Safety Data Sheet
BREAKDOWN† BREAKER

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

1.1 Product identifier

Product name BREAKDOWN† BREAKER
Product code PID11923

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

Recommended use Breaker System.

Uses advised against Consumer use

1.3 Details of the supplier of the safety data sheet

Supplier identification
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

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

Regulation (EC) No. 1272/2008

Health hazards

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2

Environmental hazards Not classified

Physical Hazards Not classified

2.2 Label Elements

Signal word
WARNING

Hazard statements
H315 - Causes skin irritation
H319 - Causes serious eye irritation

Precautionary Statements - EU (§28, 1272/2008)
P264 - Wash face, hands and any exposed skin thoroughly after handling
P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection
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
P337 + P313 - If eye irritation persists: Get medical advice/ attention
P501 - Dispose of contents/container in accordance with local regulations.

Supplementary precautionary statements
P332 + P313 - If skin irritation occurs: Get medical advice/ attention
P362 - Take off contaminated clothing and wash before re-use

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Contains

Dipotassium ethylenediaminetetraacetate

2-butoxyethanol

Potassium hydroxide

2.3 Other data

Not classified as PBT/vPvB by current EU criteria

3. Composition/information on ingredients

3.1 Substances

Not Applicable

3.2 Mixtures

Component	EC-No.	CAS-No	Weight % - range	Classification (67/548)	Classification (Reg. 1272/2008)	REACH registration number
Dipotassium ethylenediaminetetraacetate	217-895-0	2001-94-7	10-30	Xn; R20	Acute Tox. 4(H332)	No data available
2-butoxyethanol	203-905-0	111-76-2	1-5	Xn; R20/21/22 Xi; R36/38	Acute Tox. 4 (H302) Acute Tox. 4 (H312) Acute Tox. 4 (H332) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319)	01-2119475108-36-xxxx
Potassium hydroxide	215-181-3	1310-58-3	>= 0.5 < 2.0	Xn; R22 C; R35	Met. Corr. 1 (H290) Acute Tox. 4 (H302) Skin Corr. 1A (H314)	01-2119487136-33-xxxx

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

Drilling fluid is a highly complex and variable blend of several proprietary products. Each drilling fluid is designed to meet the drilling requirements of a specific well. During the drilling process the composition and physical properties of the drilling fluid are constantly changing; therefore, a complete disclosure of a particular fluid's composition is impractical.

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. Seek medical attention if irritation occurs.

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

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 immediate medical attention/advice.

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
Use extinguishing media appropriate for surrounding material.

Extinguishing media which shall not be used for safety reasons
None known.

5.2 Special hazards arising from the substance or mixture

Unusual fire and explosion hazards
None known.

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 materials for containment and cleaning up

Methods for Containment
Prevent further leakage or spillage if safe to do so. Dike far ahead of liquid spill for later disposal.

Methods for cleaning up
Absorb with earth, sand or other non-combustable 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. Avoid contact with: Strong oxidising agents

Storage class Chemical storage.

Packaging material Use specially constructed containers only

7.3 Specific end uses

See Section 1.2.

8. Exposure controls/personal protection

8.1 Control parameters

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

Component	EU OEL - Third List	Austria	Australia	Denmark
Dipotassium ethylenediaminetetraacetate	Not determined	Not determined	Not determined	Not determined
2-butoxyethanol	20 ppm TWA 98 mg/m³ TWA 50 ppm STEL 246 mg/m³ STEL Possibility of significant uptake through the skin	Not determined	skin notation 20 ppm TWA; 96.9 mg/m³ TWA 50 ppm STEL; 242 mg/m³ STEL	20 ppm 98 mg/m³

Potassium hydroxide	Not determined	Not determined	Not determined	2 mg/m³ Ceiling

Component	Malaysia	France	Germany	Hungary
Dipotassium ethylenediaminetetraacetate	Not determined	Not determined	Not determined	Not determined
2-butoxyethanol	20 ppm TWA 96.7 mg/m³ TWA Skin notation	2 ppm 9.8 mg/m³	10 ppm MAK 49 mg/m³ MAK	Not determined
Potassium hydroxide	2 mg/m³ Ceiling	Not determined	Not determined	Not determined

Component	New Zealand	Italy	Netherlands	Norway
Dipotassium ethylenediaminetetraacetate	Not Determined	Not determined	Not determined	Not determined
2-butoxyethanol	25 ppm TWA 121 mg/m³ TWA Possibility of significant uptake through the skin	Not determined	100 mg/m³ GW	10 ppm TWA 50 mg/m³ TWA 20 ppm STEL 75 mg/m³ STEL Skin
Potassium hydroxide	2 mg/m³ Ceiling	Not determined	Not determined	2 mg/m³ Ceiling

Component	Poland	Portugal	Romania	Russia
Dipotassium ethylenediaminetetraacetate	Not determined	Not determined	Not determined	Not determined
2-butoxyethanol	200 mg/m³ STEL Skin 98 mg/m³ TWA	20 ppm TWA	Not determined	5 mg/m³ MAC
Potassium hydroxide	1 mg/m³ STEL 0.5 mg/m³ TWA	Not determined	Not determined	Not determined

Component	Spain	Switzerland	Turkey	UK
Dipotassium ethylenediaminetetraacetate	Not determined	Not determined	Not determined	Not determined
2-butoxyethanol	50 ppm VLA-EC 245 mg/m³ VLA-EC Skin 20 ppm VLA-ED indicative limit value 98 mg/m³ VLA-ED indicative limit value	20 ppm STEL 98 mg/m³ STEL Skin 10 ppm MAK 49 mg/m³ MAK	50 ppm STEL 246 mg/m³ STEL Skin 20 ppm TWA 98 mg/m³ TWA	50 ppm STEL 246 mg/m³ STEL Skin 25 ppm TWA 123 mg/m³ TWA
Potassium hydroxide	2 mg/m³ VLA-EC	2 mg/m³ MAK inhalable	Not determined	2 mg/m³ STEL

