chloride solution

15. Regulatory information

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

Germany, Water Endangering Classes (VwVwS)	Water endangering class = 1

Australian Standard for the Uniform Scheduling of Drugs and Poisons

Potassium chloride
Schedule 4

New Zealand hazard classification	Not classified.
HSNO approval no.	Not required.
Group number	Not required.

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.

International inventories

USA, Toxic Substances Control Act inventory (TSCA)	Complies
European Union - EINECS and ELINCS	Complies
Canada (DSL)	Complies
Philippines (PICCS)	Complies
Inventory - Japan - Existing and New Chemicals list	Complies
China (IECSC)	Complies
Australia (AICS)	Complies
Korea (KECL)	Complies
Inventory - New Zealand - Inventory of Chemicals (NZIoC)	Complies

15.2 Chemical Safety Report

No information available

16. Other information

Prepared by	Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Anne Karin (Anka) Fosse
Supercedes date	02/Dec/2015
Revision date	03/Apr/2017
Version	10
This SDS has been revised in the following section(s)	7, 8, 14, 15, 16 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
SAFE-COR*

1. Identification of the Substance/Preparation and of the Company/Undertaking

1.1 Product identifier

Product name SAFE-COR*
Product code PID1370

1.2 Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Corrosion inhibitor

Uses advised against Consumer use

1.3 Details of the supplier of the safety data sheet

Supplier
M-I Drilling Fluids UK Limited
Westhill Business Park
Westhill AB32 6JL Aberdeenshire
Scotland United Kingdom

+47 51577424

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 001 281 561 1600

National Poison Center Numbers

Netherlands	National Poisons Information Centre (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

Serious eye damage/eye irritation	Category 2

Environmental hazards

Chronic aquatic toxicity	Category 3

Physical Hazards Not classified

2.2 Label elements

Signal word
WARNING

Hazard Statements
H319 - Causes serious eye irritation
H412 - Harmful to aquatic life with long lasting effects

Precautionary Statements
P264 - Wash face, hands and any exposed skin thoroughly after handling
P273 - Avoid release to the environment
P280 - Wear protective gloves/protective clothing/eye protection/face protection
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
P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

-

Contains
Ethanol, 2,2-oxybis-, reaction products with ammonia, morpholine derivatives residues

2.3 Other hazards

Not classified as PBT/vPvB by current EU criteria
Thermal decomposition can lead to release of irritating gases and vapours

3. Composition/information on Ingredients

3.1 Substances

Not applicable

3.2 Mixtures

Chemical Name	EC No	CAS No	Weight-%	Component information	REACH registration number
Ethanol, 2,2-oxybis-, reaction products with ammonia, morpholine derivatives residues	272-712-1	68909-77-3	30-60	Eye Irrit. 2 (H319) Aquatic Chronic 3 (H412)	01-2119560595-31-xxxx

Comments
Based on test data – Skin corrosion/irritation (OECD 404 Skin Rabbit), this product is not corrosive or irritant.
Based on test data – Serious eye damage/irritation (EPA OPPTS: 870.2400 Eye Rabbit), this product is irritant.

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. Seek medical attention if irritation occurs.

Skin contact Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get medical attention if irritation persists.

Eye Contact 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

Inhalation Please see Section 11. Toxicological Information for further information.

Ingestion Please see Section 11. Toxicological Information for further information.

Skin contact 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. Firefighting Measures

5.1 Extinguishing media

Suitable extinguishing media
Water Fog, Alcohol Foam, CO_2, Dry Chemical.

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 vapours

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 eat, drink, smoke, sniff 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 Avoid frost. Store at room temperature Avoid contact with: Acids Nitrites

Storage class Chemical storage.

Storage class, TRGS 510, Germany LGK12 - Non-combustible liquids

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

Exposure Limits Contains no substances with occupational exposure limit values
No biological limit allocated

Component Information

Chemical Name	EU OEL - Third List	Austria	Denmark
Ethanol, 2,2-oxybis-, reaction products with ammonia, morpholine derivatives residues	Not determined	Not determined	Not determined
Chemical Name	**France**	**Germany**	**Hungary**
Ethanol, 2,2-oxybis-, reaction products with ammonia, morpholine derivatives residues	Not determined	Not determined	Not determined
Chemical Name	**Italy**	**Netherlands**	**Norway**
Ethanol, 2,2-oxybis-, reaction products with ammonia, morpholine derivatives residues	Not determined	Not determined	Not determined
Chemical Name	**Poland**	**Portugal**	**Romania**
Ethanol, 2,2-oxybis-, reaction products with ammonia, morpholine derivatives residues	Not determined	Not determined	Not determined
Chemical Name	**Spain**	**Switzerland**	**UK**
Ethanol, 2,2-oxybis-, reaction products with ammonia, morpholine	Not determined	Not determined	Not determined

derivatives residues			

Derived No Effect Level (DNEL)

Long term exposure systemic effects

Ethanol, 2,2-oxybis-, reaction products with ammonia, morpholine derivatives residues

Dermal	6.67 mg/kg
Inhalation	25.52 mg/m³

Predicted No Effect Concentration (PNEC)

Ethanol, 2,2-oxybis-, reaction products with ammonia, morpholine derivatives residues

Fresh Water	0.045 mg/l
Sea Water	0.0045 mg/l
Freshwater sediment	0.796 mg/kg
Sea sediment	0.0769 mg/kg
Soil	0.133 mg/kg
Impact on sewage treatment	100 mg/l
Intermittent release	0.45 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. Local exhaust ventilation.

Personal protective equipment

Eye protection	Use eye protection according to EN 166, designed to protect against liquid splashes. Tightly fitting safety goggles. Safety glasses with side-shields.
Hand protection	Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Impervious gloves made of: Neoprene PVC Nitrile Break through time >480 minutes Glove thickness 0.4 mm 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 a vapor filter (EN 141), Use respirator with organic vapor protection (A, brown), 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 and gloves, including the inside, 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	No information available
Odour	Slight
Colour	Dark amber
Odour threshold	Not applicable

Property	Values	Remarks
pH	~ 11.5	
pH @ dilution	No information available	
Melting / freezing point	No information available	
Boiling point/range	> 100 °C / > 212 °F	
Flash point	151.6 °C / 305 °F	PMCC
Evaporation rate	No information available	
Flammability (solid, gas)	Not applicable	
Flammability Limit in Air		
Upper flammability limit	Not applicable	
Lower flammability limit	Not applicable	
Vapour pressure	No information available	
Vapour density	No information available	
Specific gravity	1.10	
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	4 cP	@ 25 °C
log Pow	No information available	

Explosive properties	Not applicable
Oxidising properties	None known

9.2 Other information

Pour point	-12°C (<11°F)
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

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 polymerisation
Hazardous polymerisation does not occur.

10.4 Conditions to avoid

Store at room temperature. Avoid frost.

10.5 Incompatible materials

Acids. Do not add nitrites or other nitrosating agents to this product. May cause formation of nitrosamine.

10.6 Hazardous decomposition products

See Section 5.2.

11. Toxicological Information

11.1 Information on toxicological effects

Acute toxicity

Inhalation Inhalation of vapours in high concentration may cause irritation of respiratory system.

Eye contact Causes serious eye irritation.

Skin contact Prolonged contact may cause redness and irritation.

Ingestion Ingestion may cause stomach discomfort.

Unknown acute toxicity Not applicable.

Toxicology data for the components

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Ethanol, 2,2-oxybis-, reaction products with ammonia, morpholine derivatives residues	5000 mg/kg (Rat)	>2000 mg/kg (Rat)	No data available

Sensitisation 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	Eye contact.
Routes of entry	None known.
Specific target organ toxicity - Single exposure	Not classified
Specific target organ toxicity - Repeated exposure	Not classified.
Aspiration hazard	Not applicable.
Other information	Key literature references and sources for data. See Section 16 for more information.

12. Ecological Information

12.1 Toxicity

Harmful to aquatic life with long lasting effects

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
Ethanol, 2,2-oxybis-, reaction products with ammonia, morpholine derivatives residues	OECD; Acute LC50; 96 hours Semi-static; Fish > 45 g/l	OECD; Acute ErC50 (growth rate); 72 hours Static; Algae; 45 mg/kg OECD 201 Algae, Growth Inhibitor Test; Chronic NOECr; 72 hours Static; Algae; 3.2 mg/l	OECD; Acute EC50; 48 hours Static, Daphnia; > 100 g/l

12.2 Persistence and degradability

Not readily biodegradable.

12.3 Bioaccumulative potential

No bioaccumulation expected due to high molecular weight.

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 to an approved waste handling site for recycling or disposal.
EWC Waste Disposal No	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 01 04

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 Hazard class	Not regulated
ICAO Hazard class/division	Not regulated

14.4 Packing group

ADR/RID/ADN/ADG Packing Group	Not regulated
IMDG Packing group	Not regulated
ICAO 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:
Regulation (EC) No. 1907/2006 and Regulation (EC) No. 1272/2008
Commission Regulation (EU) No 2015/830 of 28 May 2015
Registration, Evaluation, Authorization and Restriction of Chemicals (REACH)

Dangerous substance category per Seveso Directive (2012/18/EU)
This product does not contain substances listed under Dangerous substance category per Seveso Directive (2012/18/EU)

Netherlands
Dutch Mining Regulations: In accordance with Mining Regulations 9.2 and Chapter 4 of the Working Conditions Decree.

Germany
Regulations governing systems for handling substances hazardous to waters
Hazardous substances ordinance

Germany, Water Endangering Classes (VwVwS)	Water endangering class = 1
Technical Rules for Hazardous Substances (TRGS)	TRGS 220 National aspects when compiling safety data sheets TRGS 510 Storage of hazardous substances in non stationary containers TRGS 900 Occupational exposure limits

International inventories

USA, Toxic Substances Control Act inventory (TSCA)	Complies
Canada (DSL)	Complies
Philippines (PICCS)	Complies
Inventory - Japan - Existing and New Chemicals list	Does not comply
China (IECSC)	Complies
Australia (AICS)	Complies
Korea (KECL)	Does not comply
Inventory - New Zealand - Inventory of Chemicals (NZIoC)	Complies

Europe - REACH
All products supplied from the European Economic Area (EEA) are compliant with the REACH Regulation EC 1907/2006.For products supplied from the EEA, Schlumberger and/or its suppliers have pre-registered and is registering all of the substances that it and/or its suppliers manufactures in or imports into the EEA that are subject to Title II of the REACH Regulation. All products supplied from outside the EEA are subject to REACH only if imported into the EEA. The importer of the products must comply with REACH for each imported substance. Contact REACH@slb.com for REACH information.

