

Safety Data Sheet SAFE-SCAV* HSB

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

1.1 Product identifier

Product name SAFE-SCAV* HSB
Product code PID16244

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

Recommended Use Hydrogen Sulphide Scavenger.

Uses advised against Consumer use

1.3 Details of the supplier of the safety data sheet

Supplier

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

GHS Classification

Health hazards

Acute toxicity - Oral	Category 4
Acute toxicity - Inhalation (Vapours)	Category 3
Serious eye damage/eye irritation	Category 2
Skin sensitisation	Category 1
Specific target organ toxicity - Repeated exposure	Category 1

Environmental hazards Not classified

Physical Hazards Not classified

2.2 Label elements



Signal word

DANGER

Hazard Statements

H302 - Harmful if swallowed
H317 - May cause an allergic skin reaction
H319 - Causes serious eye irritation
H331 - Toxic if inhaled
H372 - Causes damage to organs through prolonged or repeated exposure

Precautionary statements

P280 - Wear protective gloves/protective clothing/eye protection/face protection
P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
P330 - Rinse mouth
P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

Supplementary precautionary statements

P260 - Do not breathe dust/fume/gas/mist/vapours/spray
P261 - Avoid breathing dust/fume/gas/mist/vapours/spray
P264 - Wash face, hands and any exposed skin thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P271 - Use only outdoors or in a well-ventilated area
P272 - Contaminated work clothing should not be allowed out of the workplace
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P311 - Call a POISON CENTER or doctor/physician
P314 - Get medical advice/attention if you feel unwell
P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention
P337 + P313 - If eye irritation persists: Get medical advice/attention
P362 + P364 - Take off contaminated clothing and wash it before reuse
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed

Contains

Hexahydro-1,3,5-tris(2-hydroxyethyl)-sym-triazine

Water

Formaldehyde (impurity)

2.3 Other hazards

Not classified as PBT/vPvB by current EU criteria

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

3. Composition/information on Ingredients

3.1 Substances

Not applicable

3.2 Mixtures

Chemical Name	EC No	CAS No	Weight-%
Hexahydro-1,3,5-tris(2-hydroxyethyl)-sym-triazine	225-208-0	4719-04-4	30-60
Water	231-791-2	7732-18-5	30-60
Formaldehyde (impurity)	200-001-8	50-00-0	0-0.1

Comments

Based on test data - (ATE inhalation: 0.7232 mg/l) H330 does not apply.

Formaldehyde is not present as a substance. It is formed during decomposition. Formaldehyde is listed by IARC in Group 1 as carcinogenic to humans.

Note B: Some substances (acids, bases, etc.) are placed on the market in aqueous solutions at various concentrations and, therefore, these solutions require different classification and labelling since the hazards vary at different concentrations.

Note D: Certain substances which are susceptible to spontaneous polymerisation or decomposition are generally placed on the market in a stabilised form. It is in this form that they are listed in Part 3.

4. First Aid Measures

4.1 First aid measures

Inhalation	Move the exposed person to fresh air at once. If breathing is difficult, (trained personnel should) give oxygen. If not breathing, give artificial respiration. Seek medical attention at once.
Ingestion	Do NOT induce vomiting. Get immediate medical attention. Rinse mouth. Never give anything by mouth to an unconscious person.
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Seek medical attention.
Eye Contact	Remove contact lenses, if worn. Promptly wash eyes with lots of water while lifting eye lids. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.

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

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

Symptoms

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

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

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician Treat symptomatically.

5. Firefighting Measures

5.1 Extinguishing media

Suitable extinguishing media

Water spray.

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), Formaldehyde.

5.3 Advice for firefighters

Special protective equipment for fire-fighters

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

Special Fire-Fighting Procedures

Containers close to fire should be removed immediately or cooled with water.

Hazchem code ADG

2X

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. 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 containers tightly closed in a dry, cool and well-ventilated place. Avoid contact with: Strong oxidising agents, Acids. Keep at -5 - 40°C

Storage class Toxic storage.