Derived No Effect Level (DNEL)

Short term exposure local effects

2-butoxyethanol

Inhalation	246 mg/m³

Long term exposure local effects

Potassium hydroxide

Inhalation	1 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

Predicted No Effect Concentration (PNEC)

2-butoxyethanol	
Fresh Water	8.8 mg/l
Sea Water	0.88 mg/l
Fresh water 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	9.1 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 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	Safety glasses with side-shields.
Hand protection	Use protective gloves made of:, Butyl, Nitrile, Neoprene, Be aware that liquid may penetrate the gloves. Frequent change is advisable.
Respiratory protection	No personal respiratory protective equipment normally required, In case of inadequate ventilation wear respiratory protection, 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.

9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	Liquid
Appearance	No information available
Odour	Odourless

Colour	Clear
Odor threshold	Not applicable

Property	**Values**	**Remarks**
pH	No information available	
pH @ dilution	5 - 8	1%
Melting/freezing point		
Boiling point/range	> 100 °C / > 212 °F	
Flash Point	> 100 °C / > 212 °F	Closed cup
Evaporation rate		
Flammability (solid, gas)	Not Applicable	
Flammability Limits in Air		
Upper flammability Limit	Not applicable	
Lower flammability limit	Not applicable	
Vapor pressure	No information available	
Vapor density	No information available	
Specific gravity	No information available	
Bulk density	No information available	
Relative density	1.05 - 1.35	@ 20 °C.
Water solubility	Miscible with water.	
Solubility in other solvents	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Kinematic viscosity		
Viscosity, dynamic	No information available	
Log Pow	No information available	

Explosive properties	No information available
Oxidizing properties	No information available

9.2 Other information

Pour point	No information available
Molecular weight	No information available
VOC content(%)	No information available
Density VALUE	No information available

10. Stability and reactivity

10.1 Reactivity

No specific reactivity hazards associated with this product.

10.2 Chemical stability

Stable under normal temperature conditions and recommended use.

10.3 Possibility of Hazardous Reactions

Hazardous polymerization
Hazardous polymerisation does not occur.

10.4 Conditions to avoid

None known.

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 Vapors may irritate throat and respiratory system.

Eye contact Causes serious eye irritation.

Skin contact Causes skin irritation. May be absorbed through the skin in harmful amounts.

Ingestion Ingestion may cause stomach discomfort.

Unknown acute toxicity Not Applicable.

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Dipotassium ethylenediaminetetraacetate	No data available	No data available	No data available
2-butoxyethanol	= 470 mg/kg (Rat)	= 99 mg/kg (Rabbit)	= 450 ppm (Rat) 4 h
Potassium hydroxide	= 284 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 Skin contact. Eye contact.

Routes of entry Skin contact. Eye contact.

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.

Toxicity to algae
This product is not considered toxic to algae.

Toxicity to fish
This product is not considered toxic to fish.

Toxicity to daphnia and other aquatic invertebrates
This product is not considered toxic to invertebrates.

Component	Toxicity to fish	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates
Dipotassium ethylenediaminetetraacetate	No information available	No information available	No information available
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)
Potassium hydroxide	= 80 mg/L LC50 Gambusia affinis 96 h	No information available	No information available

12.2 Persistence and degradability

No product level data available.

12.3 Bioaccumulative potential

No product level data available.

12.4 Mobility in soil

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

12.5 Results of PBT and vPvB assessment

Not classified as PBT/vPvB by current EU criteria.

12.6 Other adverse effects.

None known.

13. Disposal considerations

13.1 Waste treatment methods

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: 01 05 05.

14. Transport information

14.1 UN number
Not regulated

14.2 Proper shipping name
The product is not covered by international regulation on the transport of dangerous goods

14.3. Hazard class(es)

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 II of MARPOL 73/78 and the IBC Code
Water-based muds containing mixtures of products listed in Chapters 17 and/or 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.

Please contact MISDS@slb.com for info regarding transport in Bulk.

15. Regulatory information

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

Australian Standard for the Uniform Scheduling of Drugs and Poisons

2-butoxyethanol
Schedule 6
Potassium hydroxide
Schedule 6
Schedule 5

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.

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)	Does not Comply
European Union - EINECS and ELINCS	Complies
Canada, Domestic Substance List (DSL)	Complies
Philippines (PICCS)	Does not Comply
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

Contact REACH@miswaco.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	10/Jan/2012
Revision date	09/Oct/2015
Version	3
The following sections have been revised:	This SDS have been made in a new database and therefore a new layout. No changes with regard to classification have been made, Updated according to GHS/CLP.