15.2 Chemical Safety Report

No information available

16. Other Information

Prepared by	Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Anne Karin (Anka) Fosse
Supercedes Date:	11/Jan/2017
Revision date	14/Nov/2019
Version	12
This SDS has been revised in the following section(s)	1, 2, 7, 8, 9, 15, 16 No changes with regard to classification have been made. Updated according to GHS/CLP.

Key literature references and sources for data
www.ChemADVISOR.com
Supplier
National Chemical Inventories
National regulatory information
National occupational exposure limits

Training Advice
Do not handle until all safety precautions have been read and understood
Follow general hygiene considerations recognised as common good workplace practices

HMIS classification

Health	3
Flammability	1
Physical hazard	0
PPE	J

Full text of H-Statements referred to under sections 2 and 3

H319 - Causes serious eye irritation
H412 - Harmful to aquatic life with long lasting effects

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Safety Data Sheet
SAFE-SCAV* HSN

1. Identification of the substance/mixture and ofthe company/undertaking

1.1 Product identifier

Product name SAFE-SCAV* HSN
Product code PID17341

1.2 Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Hydrogen Sulphide Scavenger.

Uses advised against Consumer use

1.3 Details of the supplier of the safety data sheet

Supplier
Schlumberger Oilfield UK PLC
Schlumberger House, Buckingham Gate
Gatwick Airport
West Sussex RH6 0NZ

+47 51577424

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 001 281 561 1600

National Poison Center Numbers

Denmark	Poison Control Hotline (DK): +45 82 12 12 12
Netherlands	National Poisons Information Center (NL): +31 30 274 88 88 (NB: this service is only available to health professionals)
Norway	Poison information centre: +47 22 59 13 00

2. Hazards Identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008

Health hazards

Acute toxicity - Oral	Category 4
Acute toxicity - Inhalation (Vapors)	Category 2
Serious eye damage/eye irritation	Category 2
Skin sensitization	Category 1
Specific target organ toxicity - Repeated exposure	Category 1

Environmental hazards Not classified

Physical Hazards Not classified

2.2 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
P260 - Do not breathe dust, fume, gas, mist, vapors, spray
P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
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
P310 - Immediately call a POISON CENTER or physician
P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

Supplementary precautionary statements
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 and eye/face protection
P281 - Use personal protective equipment as required
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P330 - Rinse mouth
P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention
P337 + P313 - If eye irritation persists: 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

Contains
2,2',2''-(Hexahydro-1,3,5-triazin-1,3,5-triyl)triethanol

2-aminoethanol (Impurity)

Formaldehyde (impurity)

2.3 Other hazards

Not classified as PBT/vPvB by current EU criteria

H330 classification is applied due to Inhalation Acute Toxicity studies carried out in Aerosol form
Prevent the formation of aerosols.

3. Composition/information on Ingredients

3.1 Substances

Not applicable

3.2 Mixtures

Chemical Name	EC No	CAS No	Weight-%	Component information	REACH registration number
2,2',2"-(Hexahydro-1,3,5-triazin-1,3,5-triyl)triethanol	225-208-0	4719-04-4	30-60	Acute Tox. 4 (H302) Acute Tox. 2 (H330) Skin Sens. 1 (H317) Eye Irrit. 2 (H319) STOT RE 1 (H372)	EU: 01-2119529226-41-xxxx
2-aminoethanol (Impurity)	205-483-3	141-43-5	<2	Acute Tox. 4 (H302) Acute Tox. 4 (H312) Acute Tox. 4 (H332) Skin Corr. 1B (H314) STOT SE 3 (H335)	Not applicable
Formaldehyde (impurity)	200-001-8	50-00-0	<0.1	Acute Tox. 3 (H301) Acute Tox. 3 (H311) Acute Tox. 3 (H331) Skin Corr. 1B (H314) Skin Sens. 1 (H317) Muta 2 (H341) Carc 1B (H350) STOT SE 3 (H335) Note B, Note D	Not applicable

Comments
The product contains other ingredients which do not contribute to the overall classification.
Formaldehyde is not present as a substance. It is formed during decomposition.

Note B: Some substances (acids, bases, etc.) are placed on the market in aqueous solutions at various concentrations and, therefore, these solutions require different classification and labelling since the hazards vary at different concentrations.
Note D: Certain substances which are susceptible to spontaneous polymerisation or decomposition are generallyplaced on the market in a stabilised form. It is in this form that they are listed in Part 3.

4. First Aid Measures

4.1 First aid measures

Inhalation Call a physician or poison control center immediately. Move the exposed person to fresh air

at once. Keep at rest. If breathing is difficult, (trained personnel should) give oxygen.

Ingestion Rinse mouth. Never give anything by mouth to an unconscious person. Do not induce vomiting without medical advice. Seek medical attention at once.

Skin contact Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Seek medical attention at once.

Eye Contact Remove contact lenses, if worn. Immediately flush eyes with water for 15 minutes while holding eyelids open. Seek medical attention.

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.

Ingestion Please see Section 11. Toxicological Information for further information.

Skin contact 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
Water spray, dry chemical, carbon dioxide (CO_2), or foam.

Extinguishing media which must not be used for safety reasons
Do not use halon type extinguisher.

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), Nitrogen oxides (NOx), Formaldehyde.

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

Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Do not get on skin or clothing. Wash thoroughly after handling. Do not breathe vapors or spray mist. 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
Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local/national regulations (see Section 13).

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 or spray mist. Avoid contact with skin and eyes. Avoid spills and splashing during use. Persons susceptible to allergic reactions should not handle this product. Prevent the formation of vapors, mists and aerosols.

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 Avoid heat, flames and other sources of ignition. Avoid frost. Avoid contact with: Strong acids Strong oxidizing agents
Storage class	Toxic storage.
Storage class, TRGS 510, Germany	LGK6.1BL - Non-combustible toxic substances (liquid)
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

Exposure limits Formaldehyde is not present as a substance. It is formed during decomposition.

Component Information

Chemical Name	EU OEL	Austria	Denmark
2,2',2''-(Hexahydro-1,3,5-triazin-1,3,5-triyl)triethanol	Not determined	Not determined	Not determined
2-aminoethanol (Impurity)	3 ppm STEL 7.6 mg/m³ STEL 1 ppm TWA 2.5 mg/m³ TWA Possibility of significant uptake through the skin	3 ppm STEL 7.6 mg/m³ STEL 1 ppm TWA 2.5 mg/m³ TWA	1 ppm TWA 2.5 mg/m³ TWA Potential for cutaneous absorption
Formaldehyde (impurity)	Not determined	0.5 ppm TWA; 0.6 mg/m³ TWA	0.3 ppm Ceiling; 0.4 mg/m³ Ceiling
Chemical Name	**France**	**Germany**	**Hungary**
2,2',2''-(Hexahydro-1,3,5-triazin-1,3,5-triyl)triethanol	Not determined	Not determined	Not determined
2-aminoethanol (Impurity)	3ppmSTEL 7.6mg/m³STEL 1 ppmTWA 2.5 mg/m³TWA	0.2 ppm TWA 0.51 mg/m³ TWA	2.5mg/m³TWA 7.6mg/m³STEL
Formaldehyde (impurity)	0.5 ppm TWA	0.3 ppm TWA MAK; 0.37 mg/m³ TWA MAK	0.6 mg/m³ TWA
Chemical Name	**Italy**	**Netherlands**	**Norway**
2,2',2''-(Hexahydro-1,3,5-triazin-1,3,5-triyl)triethanol	Not determined	Not determined	Not determined
2-aminoethanol (Impurity)	Not determined	7.6mg/m³STEL 2.5 mg/m³	1 ppm TWA 2.5 mg/m³ TWA 2 ppm STEL 5 mg/m³ STEL Skin
Formaldehyde (impurity)	0.3 ppm Ceiling; 0.37 mg/m³ Ceiling	0.5mg/m³STEL 0.15 mg/m³	0.5 ppm TWA 0.6 mg/m³ TWA 1 ppm Ceiling; 1.2 mg/m³ Ceiling Carcinogen Sensitizing substance
Chemical Name	**Poland**	**Portugal**	**Romania**
2,2',2''-(Hexahydro-1,3,5-triazin-1,3,5-triyl)triethanol	Not determined	Not determined	Not determined
2-aminoethanol (Impurity)	7.5 mg/m³ STEL NDSCh 2.5 mg/m³ TWA NDS	Skin 3 ppm STEL VLE-CD 7.6 mg/m³ STEL VLE-CD 1 ppm TWA indicative limit value 2.5 mg/m³ TWA indicative limit value	3ppmSTEL 7.6mg/m³STEL 1ppmTWA 2.5mg/m³TWA
Formaldehyde (impurity)	0.5 mg/m³ TWA	0.3 ppm Ceiling	1 ppm TWA; 1.20 mg/m³ TWA
Chemical Name	**Spain**	**Switzerland**	**UK**
2,2',2''-(Hexahydro-1,3,5-triazin-1,3,5-triyl)triethanol	Not determined	Not determined	Not determined
2-aminoethanol (Impurity)	3 ppm STEL 7.5 mg/m³ STEL Skin 1 ppm TWA VLA-ED 2.5 mg/m³ TWA VLA-ED	4 ppm STEL 10 mg/m³ STEL 2 ppm TWA MAK 5 mg/m³ TWA MAK	3 ppm STEL 7.6 mg/m³ STEL Skin 1 ppm TWA 2.5 mg/m³ TWA
Formaldehyde (impurity)	0.3 ppm STEL; 0.37 mg/m³ STEL	0.3 ppm TWA; 0.37 mg/m³ TWA	2 ppm TWA; 2.5 mg/m³ TWA

Europe - REACH
Derived No Effect Level (DNEL)

Long term exposure local effects

2,2',2''-(Hexahydro-1,3,5-triazin-1,3,5-triyl)triethanol

Inhalation	0.2 mg/m³

Predicted No Effect Concentration (PNEC)

2,2',2''-(Hexahydro-1,3,5-triazin-1,3,5-triyl)triethanol

Fresh Water	0.007 mg/l
Sea Water	0.001 mg/L
Freshwater sediment	0.03 mg/kg
Sea sediment	0.003 mg/kg
Soil	0.002 mg/kg
Impact on sewage treatment	5.5 mg/l
Intermittent release	0.007 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. Local exhaust ventilation. When working in confined spaces (tanks, containers, etc.), ensure that there is a supply of air suitable for breathing and wear the recommended equipment.