Packaging materials Use specially constructed containers only

8. Exposure Controls/Personal Protection

8.1 Control parameters

Exposure Limits Formaldehyde is not present as a substance. It is formed during decomposition. No biological limit allocated

Component Information

Chemical Name	Arabic	Australia	Egypt
Hexahydro-1,3,5-tris(2-hydroxyethyl)-sym-triazine	Not determined	Not determined	Not determined
Water	Not determined	Not determined	Not determined
Formaldehyde (impurity)	0.3 ppm STEL 0.4 mg/m ³ STEL	2ppmSTEL 2.5mg/m ³ STEL 1ppmTWA 1.2mg/m ³ TWA	0.3 ppm Ceiling 0.37 mg/m ³ Ceiling Suspected Human Carcinogen 0.3 ppm TWA
Chemical Name	India	Indonesian	Japan

Hexahydro-1,3,5-tris(2-hydroxyethyl)-sym-triazine	Not determined	Not determined	Group 1 skin sensitizer
Water	Not determined	Not determined	Not determined
Formaldehyde (impurity)	2 ppm STEL; 3 mg/m ³ STEL 1.0 ppm TWA 1.5 mg/m ³ TWA	0.3 ppm STEL 0.3 mg/m ³ STEL	Group 2 airway sensitizer Group 1 skin sensitizer 0.1 ppm ACL 0.1 ppm OEL 0.12 mg/m ³ OEL
Chemical Name	Kazakhstan	Kuwait	New Zealand
Hexahydro-1,3,5-tris(2-hydroxyethyl)-sym-triazine	Not determined	Not determined	Not determined
Water	Not determined	Not determined	Not determined
Formaldehyde (impurity)	0.5 mg/m ³ MAC	0.1 ppm STEL	0.5 ppm TWA 0.33 ppm TWA sensitiser Confirmed carcinogen 1 ppm Ceiling
Chemical Name	Malaysia	Philippines	Russia
Hexahydro-1,3,5-tris(2-hydroxyethyl)-sym-triazine	Not determined	Not determined	Not determined
Water	Not determined	Not determined	Not determined
Formaldehyde (impurity)	0.3 ppm Ceiling 0.37 mg/m ³ Ceiling	Not determined	0.5 mg/m ³ MAC (vapor)
Chemical Name	Thailand	Vietnam	Turkey
Hexahydro-1,3,5-tris(2-hydroxyethyl)-sym-triazine	Not determined	Not determined	Not determined
Water	Not determined	Not determined	Not determined
Formaldehyde (impurity)	2 ppm STEL 0.75 ppm TWA	0.5 mg/m ³ TWA 1 mg/m ³ STEL	Not determined

8.2 Exposure controls

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

Engineering Controls

Ensure adequate ventilation Provide 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
Chemical splash goggles and face shield

Hand protection

Wear chemically resistant gloves (tested to EN 374) in combination with 'basic' employee training Impervious gloves made of: Nitrile
Break through time >480 minutes
Glove thickness >=0.4 mm

Respiratory protection

Be aware that liquid may penetrate the gloves. Frequent change is advisable.
Respirator with a vapor filter (EN 141) Use respirator with organic vapor protection (A, brown) If there are conditions that make triazine emitting fumes, use chemical respirator with combination filter A1 + Formaldehyde and P2 particulate prefilter. 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	Amine
Colour	Amber
Odour threshold	Not applicable

<u>Property</u>	<u>Values</u>	<u>Remarks</u>
pH	No information available	
pH @ dilution	No information available	
Melting / freezing point	< -20 °C / <-4 °F	
Boiling point/range	No information available	
Flash point	> 101 °C / > 213.8 °F	Closed cup
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	1.065 - 1.135	@ 16 °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	<10 cSt	@ 40 °C
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

Keep at temperatures above -5 and < 40°C.

10.5 Incompatible materials

Strong oxidising agents. Acids.

10.6 Hazardous decomposition products

See Section 5.2.

11. Toxicological Information

11.1 Information on toxicological effects

Acute toxicity

Product information

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

Inhalation

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

Eye contact

Causes serious eye irritation.

Skin contact

May cause an allergic skin reaction.

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

Unknown acute toxicity Not applicable.

Toxicology data for the components

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Hexahydro-1,3,5-tris(2-hydroxyethyl)-sym-triazine	1000 mg/kg (Rat) (BASF AG, 1997)	> 4000 mg/kg (Rat) (BASF AG,1997)	0.371 mg/L (Aerosol) (Rat) (Triazine Taskforce, 2011)
Water	> 90 mL/kg (Rat)	No data available	No data available
Formaldehyde (impurity)	= 100 mg/kg (Rat)	= 270 mg/kg (Rabbit)	= 0.578 mg/L (Rat) 4 h

Sensitisation May cause sensitisation by skin contact.

Mutagenic effects Contains an known or suspected mutagen.

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

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

Routes of exposure Inhalation. Ingestion. Skin contact.

Routes of entry Inhalation. Skin contact.

Specific target organ toxicity - Single exposure Not classified

Specific target organ toxicity - Repeated exposure Category 1.

Target organ effects Respiratory system.

Aspiration hazard Not applicable.