Text of R phrases mentioned in Section 3
R20 - Harmful by inhalation
R22 - Harmful if swallowed
R35 - Causes severe burns

R20/21/22 - Harmful by inhalation, in contact with skin and if swallowed
R36/38 - Irritating to eyes and skin

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

H315 - Causes skin irritation
H319 - Causes serious eye irritation

H290 - May be corrosive to metals
H302 - Harmful if swallowed
H312 - Harmful in contact with skin
H314 - Causes severe skin burns and eye damage
H332 - Harmful if inhaled

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
D-SOLVER EXTRA*

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

1.1 Product identifier

Product name D-SOLVER EXTRA*
Product code PID18883

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

Recommended Use Chelating agent

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
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)

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 2
Serious eye damage/eye irritation	Category 2

Environmental hazards Not classified

Physical Hazards Not classified

2.2 Label elements

Signal word
WARNING

Hazard Statements
H315 - Causes skin irritation
H319 - Causes serious eye irritation

Precautionary Statements
P264 - Wash face, hands and any exposed skin thoroughly after handling
P280 - Wear protective gloves/protective clothing/eye protection/face protection
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
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

Supplementary precautionary statements
P332 + P313 - If skin irritation occurs: Get medical advice/attention
P362 - Take off contaminated clothing and wash before reuse

Contains
N-(2-Hydroxyethyl)ethylenediaminetriacetic acid

Trisodium [{ 2-[bis(carboxylatomethyl)amino]ethyl} (2-hydroxyethyl)amino]acetate

2,2'',2''-nitrilotriacetic acid

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
N-(2-Hydroxyethyl)ethylenediaminetriacetic acid	205-759-3	150-39-0	10-30	Acute Tox. 4 (H302) Skin Irrit. 2 (H315) Eye Dam.1 H318)	01-2120121510-77-xxxx
Trisodium [{2-[bis(carboxylatomethyl)amino]ethyl}(2-hydroxyethyl)amino]acetate	205-381-9	139-89-9	10-30	Eye Dam. 1 (H318) Acute Tox. 4 (H302)	01-2119972845-22-xxxx
2,2",2"-nitrilotriacetic acid	205-355-7	139-13-9	<5	Eye Irrit. 2 (H319) Carc. 2 (H351)	Not applicable

Comments
H318 do not apply. The overall product classification is H319 due to pH.

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 irritation persists.

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: Carbon oxides (COx), Nitrogen oxides (NOx).

5.3 Advice for firefighters

Special protective equipment for fire-fighters
As in any fire, wear self-contained breathing apparatus and full protective gear.

Special Fire-Fighting Procedures
Containers close to fire should be removed immediately or cooled with water.

6. Accidental Release Measures

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. See also section 8.

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.

Storage precautions Keep containers tightly closed in a dry, cool and well-ventilated place

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 No biological limit allocated

Component Information

Chemical Name	EU OEL - Third List	Austria	Denmark
N-(2-Hydroxyethyl)ethylenediaminetriacetic acid	Not determined	Not determined	Not determined
Trisodium [{	Not determined	Not determined	Not determined

2-[bis(carboxylatomethyl)amino]ethyl} (2-hydroxyethyl)amino]acetate			
2,2",2"-nitrilotriacetic acid	Not determined	Not determined	Not determined
Chemical Name	**France**	**Germany**	**Hungary**
N-(2-Hydroxyethyl)ethylenediaminetriacetic acid	Not determined	Not determined	Not determined
Trisodium [{ 2-[bis(carboxylatomethyl)amino]ethyl} (2-hydroxyethyl)amino]acetate	Not determined	Not determined	Not determined
2,2",2"-nitrilotriacetic acid	Not determined	Not determined	Not determined
Chemical Name	**Italy**	**Netherlands**	**Norway**
N-(2-Hydroxyethyl)ethylenediaminetriacetic acid	Not determined	Not determined	Not determined
Trisodium [{ 2-[bis(carboxylatomethyl)amino]ethyl} (2-hydroxyethyl)amino]acetate	Not determined	Not determined	Not determined
2,2",2"-nitrilotriacetic acid	Not determined	Not determined	Not determined
Chemical Name	**Poland**	**Portugal**	**Romania**
N-(2-Hydroxyethyl)ethylenediaminetriacetic acid	Not determined	Not determined	Not determined
Trisodium [{ 2-[bis(carboxylatomethyl)amino]ethyl} (2-hydroxyethyl)amino]acetate	Not determined	Not determined	Not determined
2,2",2"-nitrilotriacetic acid	Not determined	Not determined	Not determined
Chemical Name	**Spain**	**Switzerland**	**UK**
N-(2-Hydroxyethyl)ethylenediaminetriacetic acid	Not determined	Not determined	Not determined
Trisodium [{ 2-[bis(carboxylatomethyl)amino]ethyl} (2-hydroxyethyl)amino]acetate	Not determined	Not determined	Not determined
2,2",2"-nitrilotriacetic acid	Not determined	Not determined	Not determined

Derived No Effect Level (DNEL)

Short term exposure local effects

2,2",2"-nitrilotriacetic acid

Dermal	0.63 mg/cm²
Inhalation	3.21 mg/m³

Long term exposure local effects

N-(2-Hydroxyethyl)ethylenediaminetriacetic acid

Inhalation	10 mg/m³

Trisodium [{ 2-[bis(carboxylatomethyl)amino]ethyl} (2-hydroxyethyl)amino]acetate

Inhalation	10 mg/m³

2,2",2"-nitrilotriacetic acid

Dermal	0.21 mg/cm²
Inhalation	1.07 mg/m³

Short term exposure systemic effects

2,2",2"-nitrilotriacetic acid

Dermal	1.11 mg/kg
Inhalation	3.21 mg/m³

Long term exposure systemic effects

N-(2-Hydroxyethyl)ethylenediaminetriacetic acid

Inhalation	88 mg/kg

Trisodium [{ 2-[bis(carboxylatomethyl)amino]ethyl} (2-hydroxyethyl)amino]acetate

Inhalation	88 mg/m³

2,2",2"-nitrilotriacetic acid

Dermal	0.37 mg/kg

Predicted No Effect Concentration (PNEC)

N-(2-Hydroxyethyl)ethylenediaminetriacetic acid

Fresh Water	2.05 mg/l
Sea Water	0.21 mg/l
Freshwater sediment	8.05 mg/kg
Sea sediment	0.8 mg/kg
Soil	0.15 mg/kg
Impact on sewage treatment	41.1 mg/l
Intermittent release	1.54 mg/l