Personal protective equipment

Eye protection	Use eye protection according to EN 166, designed to protect against liquid splashes. Chemical splash goggles and/or face shield.
Hand protection	Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Impervious gloves made of: Nitrile Neoprene Butyl Rubber Break through time >480 minutes Glove thickness >=0.4 mm Be aware that liquid may penetrate the gloves. Frequent change is advisable.
Respiratory protection	Respirator with combination filter for vapour/particulate (EN 141), Use respirator with organic vapor protection (A, brown), If there are conditions in which this triazine containing product produces a vapor, a chemical respirator with A1 + Formaldehyde and P3 particulate pre-filter combination would be required.
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	Liquid

Appearance	Clear
Odor	Amine
Color	Colorless - Pale yellow
Odor threshold	Not applicable

Property	**Values**	**Remarks**
pH	10.0 - 11.5	
pH @ dilution	No information available	
Melting point	No information available	
Boiling point/range	No information available	
Flash point	67 °C / 152.6 °F	ASTM D 93-11
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	No information available	
Water solubility	Soluble in water	
Solubility in other solvents	No information available	
Autoignition temperature	Not applicable	
Decomposition temperature	No information available	
Kinematic viscosity	No information available	
Dynamic viscosity	No information available	
log Pow	No information available	

Explosive properties	Not applicable
Oxidizing properties	None known.

9.2 Other information

Pour point	< -20°C / -4°F
Molecular weight	No information available
VOC content(%)	None
Density	1.05 - 1.15 g/ml @ 20°C

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 strong acids develops formaldehyde.

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 frost.

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

Product information This product may contain or release trace amounts of formaldehyde. The International Agency for Research on Cancer (IARC) has classified formaldehyde as a Group 1carcinogen (limited evidence in humans, sufficient evidence in animals). Exposure to formaldehyde has been linked to adverse reproductive effects in some human and animal studies. In other reproductive studies, however, no adverse effects were noted. (Meditext). Formaldehyde may also cause skin sensitisation (allergic reaction).

Inhalation Fatal if inhaled. Causes damage to organs through prolonged or repeated exposure.

Eye contact Causes serious eye irritation.

Skin contact Causes skin irritation. May cause an allergic skin reaction.

Ingestion Harmful if swallowed. May cause additional affects as listed under "Inhalation".

Unknown acute toxicity Not applicable.

Toxicology data for the components

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
2,2',2''-(Hexahydro-1,3,5-triazin-1,3,5-triyl)triethanol	1000 mg/kg (Rat) (BASF AG, 1997)	> 4000 mg/kg (Rat) (BASF AG,1997)	0.371 mg/L (Aerosol) (Rat) (Triazine Taskforce, 2011)
2-aminoethanol (Impurity)	= 1720 mg/kg (Rat)	= 1000 mg/kg (Rabbit) = 1 mL/kg (Rabbit)	No data available
Formaldehyde (impurity)	= 100 mg/kg (Rat)	= 270 mg/kg (Rabbit)	= 0.578 mg/L (Rat) 4 h

Sensitization May cause allergic skin reaction.

Mutagenic effects This product does not contain any known or suspected mutagens.

Carcinogenicity Formaldehyde is listed by IARC in Group 1 as carcinogenic to humans.

Reproductive toxicity This product does not contain any known or suspected reproductive hazards.

Routes of Exposure Inhalation (Aerosol). Skin contact. Eye contact. Ingestion.

Routes of entry Inhalation. Skin contact. Ingestion. Eye contact.

Specific target organ toxicity - Single exposure Not classified

Specific target organ toxicity - Repeated exposure	Category 1.
Target organ effects	Respiratory system.
Aspiration hazard	Not applicable.
Other information	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.
The product may affect the acidity (pH-factor) in water with risk of harmful effects to aquatic organisms.

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
2,2',2''-(Hexahydro-1,3,5-triazin-1,3,5-triyl)triethanol	> 168 mg/l LC50 96h Sheepshead Minnow (SLB data)	1.624 mg/l EC50 72h Skeletonema (SLB data)	99.68 mg/l KC50 48h Acartia (SLB data)
2-aminoethanol (Impurity)	> 200 mg/L LC50 Oncorhynchus mykiss 96 h 114 - 196 mg/L LC50 Oncorhynchus mykiss 96 h 300 - 1000 mg/L LC50 Lepomis macrochirus 96 h = 3684 mg/L LC50 Brachydanio rerio 96 h = 227 mg/L LC50 Pimephales promelas 96 h	= 15 mg/L EC50 Desmodesmus subspicatus 72 h	= 65 mg/L EC50 Daphnia magna 48 h
Formaldehyde (impurity)	23.2 - 29.7 mg/L LC50 Pimephales promelas 96 h 100 - 136 mg/L LC50 Oncorhynchus mykiss 96 h 0.032 - 0.226 mL/L LC50 Oncorhynchus mykiss 96 h = 41 mg/L LC50 Brachydanio rerio 96 h = 1510 µg/L LC50 Lepomis macrochirus 96 h 22.6 - 25.7 mg/L LC50 Pimephales promelas 96 h	No information available	11.3 - 18 mg/L EC50 Daphnia magna 48 h = 2 mg/L LC50 Daphnia magna 48 h

12.2 Persistence and degradability

See component information below.

Chemical Name	Persistence and degradability
2,2',2''-(Hexahydro-1,3,5-triazin-1,3,5-triyl)triethanol	Readily biodegradable
2-aminoethanol (Impurity)	Readily biodegradable
Formaldehyde (impurity)	Rapidly biodegradable

12.3 Bioaccumulative potential

See component information below.

Chemical Name	Bioaccumulation
2,2',2''-(Hexahydro-1,3,5-triazin-1,3,5-triyl)triethanol	Not likely to bioaccumulate log Kow <=3
2-aminoethanol (Impurity)	Product does not bioaccumulate due to reaction with water
Formaldehyde (impurity)	Does not bioaccumulate log Pow =0.35

12.4 Mobility

Mobility
See component information below.

Chemical Name	Mobility
2,2',2''-(Hexahydro-1,3,5-triazin-1,3,5-triyl)triethanol	Soluble in water
Formaldehyde (impurity)	Miscible in water

Mobility in soil
See component information below.

Chemical Name	Mobility in soil
2,2',2''-(Hexahydro-1,3,5-triazin-1,3,5-triyl)triethanol	Study does not need to be conducted because the substance is readily biodegradable
2-aminoethanol (Impurity)	Study does not need to be conducted because the substance is readily biodegradable
Formaldehyde (impurity)	Henry's Law Constant 0.034 (in Pa m³/mol) @ 25 °C

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 to an approved waste handling site for recycling or disposal.

EWC Waste Disposal No 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: 07 01 04 Waste Code: 7152 Organic waste without halogen.

14. Transport information

14.1. UN number

UN/ID No. (ADR/RID/ADN/ADG)	UN2810
UN No. (IMDG/ANTAQ)	UN2810
UN No. (ICAO/ANAC)	UN2810

14.2. UN proper shipping name

TOXIC LIQUID, ORGANIC, N.O.S. (Hexahydro-1,3,5-tris(2-hydroxyethyl)-sym-triazine)

14.3 Hazard class(es)

ADR/RID/ADN/ADG Hazard class	6.1
IMDG/ANTAQ Hazard class	6.1
ICAO/ANAC Hazard class/division	6.1

14.4 Packing group

ADR/RID/ADN/ADG Packing group	II
IMDG/ANTAQ Packing group	II
ICAO/ANAC Packing group	II

14.5 Environmental hazard

No

14.6 Special precautions

Hazard identification no (ADR)	60
EmS (IMDG)	F-A, S-A
Emergency Action Code (EAC)	2X
Tunnel restriction code	(D/E)

14.7 Transport in bulk according to Annex I/II of MARPOL 73/78 and the IBC Code

MEPC.2_circ.24, annex I, List 1. 1,3,5-hexahydrotriethanol-1,3,5-triazine solution Ship Type:- 2. Pollution Category:- Y.

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:
Regulation (EC) No. 1907/2006 and Regulation (EC) No. 1272/2008
Commission Regulation (EU) No 2015/830 of 28 May 2015
Registration, Evaluation, Authorization and Restriction of Chemicals (REACH)

Dangerous substance category per Seveso Directive (2012/18/EU)
This product does not contain substances listed under Dangerous substance category per Seveso Directive (2012/18/EU)

Netherlands
Dutch Mining Regulations: In accordance with Mining Regulations 9.2 and Chapter 4 of the Working Conditions Decree.