Other information Key literature references and sources for data. See Section 16 for more information.

12. Ecological Information

12.1 Toxicity

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

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
Hexahydro-1,3,5-tris(2-hydroxyethyl)-sym-triazine	> 168 mg/l LC50 96h Sheepshead Minnow (SLB data)	1.624 mg/l EC50 72h Skeletonema (SLB data)	99.68 mg/l KC50 48h Acartia (SLB data)
Water	No information available	No information available	No information available
Formaldehyde (impurity)	22.6 - 25.7 mg/L LC50 Pimephales promelas 96 h = 1510 µg/L LC50 Lepomis macrochirus 96 h = 41 mg/L LC50 Brachydanio rerio 96 h = 0.032 - 0.226 mL/L LC50 Oncorhynchus mykiss 96 h 100 - 136 mg/L LC50 Oncorhynchus mykiss 96 h 23.2 - 29.7 mg/L LC50 Pimephales promelas 96 h	No information available	11.3 - 18 mg/L EC50 Daphnia magna 48 h = 2 mg/L LC50 Daphnia magna 48 h

12.2 Persistence and degradability

See component information below.

Chemical Name	Persistence and degradability
Hexahydro-1,3,5-tris(2-hydroxyethyl)-sym-triazine	Readily biodegradable
Formaldehyde (impurity)	Rapidly biodegradable

12.3 Bioaccumulative potential

See component information below.

Chemical Name	Bioaccumulation
Hexahydro-1,3,5-tris(2-hydroxyethyl)-sym-triazine	Not likely to bioaccumulate log Kow <=3
Formaldehyde (impurity)	Does not bioaccumulate log Pow =0.35

log Pow
 -1.5 - 0.2

12.4 Mobility

Mobility

See component information below.

Chemical Name	Mobility
Hexahydro-1,3,5-tris(2-hydroxyethyl)-sym-triazine	Soluble in water
Formaldehyde (impurity)	Miscible in water

Mobility in soil

See component information below.

Chemical Name	Mobility in soil
Hexahydro-1,3,5-tris(2-hydroxyethyl)-sym-triazine	Study does not need to be conducted because the substance is readily biodegradable
Formaldehyde (impurity)	Henry's Law Constant 0.034 (in Pa m ³ /mol) @ 25 °C

12.5 Results of PBT and vPvB assessment

Not classified as PBT/vPvB by current EU criteria.

12.6 Other adverse effects.

None known.

12.7 Other information

Key literature references and sources for data. See Section 16 for more information.

13. Disposal considerations

13.1 Waste treatment methods

Waste from residues/unused products Dispose of in accordance with local regulations.

Contaminated packaging Empty containers should be transported/delivered using a registered waste carrier for local recycling or waste disposal.

14. Transport information

14.1. UN number

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

14.2. UN proper shipping name

TOXIC LIQUID, ORGANIC, N.O.S. (2, 2', 2''-(hexahydro-1, 3, 5-triazine -1, 3, 5-triyl) triethanol)

14.3. Hazard class(es)

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

14.4 Packing group

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



14.5 Environmental hazard

No

14.6 Special precautions

Hazard ID	60
EmS (IMDG)	F-A, S-A
Emergency Action Code (EAC)	2X
Tunnel restriction code	(D/E)
Hazchem code ADG	2X

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

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

15. Regulatory Information

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

The Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

Australian Standard for the Uniform Scheduling of Drugs and Poisons

Formaldehyde (impurity)
Schedule 6

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).

ADG Code – Australian Dangerous Goods Code

Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013 [P.U.(A) 310/2013] (CLASS Regulations)

The Industry Code of Practice on Chemical Classification and Hazard Communication 2014 [P.U. (B) 128/2014] (ICOP)

International inventories

USA, 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

16. Other Information

Prepared by	Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Anne Karin (Anka) Fosse
Supersedes Date:	28/Jul/2016
Revision date	10/Jul/2018
Version	5
This SDS has been revised in the following section(s)	All sections There have been changes with regard to classification. 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

HMIS classification

Health	4
Flammability	2
Physical hazard	0
PPE	X

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

Disclaimer

The information contained herein is considered in good faith as reliable of the date issued and is based upon on measurements, tests or data derived from supplier's own study or furnished by others. In providing this SDS information, Supplier makes no express or implied warranties as to the information or product; merchantability or fitness of purpose; any express or implied warranty; or non-infringement of intellectual property rights; and supplier assumes no responsibility for any direct, special or consequential damages, results obtained, or the activities of others. To the maximum extent permitted by law, supplier's warranty obligations and buyer's sole remedies are as stated in separate agreement between the parties.

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