Trisodium [{ 2-[bis(carboxylatomethyl)amino]ethyl} (2-hydroxyethyl)amino]acetate

Fresh Water	2500 µg/L
Sea Water	250 µg/L
Freshwater sediment	107 µg/kg
Sea sediment	107 µg/kg
Soil	840 µg/kg
Impact on sewage treatment	50 mg/L
Intermittent release	1920 µg/L

2,2'',2''-nitrilotriacetic acid

Fresh Water	0.69 mg/l
Sea Water	0.069 mg/l
Freshwater sediment	0.005769 mg/kg
Sea sediment	0.005769 mg/kg
Soil	122.5 µg/kg
Impact on sewage treatment	400 mg/l
Intermittent release	6.9 mg/l

8.2 Exposure controls

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will vary from workplace to workplace and should be assessed by the user in each situation.

Engineering Controls
Ensure adequate ventilation. Provide mechanical general and/or local exhaust ventilation to prevent release of vapor or mist into work environment.

Personal protective equipment

Eye protection	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 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	No personal respiratory protective equipment normally required, In case of insufficient ventilation wear suitable respiratory equipment, Use respirator with organic vapor protection (A, brown), At work in confined or poorly ventilated spaces, respiratory protection with air

	supply must be used.
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	Slight Ammoniacal
Colour	Clear - Dark
Odour threshold	Not applicable

Property	**Values**	**Remarks**
pH	4.4 - 5.0	Conc.solution
pH @ dilution	No information available	
Melting / freezing point	No information available	
Boiling point/range	105 - 110 °C / 221 - 230 °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	1.15 - 1.25	
Bulk density	No information available	
Relative density	No information available	
Water solubility	Miscible with 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	<0	

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

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	Inhalation of vapours in high concentration may cause irritation of respiratory system.
Eye contact	Causes serious eye irritation.
Skin contact	Causes skin irritation.
Ingestion	Ingestion may cause stomach discomfort.
Unknown acute toxicity	Not applicable.

LD50 Oral > 2000 mg/kg Calculated (PRODUCT)

Toxicology data for the components

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
N-(2-Hydroxyethyl)ethylenediaminetriacetic acid	No data available	No data available	No data available
Trisodium [{ 2-[bis(carboxylatomethyl)amino]ethyl} (2-hydroxyethyl)amino]acetate	No data available	No data available	No data available
2,2'',2''-nitrilotriacetic acid	= 1100 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 Contains a known or suspected carcinogen.

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

Routes of Exposure Eye contact. Skin 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

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

N-(2-Hydroxyethyl)ethylenediaminetriacetic acid	No information available	No information available	No information available
Trisodium [{ 2-[bis(carboxylatomethyl)amino]ethyl} (2-hydroxyethyl)amino]acetate	No information available	No information available	No information available
2,2",2"-nitrilotriacetic acid	No information available	No information available	No information available

12.2 Persistence and degradability

Not readily biodegradable. See component information below.

Chemical Name	Persistence and degradability
N-(2-Hydroxyethyl)ethylenediaminetriacetic acid	Moderate biodegradation
2,2",2"-nitrilotriacetic acid	Moderate biodegradation

12.3 Bioaccumulative potential

Bioaccumulation is unlikely. See component information below.

Chemical Name	Bioaccumulation
N-(2-Hydroxyethyl)ethylenediaminetriacetic acid	Does not bioaccumulate
2,2",2"-nitrilotriacetic acid	Not likely to bioaccumulate

log Pow
<0

12.4 Mobility

Mobility
The product is miscible with water. 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 = 2
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 TRGS 905 List of substances that are carcinogenic, mutagenic or toxic for reproduction

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:	07/Jun/2017
Revision date	13/Mar/2019
Version	4
This SDS has been revised in the following section(s)	1, 2, 7, 8, 9, 12, 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

H315 - Causes skin irritation
H319 - Causes serious eye irritation

H302 - Harmful if swallowed
H318 - Causes serious eye damage
H351 - Suspected of causing cancer

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

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Safety data sheet number MI15934AUZ
Version 1
Revision date 21/Oct/2014
Supercedes date 18/Jan/2013

Safety Data Sheet
FLOWBAK†

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

1.1 Product identifier

Product name FLOWBAK†
Product code MI15934AUZ

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

Recommended use Completion fluid additive.

Uses advised against None known.

1.3 Details of the supplier of the safety data sheet

Supplier identification
M-I Australia Pty Ltd
Level 5
256 St. George Terrace
Perth
WA 6000
T= 08 9440 2900
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

2. Hazards identification

2.1 Classification of the substance or mixture

Regulation (EC) No. 1272/2008

Health hazards

Serious eye damage/eye irritation	Category 1
Skin sensitisation	Category 1

Environmental hazards Not classified

Physical Hazards Not classified

2.2 Label Elements

Signal word
DANGER

Hazard statements
H317 - May cause an allergic skin reaction
H318 - Causes serious eye damage

Precautionary Statements - EU (§28, 1272/2008)
P261 - Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray
P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection
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
P310 - Immediately call a POISON CENTER or doctor/ physician
P501 - Dispose of contents/container in accordance with local regulations.

Supplementary precautionary statements
P264 - Wash face, hands and any exposed skin thoroughly after handling
P272 - Contaminated work clothing should not be allowed out of the workplace
P333 + P313 - If skin irritation or rash occurs: Get medical advice/ attention
P362 - Take off contaminated clothing and wash before re-use

Classification according to EU Directives 67/548/EEC or 1999/45/EC

Indication of danger
Xi - Irritant

R-code(s)
R41, R43

Contains

Water

D-Glucopyranose, oligomeric, C8-10 glycosides

Citrus Extract

For the full text of the R-phrases and H-Statements mentioned in this Section, see Section 16.