Germany
Regulations governing systems for handling substances hazardous to waters
Hazardous substances ordinance

Germany, Water Endangering Classes (VwVwS)	Hazardous to water/Class 1
Technical Rules for Hazardous Substances (TRGS)	TRGS 905 List of substances that are carcinogenic, mutagenic or toxic for reproduction TRGS 907 List of sensitizing substances and activities involving sensitizing substances TRGS 510 Storage of hazardous substances in non stationary containers TRGS 220 National aspects when compiling safety data sheets TRGS 900 Occupational exposure limits

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

Europe - REACH
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Norway Pr. no.	303850
Denmark Pr. no:	2303866

15.2 Chemical Safety Report

No information available

16. Other Information

Prepared by	Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Sandra McWilliam
Supersedes Date:	02/Feb/2018
Revision date	13/Jan/2021
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

Training Advice
Do not handle until all safety precautions have been read and understood

HMIS classification

Health	3*
Flammability	1
Physical hazard	0
PPE	X

Full text of H-Statements referred to under sections 2 and 3

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

H301 - Toxic if swallowed
H311 - Toxic in contact with skin
H312 - Harmful in contact with skin
H314 - Causes severe skin burns and eye damage
H331 - Toxic if inhaled
H332 - Harmful if inhaled
H335 - May cause respiratory irritation
H341 - Suspected of causing genetic defects
H350 - May cause cancer

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Safety data sheet number PID1392
Version 11
Revision date 14/Mar/2019
Supercedes Date: 09/Jul/2018

Safety Data Sheet
SAFE-SCAV* NA

1. Identification of the Substance/Preparation and of the Company/Undertaking

1.1 Product identifier

Product name SAFE-SCAV* NA
Product code PID1392

1.2 Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Oxygen Scavenger.

Uses advised against Consumer use

1.3 Details of the supplier of the safety data sheet

Supplier
M-I Drilling Fluids UK Limited
Westhill Business Park
Westhill AB32 6JL Aberdeenshire
Scotland United Kingdom

+47 51577424

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 001 281 561 1600

National Poison Center Numbers

Denmark	Poison Control Hotline (DK): +45 82 12 12 12
Germany	+49 69 222 25285
Italy	Poison Centre, Milan (IT): +39 02 6610 1029 (CAV Niguarda Ca 'Granda Hospital - Milan) Hours: Open 24 hours a day, 7 days a week
Netherlands	National Poisons Information Centre (NL): +31 30 274 88 88 (NB: this service is only available to health professionals)
Norway	Poison information centre: +47 22 59 13 00

2. Hazards Identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Health hazards

Serious eye damage/eye irritation	Category 2

Environmental hazards Not classified

Physical Hazards Not classified

2.2 Label elements

Signal word
WARNING

Hazard Statements
H319 - Causes serious eye irritation
EU Specific Hazard Statements
EUH031 - Contact with acids liberates toxic gas

Precautionary Statements
P264 - Wash face, hands and any exposed skin thoroughly after handling
P280 - Wear protective gloves/protective clothing/eye protection/face protection
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
P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

-

Contains
Water

Ammonium hydrogensulfite

Sulfur dioxide

2.3 Other hazards

Not classified as PBT/vPvB by current EU criteria

3. Composition/information on Ingredients

3.1 Substances

Not applicable

3.2 Mixtures

Chemical Name	EC No	CAS No	Weight-%	Component information	REACH registration number
Water	231-791-2	7732-18-5	30-60	Not classified	Not applicable
Ammonium hydrogensulfite	233-469-7	10192-30-0	30-60	Eye Irrit. 2 (H319) EUH031	01-2119537321-49-xxxx
Sulfur dioxide	231-195-2	7446-09-5	<1	Acute Tox. 3 (H331) Skin Corr. 1B (H314) Liquefied Gas (H280)	Not applicable

Comments
Sulfur dioxide is not present as a substance. It is formed during decomposition.

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. Seek medical attention if irritation occurs.

Skin contact — Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get medical attention immediately if symptoms occur.

Eye Contact — 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

Inhalation — Please see Section 11. Toxicological Information for further information.

Ingestion — Please see Section 11. Toxicological Information for further information.

Skin contact — 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. Firefighting Measures

5.1 Extinguishing media

Suitable extinguishing media
Water Fog, Alcohol Foam, CO_2, Dry Chemical.

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
Heating or fire can release toxic gas Sulphur oxides, Nitrogen oxides (NOx), Oxides of:, Ammonia, Amines.

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
This product slowly releases sulphur dioxide in contact with air. Use only in well-ventilated areas. In case of insufficient ventilation, wear suitable respiratory equipment. 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 before eating, drinking or smoking 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 contact with: Strong oxidising agents Acids Alkalis Keep at 5-30°C

Storage class Chemical storage.

Storage class, TRGS 510, Germany Storage class 9: no classification

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

Exposure Limits Exposure limit noted is for decomposition product Sulfur dioxide.

No biological limit allocated

Component Information

Chemical Name	EU OEL - Third List	Austria	Denmark
Water	Not determined	Not determined	Not determined
Ammonium hydrogensulfite	Not determined	Not determined	Not determined
Sulfur dioxide	Not determined	4 ppm STEL 10 mg/m³ STEL 2 ppm TWA 5 mg/m³ TWA	0.5 ppm TWA 1.3 mg/m³ TWA
Chemical Name	**France**	**Germany**	**Hungary**
Water	Not determined	Not determined	Not determined

Ammonium hydrogensulfite	Not determined	Not determined	Not determined
Sulfur dioxide	5ppmSTEL 10mg/m³STEL 2 ppmTWA 5 mg/m³TWA	1 ppm TWA 2.7 mg/m³ TWA	5mg/m³TWA 5mg/m³STEL
Chemical Name	**Italy**	**Netherlands**	**Norway**
Water	Not determined	Not determined	Not determined
Ammonium hydrogensulfite	Not determined	Not determined	Not determined
Sulfur dioxide	Not determined	0.7mg/m³STEL	0.8 ppm TWA 2 mg/m³ TWA 2.4 ppm STEL 4 mg/m³ STEL
Chemical Name	**Poland**	**Portugal**	**Romania**
Water	Not determined	Not determined	Not determined
Ammonium hydrogensulfite	Not determined	Not determined	Not determined
Sulfur dioxide	2.7 mg/m³ STEL NDSCh 1.3 mg/m³ TWA NDS	5 ppm STEL VLE-CD 2 ppm TWA	4ppmSTEL 10mg/m³STEL 2ppmTWA 5mg/m³TWA
Chemical Name	**Spain**	**Switzerland**	**UK**
Water	Not determined	Not determined	Not determined
Ammonium hydrogensulfite	Not determined	Not determined	Not determined
Sulfur dioxide	2 ppm STEL 5.28 mg/m³ STEL 0.5 ppm TWA VLA-ED 1.32 mg/m³ TWA VLA-ED	0.5 ppm STEL 1.3 mg/m³ STEL 0.5 ppm TWA MAK 1.3 mg/m³ TWA MAK	Not determined

Derived No Effect Level (DNEL)

Long term exposure systemic effects

Ammonium hydrogensulfite

Inhalation 234 mg/m³

Predicted No Effect Concentration (PNEC)

Ammonium hydrogensulfite

Fresh Water 1.04 mg/l

Sea Water 0.1 mg/l

Impact on sewage treatment 78.6 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. 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. Tightly fitting safety goggles. Safety glasses with side-shields.

Hand protection Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Impervious gloves made of: Neoprene Nitrile PVC
Break through time >480 minutes
Glove thickness >=0.4 mm
Be aware that liquid may penetrate the gloves. Frequent change is advisable.

Respiratory protection When workers are facing concentrations above the exposure limit they must use

Skin and body protection	appropriate certified respirators, Respirator with combination filter for vapour/particulate (EN 141), Chemical respirator with ammonia and amines cartridge (K/P2, green filter), At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used. 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	Liquid
Appearance	No information available
Odour	Pungent Sulphur
Colour	Straw - Yellow
Odour threshold	Not applicable

Property	**Values**	**Remarks**
pH	No information available	
pH @ dilution	4.9 - 5-5	1% solution
Melting / freezing point	No information available	
Boiling point/range	105 °C / 221 °F	
Flash point	No information available	
Evaporation rate	No information available	
Flammability (solid, gas)	Not applicable	
Flammability Limit in Air		
Upper flammability limit	Not applicable	
Lower flammability limit	Not applicable	
Vapour pressure	18 mmHg	@ 20 °C
Vapour density	<1	(Air = 1.0)
Specific gravity	1.3	
Bulk density	No information available	
Relative density	1.27 - 1.39	@ 20 °C.
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	No information available	
log Pow	No information available	

Explosive properties	Not applicable
Oxidising 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

Reacts violently with oxidizers. Liberates poisonous sulfur dioxide gas on contact with acid.

10.2 Chemical stability

Stable under normal temperature conditions and recommended use.

10.3 Possibility of Hazardous Reactions

Hazardous polymerisation
Hazardous polymerisation does not occur.

10.4 Conditions to avoid

Avoid heat, flames and other sources of ignition. Keep at temperatures between 5-30°C.

10.5 Incompatible materials

Strong oxidising agents. Acids. Alkalis.

10.6 Hazardous decomposition products

See Section 5.2.

11. Toxicological Information

11.1 Information on toxicological effects

Acute toxicity

Product information	Bisulfites may cause skin sensitization in sulfite sensitive persons. Bisulfites may also cause respiratory sensitization in asthmatics and sulfite sensitive persons.
Inhalation	Inhalation of vapours in high concentration may cause irritation of respiratory system.
Eye contact	Causes serious eye irritation.
Skin contact	Prolonged contact may cause redness and irritation.

Ingestion Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

Unknown acute toxicity Not applicable.

Toxicology data for the components

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Water	> 90 mL/kg (Rat)	No data available	No data available
Ammonium hydrogensulfite	LD50= 2746 mg/kg - source: By analogy to product with similar composition. Notes: Related to male LD50> 2150 mg/kg By analogy to product with similar composition. Notes: Related to female	LD50> 2000 mg/kg - Duration: 24h. Source: By analogy to product with similar composition	LC50 > 5.5 mg/l - Duration: 4h. Source: By analogy to product with similar composition.
Sulfur dioxide	No data available	No data available	= 2500 ppm (Rat) 1 h

Sensitisation Repeated or prolonged contact may cause allergic reactions in very susceptible persons.

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 Eye contact. Inhalation.

Routes of entry Eye contact. Inhalation.

Specific target organ toxicity - Single exposure Not classified

Specific target organ toxicity - Repeated exposure Not classified.

Aspiration hazard Not applicable.

Other information 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 aquatic invertebrates
Water	No information available	No information available	No information available
Ammonium hydrogensulfite	OECD 203 Fish LC50 > 464 mg/l - Duration h: 96 - Notes: By analogy to product with similar composition	Algae EC50 = 43.8 mg/l - Duration h: 72 - Notes: By analogy to product with similar composition.	Daphnia magna EC50 = 89 mg/l - Duration h: 48 - Notes: By analogy to product with similar composition
Sulfur dioxide	No information available	No information available	No information available

12.2 Persistence and degradability

Not Applicable - Inorganic chemical. See component information below.

Chemical Name	Persistence and degradability
Ammonium hydrogensulfite	Not applicable

12.3 Bioaccumulative potential

Not Applicable - Inorganic chemical. See component information below.

Chemical Name	Bioaccumulation
Ammonium hydrogensulfite	No data available

12.4 Mobility

Mobility
The product is miscible with water. May spread in water systems.

Mobility in soil
See component information below.

Chemical Name	Mobility in soil
Ammonium hydrogensulfite	No data 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 to an approved waste handling site for recycling or disposal.
EWC Waste Disposal No	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: 06 01 99

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 Hazard class	Not regulated
ICAO Hazard class/division	Not regulated

14.4 Packing group

ADR/RID/ADN/ADG Packing Group	Not regulated
IMDG Packing group	Not regulated
ICAO 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:
Regulation (EC) No. 1907/2006 and Regulation (EC) No. 1272/2008
Commission Regulation (EU) No 2015/830 of 28 May 2015
Registration, Evaluation, Authorization and Restriction of Chemicals (REACH)

Dangerous substance category per Seveso Directive (2012/18/EU)
This product does not contain substances listed under Dangerous substance category per Seveso Directive (2012/18/EU)

Netherlands
Dutch Mining Regulations: In accordance with Mining Regulations 9.2 and Chapter 4 of the Working Conditions Decree.

Germany
Regulations governing systems for handling substances hazardous to waters
Hazardous substances ordinance

Germany, Water Endangering Classes (VwVwS)	Water endangering class = 1 (self classification)
Technical Rules for Hazardous Substances (TRGS)	TRGS 220 National aspects when compiling safety data sheets TRGS 510 Storage of hazardous substances in non stationary containers TRGS 900 Occupational exposure limits

International inventories

USA, Toxic Substances Control Act inventory (TSCA)	Complies
Canada (DSL)	Complies
Philippines (PICCS)	Complies
Inventory - Japan - Existing and New Chemicals list	Complies
China (IECSC)	Complies
Australia (AICS)	Complies
Korea (KECL)	Complies
Inventory - New Zealand - Inventory of Chemicals (NZIoC)	Complies

Europe - REACH
All products supplied from the European Economic Area (EEA) are compliant with the REACH Regulation EC 1907/2006.For products supplied from the EEA, Schlumberger and/or its suppliers have pre-registered and is registering all of the substances that it and/or its suppliers manufactures in or imports into the EEA that are subject to Title II of the REACH Regulation. All products supplied from outside the EEA are subject to REACH only if imported into the EEA. The importer of the products must comply with REACH for each imported substance. Contact REACH@slb.com for REACH information.

Denmark Pr. no. 1244147

15.2 Chemical Safety Report

No information available

16. Other Information

Prepared by	Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Anne Karin (Anka) Fosse
Supercedes Date:	09/Jul/2018
Revision date	14/Mar/2019
Version	11
This SDS has been revised in the following section(s)	1, 2, 3, 15, 16 No changes with regard to classification have been made. Updated according to GHS/CLP.

Key literature references and sources for data
www.ChemADVISOR.com
Supplier
National Chemical Inventories
National regulatory information
National occupational exposure limits

Training Advice
Do not handle until all safety precautions have been read and understood
Follow general hygiene considerations recognised as common good workplace practices

Full text of H-Statements referred to under sections 2 and 3

H319 - Causes serious eye irritation

H280 - Contains gas under pressure; may explode if heated
H314 - Causes severe skin burns and eye damage
H331 - Toxic if inhaled
EUH031 - Contact with acids liberates toxic gas

*A mark of M-I L.L.C., a Schlumberger Company

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.
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Safety Data Sheet
SAFE-SURF* EU

1. Identification of the substance/mixture and ofthe company/undertaking

1.1 Product identifier

Product name SAFE-SURF* EU
Product code PID20170

1.2 Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Completion fluid additive.

Uses advised against Consumer use

1.3 Details of the supplier of the safety data sheet

Supplier
Schlumberger Oilfield UK PLC
Schlumberger House, Buckingham Gate
Gatwick Airport
West Sussex RH6 0NZ

+47 51577424

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 001 281 561 1600

National Poison Center Numbers

Netherlands	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

Health hazards

Acute toxicity - Oral	Category 4
Acute toxicity - Dermal	Category 4
Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 1

Environmental hazards Not classified

Physical Hazards Not classified

2.2 Label elements

Signal word
DANGER

Hazard Statements
H302 - Harmful if swallowed
H312 - Harmful in contact with skin
H315 - Causes skin irritation
H318 - Causes serious eye damage
H332 - Harmful if inhaled

Precautionary Statements
P280 - Wear protective gloves, protective clothing, eye protection
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
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

Supplementary precautionary statements
P261 - Avoid breathing 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
P310 - Immediately call a POISON CENTER or physician
P330 - Rinse mouth
P332 + P313 - If skin irritation occurs: Get medical attention
P362 + P364 - Take off contaminated clothing and wash it before reuse

Contains
2-butoxyethanol

D-Glucopyranose, oligomeric, C8-10 glycosides

2.3 Other hazards

Not classified as PBT/vPvB by current EU criteria

Thermal decomposition can lead to release of irritating and toxic gases and vapors

3. Composition/information on Ingredients

3.1 Substances

Not applicable

3.2 Mixtures

Chemical Name	EC No	CAS No	Weight-%	Component information	REACH registration number
2-butoxyethanol	203-905-0	111-76-2	30-60	Acute Tox. 4 (H302) Acute Tox. 4 (H312) Acute Tox. 4 (H332) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319)	EU: 01-2119475108-36-xxxx
D-Glucopyranose, oligomeric, C8-10 glycosides	500-220-1	68515-73-1	5-10	Eye Dam.1 (H318)	EU: 01-2119488530-36-xxxx

Comments
The product contains other ingredients which do not contribute to the overall classification.

4. First Aid Measures

4.1 First aid measures

Inhalation Move to fresh air. Keep at rest. If breathing is difficult, (trained personnel should) give oxygen. Seek immediate medical attention/advice.

Ingestion Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Seek medical attention if irritation occurs.

Skin contact Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Seek medical attention if irritation occurs.

Eye Contact Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first five minutes, then continue rinsing eye. Seek medical attention at once.

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.

Ingestion Please see Section 11. Toxicological Information for further information.

Skin contact 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).

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

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

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

Exposure limits No biological limit allocated

Component Information

Chemical Name	EU OEL	Austria	Denmark
2-butoxyethanol	50 ppm STEL 246 mg/m³ STEL 20 ppm TWA 98 mg/m³ TWA Possibility of significant uptake through the skin*1)	40 ppm STEL 200 mg/m³ STEL 20 ppm TWA 98 mg/m³ TWA	20 ppm 98 mg/m³
D-Glucopyranose, oligomeric, C8-10 glycosides	Not determined	Not determined	Not determined
Chemical Name	**France**	**Germany**	**Hungary**
2-butoxyethanol	50ppmSTEL 246mg/m³STEL 10 ppmTWA 49 mg/m³TWA	10 ppm TWA 49 mg/m³ TWA	98mg/m³TWA 246mg/m³STEL
D-Glucopyranose, oligomeric, C8-10 glycosides	Not determined	Not determined	Not determined
Chemical Name	**Italy**	**Netherlands**	**Norway**
2-butoxyethanol	Not determined	100 mg/m³ TWA	10 ppm TWA 50 mg/m³ TWA 15 ppm STEL 75 mg/m³ STEL Skin
D-Glucopyranose, oligomeric, C8-10 glycosides	Not determined	Not determined	Not determined

Chemical Name	Poland	Portugal	Romania
2-butoxyethanol	200 mg/m³ STEL NDSCh 98 mg/m³ TWA NDS	Skin 50 ppm STEL VLE-CD 246 mg/m³ STEL VLE-CD 20 ppm TWA indicative limit value 98 mg/m³ TWA indicative limit value	50ppmSTEL 246mg/m³STEL 20ppmTWA 98mg/m³TWA
D-Glucopyranose, oligomeric, C8-10 glycosides	Not determined	Not determined	Not determined
Chemical Name	**Spain**	**Switzerland**	**UK**
2-butoxyethanol	50 ppm STEL 245 mg/m³ STEL Skin*2) 20 ppm TWA VLA-ED 98 mg/m³ TWA VLA-ED	20 ppm STEL 98 mg/m³ STEL Skin*2) 10 ppm TWA MAK 49 mg/m³ TWA MAK	50 ppm STEL 246 mg/m³ STEL Skin*2) 25 ppm TWA 123 mg/m³ TWA
D-Glucopyranose, oligomeric, C8-10 glycosides	Not determined	Not determined	Not determined

Europe - REACH
Derived No Effect Level (DNEL)

Short term exposure local effects

2-butoxyethanol

Inhalation	246 mg/m³

Short term exposure systemic effects

2-butoxyethanol

Dermal	89 mg/kg
Inhalation	1091 mg/m³

Long term exposure systemic effects

2-butoxyethanol

Dermal	125 mg/kg
Inhalation	98 mg/m³

D-Glucopyranose, oligomeric, C8-10 glycosides

Dermal	595000 mg/kg
Inhalation	420 mg/m³

Predicted No Effect Concentration (PNEC)

2-butoxyethanol

Fresh Water	8.8 mg/l
Sea Water	0.88 mg/l
Freshwater sediment	34.6 mg/kg
Sea sediment	3.46 mg/kg
Soil	2.33 mg/kg
Impact on sewage treatment	463 mg/l
Intermittent release	26.4 mg/l

D-Glucopyranose, oligomeric, C8-10 glycosides

Fresh Water	0.176 mg/L
Sea Water	0.018 mg/L
Freshwater sediment	1.516 mg/kg
Sea sediment	0.152 mg/kg
Soil	0.654 mg/kg
Impact on sewage treatment	560 mg/L
Intermittent release	0.27 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. 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. Tightly fitting safety goggles. Safety glasses with side-shields.
Hand protection	Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Impervious gloves made of: Neoprene Nitrile Butyl Break through time >480 minutes Glove thickness >=0.4 mm 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 a vapor filter (EN 141), Use respirator with organic vapor protection (A, brown), 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	Liquid
Appearance	Clear
Odor	Sweet
Color	Colorless - Light orange
Odor threshold	Not applicable

Property	Values	Remarks
pH	3.2	
pH @ dilution	No information available	
Melting point	No information available	
Boiling point/range	No information available	
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	~ 16 mmHg	@ 20 °C
Vapor density	No information available	
Specific gravity	No information available	
Bulk density	No information available	
Relative density	0.99 s.g	@ 20°C.
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	No information available
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

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
Not known.