2.3 Other data

Not classified as PBT/vPvB by current EU criteria

Australian statement of hazardous/dangerous nature
Classified as Hazardous according to the criteria of NOHSC.
HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

3. Composition/information on ingredients

3.1 Substances

Not Applicable

3.2 Mixtures

Component	EC-No.	CAS-No	Weight % - range	Classification (67/548)	Classification (Reg. 1272/2008)	REACH registration number
Water	244-063-4	7732-18-5	60-100	-	Not classified	No data available
D-Glucopyranose, oligomeric, C8-10 glycosides	500-220-1	68515-73-1	30-60	Xi; R41	Eye Dam. 1(H318)	No data available
Citrus Extract		68647-72-3	1-5	F; R10 Xn; R65 Xi; R38, R43	Flam Liq.3(H226) Skin Irrit.2(H315) Skin Sens.1(H317) Asp Tox.1(H304)	No data available

Comments
Citrus extract can use either CAS# 8028-48-6 or 68647-72-3. or 94266-47-4

4. First aid measures

4.1 Description of 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 removing all contaminated clothes and shoes. Get medical attention immediately if symptoms occur.

Eye contact Remove contact lenses. Promptly wash eyes with lots of water while lifting eye lids. Continue to rinse for at least 15 minutes. Seek immediate medical attention/advice.

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 shall not be used for safety reasons
Do not use a solid water stream as it may scatter and spread fire.

5.2 Special hazards arising from the substance or mixture

Precautions against fire and explosion
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

Remove all sources of ignition. Use personal protective equipment. See also section 8.

6.2 Environmental precautions

The product should not be allowed to enter drains, water courses or the soil.

Environmental exposure controls
Avoid release to the environment. Local authorities should be advised if significant spillages cannot be contained.

6.3 Methods and materials for containment and cleaning up

Methods for Containment
Prevent further leakage or spillage if safe to do so. Dike far ahead of liquid spill for later disposal.

Methods for cleaning up
Absorb with earth, sand or other non-combustable 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. Persons susceptible to allergic reactions should not handle this product. Keep away from open flames, hot surfaces and sources of ignition.

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 Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from open flames, hot surfaces and sources of ignition Strong oxidising agents Strong acids.

Storage class Chemical storage.

Packaging material Use specially constructed containers only

7.3 Specific end uses

See also 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	EU OEL - Third List	Austria	Australia	Denmark
Water	Not determined	Not determined	Not determined	Not determined
D-Glucopyranose, oligomeric, C8-10 glycosides	Not determined	Not determined	Not determined	Not determined

Citrus Extract	Not determined	Not determined	Not determined	Not determined

Component	Finland	France	Germany	Hungary
Water	Not determined	Not determined	Not determined	Not determined
D-Glucopyranose, oligomeric, C8-10 glycosides	Not determined	Not determined	Not determined	Not determined
Citrus Extract	Not determined	Not determined	Not determined	Not determined

Component	New Zealand	Italy	Netherlands	Norway
Water	Not Determined	Not determined	Not determined	Not determined
D-Glucopyranose, oligomeric, C8-10 glycosides	Not Determined	Not determined	Not determined	Not determined
Citrus Extract	Not Determined	Not determined	Not determined	Not determined

Component	Poland	Portugal	Romania	Russia
Water	Not determined	Not determined	Not determined	Not determined
D-Glucopyranose, oligomeric, C8-10 glycosides	Not determined	Not determined	Not determined	Not determined
Citrus Extract	Not determined	Not determined	Not determined	Not determined

Component	Spain	Switzerland	Turkey	UK
Water	Not determined	Not determined	Not determined	Not determined
D-Glucopyranose, oligomeric, C8-10 glycosides	Not determined	Not determined	Not determined	Not determined
Citrus Extract	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. Mechanical ventilation or local exhaust ventilation is required.

Personal protective equipment

Eye protection — It is good practice to wear goggles when handling any chemical. Chemical splash goggles and face shield.

Hand protection — Use protective gloves made of:, Neoprene, Nitrile, 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, Use respirator with organic vapor protection (A, brown).

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	Citrus
Colour	Dark brown
Odor threshold	Not applicable

Property	**Values**	**Remarks**
pH	No information available	
pH @ dilution		
Melting/freezing point		
Boiling point/range	No information available	
Flash Point	> 93.3 °C / > 200 °F	Closed cup
Evaporation rate		
Flammability (solid, gas)	Not Applicable	
Flammability Limits in Air		
Upper flammability Limit	Not applicable	
Lower flammability limit	Not applicable	
Vapor pressure	No information available	
Vapor density	No information available	
Specific gravity	No information available	
Bulk density	8.929 lbs/gal	
Relative density	1.07 s.g.	@ 20°C.
Water solubility	Emulsifies	
Solubility in other solvents	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Kinematic viscosity		
Viscosity, dynamic	No information available	
Log Pow	Not determined	

Explosive properties	Not Applicable
Oxidizing properties	None known.

9.2 Other information

Pour point	-1°C / ~30°F
Molecular weight	No information available
VOC content(%)	None
Density VALUE	No information available

10. Stability and reactivity

10.1 Reactivity

No specific reactivity hazards associated with this product.

10.2 Chemical stability

Stable under normal temperature conditions and recommended use.

10.3 Possibility of Hazardous Reactions

Hazardous polymerization
Hazardous polymerisation does not occur.

10.4 Conditions to avoid

Heat, flames and sparks.