10.4 Conditions to avoid

None known.

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

Inhalation	Harmful by inhalation. Inhalation of vapors in high concentration may cause shortness of breath (lung edema).
Eye contact	Causes serious eye damage.
Skin contact	Causes skin irritation. Components of the product may be absorbed into the body through the skin.
Ingestion	Harmful if swallowed.

Unknown acute toxicity Not applicable.

Toxicology data for the components

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
2-butoxyethanol	1200 mg/kg (Guinea pigs)	> 2000 mg/kg (Rat)	400 ppm (Rabbit)
D-Glucopyranose, oligomeric, C8-10 glycosides	> 2000 mg/kg bw (Rat) ECHA Data	> 2000 mg/kg (Rabbit) ECHA Data	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 Inhalation. Eye contact. Skin contact. Ingestion.

Routes of entry Inhalation. Eye contact. Skin contact. Ingestion.

Specific target organ toxicity - Single exposure Not classified

Specific target organ toxicity - Repeated exposure Not classified.

Aspiration hazard Not applicable.

Other information 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.
The product may affect the acidity (pH-factor) in water with risk of harmful effects to 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.

Toxicology data for the components

Chemical Name	Toxicity to fish	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates
2-butoxyethanol	= 2950 mg/L LC50 Lepomis macrochirus 96 h = 1490 mg/L LC50 Lepomis macrochirus 96 h	No information available	= 1698 - 1940 mg/L (LC50; Daphnia magna) = 1720 mg/L (EC50; water flea)

D-Glucopyranose, oligomeric, C8-10 glycosides	170 mg/l LC50 Zebra fish	37 mg/L (= 21 mg a.i./L) EC50 to the freshwater algae Scenedesmus subspicatus 72h	> 100 mg/l EC50 Daphnia magna 48h

12.2 Persistence and degradability

Readily biodegradable. See component information below.

Chemical Name	Persistence and degradability
2-butoxyethanol	Readily biodegradable
D-Glucopyranose, oligomeric, C8-10 glycosides	OECD 301 Readily biodegradable

12.3 Bioaccumulative potential

The product does not contain any substances expected to be bioaccumulating. See component information below.

Chemical Name	Bioaccumulation
2-butoxyethanol	Not likely to bioaccumulate
D-Glucopyranose, oligomeric, C8-10 glycosides	Not likely to bioaccumulate

12.4 Mobility

Mobility
Soluble in water. See component information below.

Chemical Name	Mobility
2-butoxyethanol	Soluble in water
D-Glucopyranose, oligomeric, C8-10 glycosides	Partially soluble

Mobility in soil
See component information below.

Chemical Name	Mobility in soil
2-butoxyethanol	No information available
D-Glucopyranose, oligomeric, C8-10 glycosides	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 to an approved waste handling site for recycling or disposal.
EWC Waste Disposal No	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: 07 01 04 Waste Code: 7152 Organic waste without halogen.

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:
Regulation (EC) No. 1907/2006 and Regulation (EC) No. 1272/2008
Commission Regulation (EU) No 2015/830 of 28 May 2015
Registration, Evaluation, Authorization and Restriction of Chemicals (REACH)

Dangerous substance category per Seveso Directive (2012/18/EU)
This product does not contain substances listed under Dangerous substance category per Seveso Directive (2012/18/EU)

Netherlands
Dutch Mining Regulations: In accordance with Mining Regulations 9.2 and Chapter 4 of the Working Conditions Decree.

International inventories

USA (TSCA)	Complies
Canada (DSL)	Complies
Philippines (PICCS)	Complies
Japan (ENCS)	Does not comply
China (IECSC)	Complies
Australia (AICS)	Complies
Korean (KECL)	Complies
New Zealand (NZIoC)	Complies

Europe - REACH
All products supplied from the European Economic Area (EEA) are compliant with the REACH Regulation EC 1907/2006.For products supplied from the EEA, Schlumberger and/or its suppliers have pre-registered and is registering all of the substances that it and/or its suppliers manufactures in or imports into the EEA that are subject to Title II of the REACH Regulation. All products supplied from outside the EEA are subject to REACH only if imported into the EEA. The importer of the products must comply with REACH for each imported substance. Contact REACH@slb.com for REACH information.

15.2 Chemical Safety Report

No information available

16. Other Information

Prepared by	Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Anne Karin (Anka) Fosse
Supersedes Date:	08/Jul/2016
Revision date	09/Aug/2018
Version	2
This SDS has been revised in the following section(s)	1, 2, 3, 8, 11, 12, 15, 16 Product Code change 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

Training Advice
Do not handle until all safety precautions have been read and understood
Follow general hygiene considerations recognized as common good workplace practices

Full text of H-Statements referred to under sections 2 and 3

H302 - Harmful if swallowed
H312 - Harmful in contact with skin
H315 - Causes skin irritation
H318 - Causes serious eye damage
H332 - Harmful if inhaled
H319 - Causes serious eye irritation

*A mark of M-I L.L.C., a Schlumberger Company

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
SI-414N

1. Identification of the Substance/Preparation and of the Company/Undertaking

1.1 Product identifier

Product name SI-414N
Product code PID11993

1.2 Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Scale Inhibitor.

Uses advised against Consumer use

1.3 Details of the supplier of the safety data sheet

Supplier
Schlumberger Oilfield UK PLC
Schlumberger House, Buckingham Gate
Gatwick Airport
West Sussex RH6 0NZ

+47 51577424

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 001 281 561 1600

National Poison Center Numbers

Norway	Poison information centre: +47 22 59 13 00

2. Hazards Identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Health hazards

Skin corrosion/irritation	Category 1 Subcategory 1A
Serious eye damage/eye irritation	Category 1

Environmental hazards Not classified

Physical Hazards Not classified

2.2 Label elements

Signal word
DANGER

Hazard Statements
H314 - Causes severe skin burns and eye damage

Precautionary Statements
P260 - Do not breathe dust/fume/gas/mist/vapours/spray
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P301 + P330 + P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P303 + P361 + P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

Supplementary precautionary statements
P264 - Wash face, hands and any exposed skin thoroughly after handling
P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
P310 - Immediately call a POISON CENTER or doctor/physician
P363 - Wash contaminated clothing before reuse

Contains
2-Butenedioic acid (Z)-, polymer with sodium 2-propene-1-sulfonate

Sodium hydroxide

Sodium chloride (impurity)

Sodium sulfate (Impurity)

2.3 Other hazards

Not classified as PBT/vPvB by current EU criteria

3. Composition/information on Ingredients

3.1 Substances

Not applicable

3.2 Mixtures

Chemical Name	EC No	CAS No	Weight-%	Component information	REACH registration number
2-Butenedioic acid (Z)-, polymer with sodium 2-propene-1-sulfonate	-	68715-83-3	10-30	Acute Tox. 4 (H302) Met. Corr. 1 (H290)	Not applicable
Sodium hydroxide	215-185-5	1310-73-2	5-<10	Met. Corr. 1 (H290) Skin Corr. 1A (H314) Eye Dam. 1(H318)	01-2119457892-27-xxxx
Sodium chloride (impurity)	231-598-3	7647-14-5	1-5	Not classified	Not applicable
Sodium sulfate (Impurity)	231-820-9	7757-82-6	1-5	Not classified	Not applicable

Comments
The product contains other ingredients which do not contribute to the overall classification.
Based on test data - H290 does not apply.

4. First Aid Measures

4.1 First aid measures

Inhalation Move the exposed person to fresh air at once. If breathing is difficult, (trained personnel should) give oxygen. If not breathing, give artificial respiration. Seek medical attention at once.

Ingestion Do NOT induce vomiting. Get immediate medical attention. Rinse mouth. Risk of product entering the lungs on vomiting after ingestion. Never give anything by mouth to an unconscious person.

Skin contact Promptly wash contaminated skin with soap or mild detergent and water. Promptly remove clothing if soaked through and wash as above. Burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Chemical burns must be treated by a physician.

Eye Contact Remove contact lenses, if worn. Immediately flush eyes with water for 15 minutes while holding eyelids open. Immediate medical attention is required.

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

General advice Seek medical attention for all burns, regardless how minor they may seem. 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.

Ingestion	Please see Section 11. Toxicological Information for further information.
Skin contact	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. Firefighting Measures

5.1 Extinguishing media

Suitable extinguishing media
Water spray, dry chemical, carbon dioxide (CO_2), or foam.

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
Heating of containers may cause pressure rise, with risk of bursting.

Hazardous combustion products
Fire or high temperatures create: Carbon oxides (COx), Sulphur oxides, Sulfuric 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

Do not get on skin or clothing. Wash thoroughly after handling. Do not breathe vapours or spray mist. 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
Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local/national regulations (see Section 13).

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 get in eyes, on skin or on clothing. 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. Keep airborne concentrations below exposure limits.

Storage precautions Keep containers tightly closed in a dry, cool and well-ventilated place Avoid excessive heat for prolonged periods of time. Protect from freezing Avoid contact with: Strong acids

Storage class Corrosive 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

Exposure Limits Because this product is a liquid, the dust-related Workplace Exposure Limits for the components do not apply.

No biological limit allocated

Component Information

Chemical Name	EU OEL - Third List	Austria	Denmark
2-Butenedioic acid (Z)-, polymer with sodium 2-propene-1-sulfonate	Not determined	Not determined	Not determined
Sodium hydroxide	Not determined	4 mg/m³ STEL inhalable fraction, 8x5 min 2 mg/m³ TWA inhalable fraction	2 mg/m³ Ceiling

Sodium chloride (impurity)	Not determined	Not determined	Not determined
Sodium sulfate (Impurity)	Not determined	Not determined	Not determined
Chemical Name	**France**	**Germany**	**Hungary**
2-Butenedioic acid (Z)-, polymer with sodium 2-propene-1-sulfonate	Not determined	Not determined	Not determined
Sodium hydroxide	2 mg/m³TWA	Not determined	2 mg/m³ STEL 2 mg/m³ TWA
Sodium chloride (impurity)	Not determined	Not determined	Not determined
Sodium sulfate (Impurity)	Not determined	Not determined	Not determined
Chemical Name	**Italy**	**Netherlands**	**Norway**
2-Butenedioic acid (Z)-, polymer with sodium 2-propene-1-sulfonate	Not determined	Not determined	Not determined
Sodium hydroxide	2 mg/m³ Ceiling	Not determined	2 mg/m³ Ceiling
Sodium chloride (impurity)	Not determined	Not determined	Not determined
Sodium sulfate (Impurity)	Not determined	Not determined	Not determined
Chemical Name	**Poland**	**Portugal**	**Romania**
2-Butenedioic acid (Z)-, polymer with sodium 2-propene-1-sulfonate	Not determined	Not determined	Not determined
Sodium hydroxide	1 mg/m³ STEL NDSCh 0.5 mg/m³ TWA NDS	2 mg/m³ Ceiling	Not determined
Sodium chloride (impurity)	Not determined	Not determined	Not determined
Sodium sulfate (Impurity)	Not determined	Not determined	Not determined
Chemical Name	**Spain**	**Switzerland**	**UK**
2-Butenedioic acid (Z)-, polymer with sodium 2-propene-1-sulfonate	Not determined	Not determined	Not determined
Sodium hydroxide	2 mg/m³ STEL	2 mg/m³ STEL inhalable dust 2 mg/m³ TWA MAK	2 mg/m³ STEL
Sodium chloride (impurity)	Not determined	Not determined	Not determined
Sodium sulfate (Impurity)	Not determined	Not determined	Not determined

Derived No Effect Level (DNEL)

Long term exposure local effects

Sodium hydroxide

Inhalation 1 mg/m³

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
Eye protection must conform to standard EN 166. Wear chemical splash goggles and face shield.

Hand protection
Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training
Use protective gloves made of: Nitrile PVC
Break through time >480 minutes
Glove thickness 0.5 mm
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 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 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	Liquid
Appearance	No information available
Odour	Mild
Colour	Amber
Odour threshold	Not applicable

Property	**Values**	**Remarks**
pH	5.0 - 7.0	
pH @ dilution	No information available	
Melting / freezing point	No information available	
Boiling point/range	No information available	
Flash point	> 100 °C / > 212 °F	ASTM D 93-11
Evaporation rate	No information available	
Flammability (solid, gas)	Not applicable	
Flammability Limit in Air		
Upper flammability limit	Not applicable	
Lower flammability limit	Not applicable	
Vapour pressure	No information available	
Vapour density	No information available	
Specific gravity	No information available	
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	No information available	
log Pow	No information available	

Explosive properties	Not applicable
Oxidising properties	None known

9.2 Other information

Pour point	< -5°C / 23°F
Molecular weight	No information available
VOC content(%)	None
Density	1.20 ± 0.03 g/ml @ 20°C

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

Corrosive.

10.2 Chemical stability

Stable under normal temperature conditions and recommended use.

10.3 Possibility of Hazardous Reactions

Hazardous polymerisation
Not known.

10.4 Conditions to avoid

Protect from freezing. Avoid excessive heat for prolonged periods of time.

10.5 Incompatible materials

Strong acids.

10.6 Hazardous decomposition products

See Section 5.2.

11. Toxicological Information

11.1 Information on toxicological effects

Acute toxicity

Inhalation	Vapours are corrosive. After 24-36 hours, injured persons may develop serious shortness of breath and lung oedema. Vapours irritate the respiratory system, and may cause coughing and difficulties in breathing.
Eye contact	Causes burns. May cause irreversible damage to eyes.
Skin contact	Causes burns.
Ingestion	Causes burns. Can burn mouth, throat, and stomach.
Unknown acute toxicity	Not applicable.

Toxicology data for the components

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
2-Butenedioic acid (Z)-, polymer with sodium 2-propene-1-sulfonate	LD50 > 10000 mg/kg (Rat)	LD50 > 10000 mg/kg (Rabbit)	LC50 > 20 mg/l (Rat) 4h
Sodium hydroxide	= 325 mg/kg (Rat)	1350 mg/kg (Rabbit)	No data available
Sodium chloride (impurity)	= 3 g/kg (Rat)	> 10 g/kg (Rabbit)	> 42 g/m³ (Rat) 1 h
Sodium sulfate (Impurity)	> 10000 mg/kg (Rat)	> 4 g/kg (Rabbit)	No data available

Sensitisation 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. Ingestion. Inhalation.

Routes of entry Skin contact. Eye contact. Ingestion. Inhalation.

Specific target organ toxicity - Single exposure Not classified

Specific target organ toxicity - Repeated exposure Not classified.

Aspiration hazard Not applicable.

Other information 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-Butenedioic acid (Z)-, polymer with sodium 2-propene-1-sulfonate	No information available	No information available	No information available
Sodium hydroxide	= 45.4 mg/L LC50 Oncorhynchus mykiss 96 h	No information available	No information available
Sodium chloride (impurity)	4747 - 7824 mg/L LC50	No information available	340.7 - 469.2 mg/L EC50 Daphnia

	Oncorhynchus mykiss 96 h 6420 - 6700 mg/L LC50 Pimephales promelas 96 h = 7050 mg/L LC50 Pimephales promelas 96 h 6020 - 7070 mg/L LC50 Pimephales promelas 96 h = 12946 mg/L LC50 Lepomis macrochirus 96 h 5560 - 6080 mg/L LC50 Lepomis macrochirus 96 h		magna 48 h = 1000 mg/L EC50 Daphnia magna 48 h
Sodium sulfate (Impurity)	= 13500 mg/L LC50 Lepomis macrochirus 96 h 3040 - 4380 mg/L LC50 Lepomis macrochirus 96 h > 6800 mg/L LC50 Pimephales promelas 96 h 13500 - 14500 mg/L LC50 Pimephales promelas 96 h	No information available	= 630 mg/L EC50 Daphnia magna 96 h = 2564 mg/L EC50 Daphnia magna 48 h

12.2 Persistence and degradability

See component information below.

Chemical Name	Persistence and degradability
Sodium hydroxide	Inorganic compound

12.3 Bioaccumulative potential

See component information below.

Chemical Name	Bioaccumulation
Sodium hydroxide	Product/Substance is inorganic

12.4 Mobility

Mobility
See component information below.

Chemical Name	Mobility
Sodium hydroxide	Soluble in water

Mobility in soil
See component information below.

Chemical Name	Mobility in soil
Sodium hydroxide	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 to an approved waste handling site for recycling or disposal.
EWC Waste Disposal No	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: 06 02 04 Waste Code: 7132 Inorganic bases.

14. Transport information

14.1. UN number

UN/ID No. (ADR/RID/ADN/ADG)	UN1824
UN No. (IMDG)	UN1824
UN No. (ICAO/ANAC)	UN1824

14.2. UN proper shipping name
SODIUM HYDROXIDE SOLUTION,

14.3. Hazard class(es)

ADR/RID/ADN/ADG Hazard class	8
IMDG Hazard class	8
ICAO Hazard class/division	8

14.4 Packing group

ADR/RID/ADN/ADG Packing Group	II
IMDG Packing group	II
ICAO Packing group	II

14.5 Environmental hazard
No

14.6 Special precautions

Hazard ID	80
EmS (IMDG)	F-A, S-B
Emergency Action Code (EAC)	2R
Tunnel restriction code	(E)

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:
Regulation (EC) No. 1907/2006 and Regulation (EC) No. 1272/2008
Commission Regulation (EU) No 2015/830 of 28 May 2015
Registration, Evaluation, Authorization and Restriction of Chemicals (REACH)

Dangerous substance category per Seveso Directive (2012/18/EU)

This product does not contain substances listed under Dangerous substance category per Seveso Directive (2012/18/EU)

International inventories

USA, Toxic Substances Control Act inventory (TSCA)	Complies
Canada (DSL)	Complies
Philippines (PICCS)	Complies
Inventory - Japan - Existing and New Chemicals list	Does not comply
China (IECSC)	Complies
Australia (AICS)	Complies
Korea (KECL)	Complies
Inventory - New Zealand - Inventory of Chemicals (NZIoC)	Complies

Europe - REACH

All products supplied from the European Economic Area (EEA) are compliant with the REACH Regulation EC 1907/2006.For products supplied from the EEA, Schlumberger and/or its suppliers have pre-registered and is registering all of the substances that it and/or its suppliers manufactures in or imports into the EEA that are subject to Title II of the REACH Regulation. All products supplied from outside the EEA are subject to REACH only if imported into the EEA. The importer of the products must comply with REACH for each imported substance. Contact REACH@slb.com for REACH information.