10.5 Incompatible materials

Strong oxidising agents. Strong acids.

10.6 Hazardous decomposition products

See also 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 damage.

Skin contact May cause an allergic skin reaction. Prolonged skin contact may defeat the skin and produce dermatitis.

Ingestion Ingestion may cause stomach discomfort.

Acute toxicity .

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Water	> 90 mL/kg (Rat)	No data available	No data available
D-Glucopyranose, oligomeric, C8-10 glycosides	No data available	No data available	No data available
Citrus Extract	No data available	No data available	No data available

Sensitisation	May cause sensitization by skin contact.
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. Skin contact.
Routes of entry	Eye contact.
Specific target organ toxicity (single exposure)	Not classified
Specific target organ toxicity (repeated exposure)	Not classified.
Aspiration hazard	No hazard from product as supplied.

12. Ecological information

12.1 Toxicity

The product component(s) are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Toxicity to algae
This product is not considered toxic to algae.

Toxicity to fish
This product is not considered toxic to fish.

Toxicity to daphnia and other aquatic invertebrates
This product is not considered toxic to invertebrates.

Component	Toxicity to fish	Toxicity to algae	Toxicity to daphnia and other aquatic invertebrates
Water	No information available	No information available	No information available
D-Glucopyranose, oligomeric, C8-10 glycosides	No information available	No information available	No information available
Citrus Extract	No information available	No information available	No information available

12.2 Persistence and degradability

No product level data available.

12.3 Bioaccumulative potential

No data available.

12.4 Mobility in soil

Mobility
emulsifiable.

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: 07 01 04 Waste Code: 7152 Organic waste without halogen.

14. Transport information

The product is not covered by international regulation on the transport of dangerous goods (IMDG, IATA,ADR/RID/ADG).

14.1 UN number
Not regulated

14.2 Proper shipping name
Not regulated

14.3. Hazard class(es)

ADR/RID/ADN Hazard class	Not regulated
IMDG Hazard class	Not regulated
ICAO Hazard class/division	Not regulated

14.4 Packing group

ADR/RID/ADN 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 II of MARPOL 73/78 and the IBC Code
Please contact MISDS@slb.com for info regarding transport in Bulk.

15. Regulatory information

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

Australian Standard for the Uniform Scheduling of Drugs and Poisons
No Poisons Schedule number allocated

Commission Regulation (EU) No 453/2010 of 20 May 2010 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH). Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, including amendments.

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

National Code of Practice for the Preparation of Material Safety Data Sheets 2nd Edition [NOHSC: 2011 (2003)].

National Occupational Health and Safety Commission's Approved Criteria for Classifying Hazardous Substances [NOHSC:1008 (2004) 3rd Edition].

National Occupational Health and Safety Commission's Exposure Standards for Atmospheric Contaminants in the occupational Environment [NOHSC:1003 (1995)].

Safe Work Australia.

Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP).

Not classified as Dangerous Goods by the criteria of the Australian Dangerous Goods Code (ADG Code) for transport by road or rail.

International inventories

USA, Toxic Substances Control Act inventory (TSCA)	Complies
European Union - EINECS and ELINCS	Complies
Canada, Domestic Substance List (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

CAS Number 94266-47-4 or 8028-48-61 can be used to identify the substance mentioned in Section 3, under Comments, for the International Inventories. Contact REACH@miswaco.slb.com for REACH information.

15.2 Chemical Safety Report

No information available

16. Other information

Prepared by	Global Chemical Regulatory Compliance (GCRC) , Anne Karin (Anka) Fosse
Supercedes date	18/Jan/2013
Revision date	21/Oct/2014
Version	1
The following sections have been revised	This SDS have been made in a new database and therefore a new layout. No changes with regard to classification have been made, Updated according to GHS/CLP.

Text of R phrases mentioned in Section 3
R10 - Flammable
R38 - Irritating to skin
R41 - Risk of serious damage to eyes
R43 - May cause sensitization by skin contact
R65 - Harmful: may cause lung damage if swallowed

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

H317 - May cause an allergic skin reaction
H318 - Causes serious eye damage
H226 - Flammable liquid and vapor
H304 - May be fatal if swallowed and enters airways
H315 - Causes skin irritation

Disclaimer
The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

Safety Data Sheet
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
SD-4092

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

1.1 Product identifier

Product name SD-4092
Product code PID13308

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

Recommended Use Scale dissolver

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

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 2
Serious eye damage/eye irritation	Category 2

Environmental hazards Not classified

Physical Hazards Not classified

2.2 Label elements

Signal word
WARNING

Hazard statements
H315 - Causes skin irritation
H319 - Causes serious eye irritation

Precautionary Statements - EU (§28, 1272/2008)
P264 - Wash face, hands and any exposed skin thoroughly after handling
P280 - Wear protective gloves/protective clothing/eye protection/face protection
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
P332 + P313 - If skin irritation occurs: Get medical advice/attention
P337 + P313 - If eye irritation persists: Get medical advice/attention

Supplementary precautionary statements
P362 - Take off contaminated clothing and wash before reuse
P391 - Collect spillage
P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

-

Contains
Glycine, N,N-1,2-ethanediylbis[N-(carboxymethyl)-, tetrapotassium salt

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-%	Regulation (EC) No 1272/2008	REACH registration number
Glycine, N,N-1,2-ethanediylbis[N-(carboxymethyl)-, tetrapotassium salt	227-743-5	5964-35-2	10-30	Skin Irrit. 2 (H315) Eye Irrit. 2 (H319)	No data available

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

4. First aid measures

4.1 First aid measures

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. 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
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: Nitrogen oxides (NOx), Potassium oxide.