15.2 Chemical Safety Report

No information available

16. Other Information

Prepared by	Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Sandra McWilliam
Supercedes Date:	12/Jun/2018
Revision date	24/Mar/2020
Version	3
This SDS has been revised in the following section(s)	All sections 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

Training Advice
Do not handle until all safety precautions have been read and understood
Follow general hygiene considerations recognised as common good workplace practices

Full text of H-Statements referred to under sections 2 and 3

H314 - Causes severe skin burns and eye damage
H290 - May be corrosive to metals
H302 - Harmful if swallowed
H318 - Causes serious eye damage

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

SOBO S GOLD 08

Compilation date: 16/11/2011

Revision date: 27/04/2016

Revision No: 9

Section 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name: SOBO S GOLD 08

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of substance / mixture: PC35: Washing and cleaning products (including solvent based products).

1.3. Details of the supplier of the safety data sheet

Company name: Oil Technics Ltd
Linton Business Park
Gourdon
Aberdeenshire
DD10 0NH
United Kingdom, Scotland

Tel: +44 (0) 1561 361515

Email: info@oiltechnics.com

1.4. Emergency telephone number

Emergency tel: +44 (0) 1561 361515 (24 Hours)

Section 2: Hazards identification

2.1. Classification of the substance or mixture

Classification under CLP: Eye Irrit. 2: H319

Most important adverse effects: Causes serious eye irritation.

2.2. Label elements

Label elements under CLP:

Hazard statements: H319: Causes serious eye irritation.

Signal words: Warning

Hazard pictograms: GHS07: Exclamation mark

Precautionary statements: P264: Wash hands thoroughly after handling.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+313: If eye irritation persists: Get medical advice/attention.

[cont...]

2.3. Other hazards

PBT: This product is not identified as a PBT/vPvB substance.

Section 3: Composition/information on ingredients

3.2. Mixtures

Hazardous ingredients:

TETRAPOTASSIUM PYROPHOSPHATE (TKPP) - REACH registered number(s): 01-2119489369-18

EINECS	CAS	CHIP Classification	CLP Classification	Percent
230-785-7	7320-34-5	-	Eye Irrit. 2: H319	1-5%

ALKYLPOLYGLYCOSIDE C9-11

603-654-0	132778-08-6	-	Eye Dam. 1: H318	1-5%

Non-classified ingredients:

WATER

EINECS	CAS	CHIP Classification	CLP Classification	Percent
-	7732-18-5	-	-	>80%

Section 4: First aid measures

4.1. Description of first aid measures

Skin contact: Wash immediately with plenty of soap and water.

Eye contact: Bathe the eye with running water for 15 minutes.

Ingestion: Wash out mouth with water.

Inhalation: Consult a doctor.

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

Skin contact: There may be mild irritation at the site of contact.

Eye contact: There may be irritation and redness.

Ingestion: There may be irritation of the throat.

Inhalation: No symptoms.

Delayed / immediate effects: Immediate effects can be expected after short-term exposure.

4.3. Indication of any immediate medical attention and special treatment needed

Immediate / special treatment: Not applicable.

Section 5: Fire-fighting measures

5.1. Extinguishing media

Extinguishing media: Suitable extinguishing media for the surrounding fire should be used. Use water spray to cool containers.

[cont...]

5.2. Special hazards arising from the substance or mixture

Exposure hazards: In combustion emits toxic fumes.

5.3. Advice for fire-fighters

Advice for fire-fighters: Wear self-contained breathing apparatus. Wear protective clothing to prevent contact with skin and eyes.

Section 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions: Refer to section 8 of SDS for personal protection details. Turn leaking containers leak-side up to prevent the escape of liquid.

6.2. Environmental precautions

Environmental precautions: Do not discharge into drains or rivers. Contain the spillage using bunding.

6.3. Methods and material for containment and cleaning up

Clean-up procedures: Absorb into dry earth or sand. Transfer to a closable, labelled salvage container for disposal by an appropriate method.

6.4. Reference to other sections

Reference to other sections: Refer to section 8 of SDS.

Section 7: Handling and storage

7.1. Precautions for safe handling

Handling requirements: Avoid direct contact with the substance. Ensure there is sufficient ventilation of the area. Avoid the formation or spread of mists in the air.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions: Store in cool, well ventilated area. Keep container tightly closed.

7.3. Specific end use(s)

Specific end use(s): No data available.

Section 8: Exposure controls/personal protection

8.1. Control parameters

Hazardous ingredients:

TETRAPOTASSIUM PYROPHOSPHATE (TKPP)

Workplace exposure limits: **Respirable dust**

State	8 hour TWA	15 min. STEL	8 hour TWA	15 min. STEL

[cont...]

UK	1mg/m3	2mg/m3	-	-

DNEL/PNEC Values

DNEL / PNEC No data available.

8.2. Exposure controls

Engineering measures: Ensure there is sufficient ventilation of the area.

Respiratory protection: Respiratory protection not required.

Hand protection: Protective gloves.

Eye protection: Safety glasses. Ensure eye bath is to hand.

Skin protection: Protective clothing.

Environmental: An environmental assessment must be made to ensure compliance with local environmental legislation.

Section 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

State: Liquid

Colour: Colourless

Odour: Barely perceptible odour

Evaporation rate: Slow

Oxidising: Non-oxidising (by EC criteria)

Solubility in water: Soluble

Viscosity: Non-viscous

Kinematic viscosity: <10 mPas

Viscosity test method: Kinematic viscosity in 10-6 m2/s at 40°C (ISO 3104/3105)

Boiling point/range°C: 100 **Flash point°C:** >93

Relative density: 1.05 **pH:** 8.5 - 9.5

9.2. Other information

Other information: No data available.

Section 10: Stability and reactivity

10.1. Reactivity

Reactivity: Stable under recommended transport or storage conditions.

10.2. Chemical stability

Chemical stability: Stable under normal conditions.

10.3. Possibility of hazardous reactions

Hazardous reactions: Hazardous reactions will not occur under normal transport or storage conditions. Decomposition may occur on exposure to conditions or materials listed below.

[cont...]

10.4. Conditions to avoid

Conditions to avoid: Heat.

10.5. Incompatible materials

Materials to avoid: Strong oxidising agents. Strong acids.

10.6. Hazardous decomposition products

Haz. decomp. products: In combustion emits toxic fumes.

Section 11: Toxicological information

11.1. Information on toxicological effects

Toxicity values:

Route	Species	Test	Value	Units
ORAL	RAT	LD50	>5000	mg/kg

Hazardous ingredients:

TETRAPOTASSIUM PYROPHOSPHATE (TKPP)

ORAL	RAT	LD50	>2000	mg/kg

ALKYLPOLYGLYCOSIDE C9-11

ORAL	-	LD50	2000	mg/kg

Excluded effects for mixture:

Effect	Route	Basis
Acute toxicity (harmful)	-	Classified as non-hazardous because of lack of data
Acute toxicity (toxic)	-	Classified as non-hazardous because of lack of data
Acute toxicity (very toxic)	-	Classified as non-hazardous because of lack of data
Irritation	-	Classified as non-hazardous because of lack of data
Corrosivity	-	Classified as non-hazardous because of lack of data
Sensitisation	-	Classified as non-hazardous because of lack of data
Repeated dose toxicity	-	Classified as non-hazardous because of lack of data
Carcinogenicity	-	Classified as non-hazardous because of lack of data

[cont...]

Mutagenicity	-	Classified as non-hazardous because of lack of data
Toxicity for reproduction	-	Classified as non-hazardous because of lack of data

Symptoms / routes of exposure

Skin contact: There may be mild irritation at the site of contact.

Eye contact: There may be irritation and redness.

Ingestion: There may be irritation of the throat.

Inhalation: No symptoms.

Delayed / immediate effects: Immediate effects can be expected after short-term exposure.

Section 12: Ecological information

12.1. Toxicity

Ecotoxicity values:

Species	Test	Value	Units
Bacteria	48H EC50	>100	mg/l
FISH	96H LC50	>10	mg/l

Hazardous ingredients:

TETRAPOTASSIUM PYROPHOSPHATE (TKPP)

ALGAE	72H IC50	>100	mg/l
Daphnia magna	48H EC50	>100	mg/l
RAINBOW TROUT (Oncorhynchus mykiss)	96H LC50	>100	mg/l

ALKYLPOLYGLYCOSIDE C9-11

FISH	96H LC50	10	mg/l

12.2. Persistence and degradability

Persistence and degradability: Biodegradable.

12.3. Bioaccumulative potential

Bioaccumulative potential: No bioaccumulation potential.

12.4. Mobility in soil

Mobility: Readily absorbed into soil.

12.5. Results of PBT and vPvB assessment

PBT identification: This product is not identified as a PBT/vPvB substance.

12.6. Other adverse effects

Other adverse effects: Negligible ecotoxicity.

[cont...]

Section 13: Disposal considerations

13.1. Waste treatment methods

Disposal operations: Transfer to a suitable container and arrange for collection by specialised disposal company.

Recovery operations: Recycling/reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes).

Disposal of packaging: May be reused following decontamination.

NB: The user's attention is drawn to the possible existence of regional or national regulations regarding disposal.

Section 14: Transport information

Transport class: This product does not require a classification for transport.

Section 15: Regulatory information

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

15.2. Chemical Safety Assessment

Section 16: Other information

Other information

Other information: This safety data sheet is prepared in accordance with Commission Regulation (EU) No 453/2010.

Phrases used in s.2 and s.3: H318: Causes serious eye damage.

H319: Causes serious eye irritation.

Legend to abbreviations: PNEC = predicted no effect level

DNEL = derived no effect level

LD50 = median lethal dose

LC50 = median lethal concentration

EC50 = median effective concentration

IC50 = median inhibitory concentration

dw = dry weight

bw = body weight

cc = closed cup

oc = open cup

MUS = mouse

GPG = guinea pig

RBT = rabbit

HAM = hamster

HMN = human

MAM = mammal

[cont...]

PGN = pigeon

IVN = intravenous

SCU = subcutaneous

SKN = skin

DRM = dermal

OCC = ocular/corneal

PCP = phycico-chemical properties

Legal disclaimer: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. This company shall not be held liable for any damage resulting from handling or from contact with the above product.