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 excessive heat for prolonged periods of time. Avoid contact with: Oxidizing agents Alkalis

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 Contains no substances with occupational exposure limit values

Component Information

Chemical Name	EU OEL - Third List	Austria	Australia	Denmark
Glycine, N,N-1,2-ethanediylbis[N-(carboxymethyl)-, tetrapotassium salt	Not determined	Not determined	Not determined	Not determined
Chemical Name	**Malaysia**	**France**	**Germany**	**Hungary**
Glycine, N,N-1,2-ethanediylbis[N-(carboxymethyl)-, tetrapotassium salt	Not determined	Not determined	Not determined	Not determined
Chemical Name	**New Zealand**	**Italy**	**Netherlands**	**Norway**
Glycine, N,N-1,2-ethanediylbis[N-(carboxymethyl)-, tetrapotassium salt	Not determined	Not determined	Not determined	Not determined
Chemical Name	**Poland**	**Portugal**	**Romania**	**Russia**
Glycine, N,N-1,2-ethanediylbis[N-(carboxymethyl)-, tetrapotassium salt	Not determined	Not determined	Not determined	Not determined
Chemical Name	**Spain**	**Switzerland**	**Turkey**	**UK**
Glycine, N,N-1,2-ethanediylbis[N-(carboxymethyl)-, tetrapotassium salt	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 Controls
Ensure adequate ventilation.

Personal protective equipment

Eye protection Eye protection must conform to standard EN 166. 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

	Use protective gloves made of: Butyl rubber Break through time >480 minutes Glove thickness 0.2 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	Clear
Odour	No information available
Colour	Colourless
Odour threshold	Not applicable

Property	**Values**	**Remarks**
pH	4.85 ± 1.00	
pH @ dilution		
Melting / freezing point	No information available	
Boiling point/range	100 °C / 212 °F	
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	Not determined

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	1.16 ± 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

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
Not known.

10.4 Conditions to avoid

Avoid excessive heat for prolonged periods of time.

10.5 Incompatible materials

Oxidizing agents. Alkalis.

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	Causes skin 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
Glycine, N,N-1,2-ethanediylbis[N-(carboxymethyl)-, tetrapotassium salt	No data available	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 Skin contact. Eye contact.

Routes of entry Skin contact. Eye contact.

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.
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
Glycine, N,N-1,2-ethanediylbis[N-(carboxymethyl)-, tetrapotassium salt	No information available	No information available	No information available

12.2 Persistence and degradability

Not readily biodegradable.

12.3 Bioaccumulative potential

The product does not contain any substances expected to be bioaccumulating.

12.4 Mobility in soil

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.

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: 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

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.

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

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	26/Apr/2013
Revision date	06/Nov/2017
Version	4
This SDS has been revised in the following section(s)	This SDS have been made in a new database and therefore a new layout. There have been changes with regard to classification.

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

H315 - Causes skin irritation
H319 - Causes serious eye irritation

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
SODIUM CHLORIDE BRINE

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

1.1 Product identifier

Product name SODIUM CHLORIDE BRINE
Product code PID1103

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

Recommended Use Weighting agent. Completion brine.

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

-

Contains
Sodium chloride

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
Sodium chloride	231-598-3	7647-14-5	30-60	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 measures

Inhalation If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

Ingestion	Rinse mouth. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Get medical attention if symptoms occur.
Skin contact	Wash skin thoroughly with soap and water. Get medical attention if irritation persists.
Eye Contact	Promptly wash eyes with lots of water while lifting eye lids. Remove contact lenses, if worn. Get medical attention if any discomfort continues.

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

General advice	The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible.
Symptoms	
Inhalation	Please see Section 11. Toxicological Information for further information.
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
Use extinguishing agent suitable for type of surrounding fire.

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 Oxides of:, Sodium, 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. Dike far ahead of liquid spill for later disposal.

Methods for cleaning up
Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. After cleaning, flush away traces with water.

6.4 Reference to other sections

See section 13 for more information.

7. Handling and Storage

7.1 Precautions for safe handling

Handling
Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Do not breathe vapors or spray mist. Avoid spills and splashing during use.

Hygiene Measures
Use good work and personal hygiene practices to avoid exposure When using do not smoke, eat or drink. Wash hands and face before breaks and immediately after handling the product Remove contaminated clothing

7.2 Conditions for safe storage, including any incompatibilities

Technical measures/precautions	Ensure adequate ventilation.
Storage precautions	Keep containers tightly closed in a dry, cool and well-ventilated place Avoid contact with: Strong oxidising agents
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

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
Sodium chloride	Not determined	Not determined	Not determined
Chemical Name	**France**	**Germany**	**Hungary**
Sodium chloride	Not determined	Not determined	Not determined
Chemical Name	**Italy**	**Netherlands**	**Norway**
Sodium chloride	Not determined	Not determined	Not determined
Chemical Name	**Poland**	**Portugal**	**Romania**
Sodium chloride	Not determined	Not determined	Not determined
Chemical Name	**Spain**	**Switzerland**	**UK**
Sodium 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.

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: Butyl 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, 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.

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	Aqueous solution
Odour	Odourless
Colour	Colourless
Odour threshold	Not applicable

Property	**Values**	**Remarks**
pH	8.5	
pH @ dilution	No information available	
Melting / freezing point	-5 °C / 23 °F	
Boiling point/range	106 °C / 222.8 °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	1.008 - 1.200 g/cm³	@ 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

None known.

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 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.

Toxicology data for the components

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Sodium chloride	= 3 g/kg (Rat)	> 10 g/kg (Rabbit)	> 42 g/m³ (Rat) 1 h

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.

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
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
Sodium chloride	4747 - 7824 mg/L LC50 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	No information available	340.7 - 469.2 mg/L EC50 Daphnia magna 48 h = 1000 mg/L EC50 Daphnia magna 48 h

	macrochirus 96 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
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: Drilling brines, including: calcium bromide solution, calcium chloride solution and sodium chloride solution.

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
Chemicals act

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 903 (Biological limit values (BLV))

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. 1120443

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:	03/Apr/2017
Revision date	04/Aug/2020
Version	6
This SDS has been revised in the following section(s)	1, 2, 7, 8, 12, 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	1
Flammability	0
Physical hazard	0
PPE	B

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
WELLZYME* III

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

1.1 Product identifier

Product name WELLZYME* III
Product code PID18369

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

Recommended Use Filter cake remover.

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	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 (Amylase, alpha). May produce an allergic reaction EUH210 - Safety data sheet available on request

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

–

Contains
Carbohydrate

Amylase, .alpha.-

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
Carbohydrate	Listed	Proprietary	10-30	Not classified	Exempt
Amylase, .alpha.-	232-565-6	9000-90-2	< 1	Resp Sens. 1(H334)	01-2119938627-26-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 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 skin thoroughly with soap and water. Get medical attention if irritation persists.

Eye Contact Promptly wash eyes with lots of water while lifting eye lids. Remove contact lenses, if worn. Get medical attention if any discomfort continues.

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

General advice The severity of the symptoms described will vary dependant of the concentration and the length of exposure. If adverse symptoms develop, the casualty should be transferred to hospital as soon as possible.

Symptoms

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

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

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
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. Persons susceptible to allergic reactions should not handle this product.

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. Keep airborne concentrations below exposure limits.
Storage precautions	Keep container/package tightly closed and in a well-ventilated place. Keep at 0 - 25°C Keep away from direct sunlight

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

Component Information

Chemical Name	EU OEL - Third List	Austria	Denmark
Carbohydrate	Not determined	Not determined	Not determined
Amylase, .alpha.-	Not determined	Not determined	Not determined
Chemical Name	**France**	**Germany**	**Hungary**
Carbohydrate	10 mg/m³TWA	Not determined	Not determined
Amylase, .alpha.-	Not determined	Not determined	Not determined
Chemical Name	**Italy**	**Netherlands**	**Norway**
Carbohydrate	Not determined	Not determined	Not determined
Amylase, .alpha.-	Not determined	Not determined	Not determined
Chemical Name	**Poland**	**Portugal**	**Romania**
Carbohydrate	Not determined	10 mg/m³ TWA	Not determined
Amylase, .alpha.-	Not determined	Not determined	Not determined
Chemical Name	**Spain**	**Switzerland**	**UK**
Carbohydrate	10 mg/m³ TWA VLA-ED	Not determined	20 mg/m³ STEL 10 mg/m³ TWA
Amylase, .alpha.-	Not determined	Not determined	Not determined

Derived No Effect Level (DNEL)

Long term exposure local effects

Amylase, .alpha.-

Inhalation	60 mg/m³

Long term exposure systemic effects

Predicted No Effect Concentration (PNEC)

Amylase, .alpha.-

Fresh Water	5.2 µg/L
Sea Water	0.52 µg/L
Soil	0.001 mg/kg
Impact on sewage treatment	65000 µg/L
Intermittent release	52 µg/L

8.2 Exposure controls

All chemical Personal Protective Equipment (PPE) should be selected based on an assessment of both the chemical hazard present and the risk of exposure to those hazards. The PPE recommendations below are based on an assessment of the chemical hazards associated with this product. Where this product is used in a mixture with other products or fluids, additional hazards may be created and as such further assessment of risk may be required. The risk of exposure and need of respiratory protection will

vary from workplace to workplace and should be assessed by the user in each situation.

Engineering Controls
Ensure adequate ventilation. Provide mechanical general and/or local exhaust ventilation to prevent release of vapor or mist into work environment.

Personal protective equipment

Eye protection	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 0.5 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 appropriate certified respirators, 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	No information available
Odour	Slight fermentation
Colour	Amber
Odour threshold	Not applicable

Property	Values	Remarks
pH	No information available	
pH @ dilution	No information available	
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	1.1 - 1.25
Bulk density	No information available
Relative density	No information available
Water solubility	Miscible with 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	< 0

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

Keep away from direct sunlight. Keep at temperatures between 0 - 25°C.

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 May cause respiratory sensitization, an allergic reaction, on repeated exposure.

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.

Toxicology data for the components

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Carbohydrate	= 29700 mg/kg (Rat)	No data available	No data available
Amylase, .alpha.-	> 7500 mg/kg (Rat)	No data available	No data available

Sensitisation EUH208 - Contains (Amylase, .alpha-). May produce an allergic reaction.

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.

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
Carbohydrate	No information available	No information available	No information available
Amylase, .alpha.-	No information available	No information available	No information available

12.2 Persistence and degradability

Readily biodegradable. See component information below.

Chemical Name	Persistence and degradability
Amylase, .alpha.-	Readily biodegradable

12.3 Bioaccumulative potential

Does not bioaccumulate. See component information below.

Chemical Name	Bioaccumulation
Amylase, .alpha.-	No bioaccumulation potential

log Pow
< 0

12.4 Mobility

Mobility
The product is miscible with water. 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 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
Chemicals act

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
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/Mar/2016
Revision date	04/Feb/2021
Version	5
This SDS has been revised in the following section(s)	1, 2, 3, 7, 8, 9, 12, 15, 16 No changes with regard to classification have been made.

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

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

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.
EUH208 - Contains (Amylase, alpha). May produce an allergic reaction EUH210 - Safety data sheet available on request

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