



Safety Data Sheet VERSAMUL*

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

1.1 Product identifier

Product name VERSAMUL*
Product code PID1667

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

Recommended Use Emulsifier

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

Skin sensitisation	Category 1
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Environmental hazards Not classified

Physical Hazards Not classified

2.2 Label elements



Signal word
 WARNING

Hazard Statements

H317 - May cause an allergic skin reaction

Precautionary statements

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

P333 + P313 - If skin irritation or rash occurs: Get medical advice/attention

P363 - Wash contaminated clothing before reuse

P501 - Dispose of contents/container in accordance with local, regional, national, and international regulations as applicable

Supplementary precautionary statements

P272 - Contaminated work clothing should not be allowed out of the workplace

Contains

Fatty acids, tall-oil, reaction products with diethylenetriamine, maleic anhydride, tetraethylenepentamine and triethylenetetramine

Hydrocarbons, C13-C18, n-alkanes, isoalkanes, cyclics, < 2% aromatics *

Rosin (impurity)

2.3 Other hazards

Not classified as PBT/vPvB by current EU criteria

Australian statement of hazardous/dangerous nature

Classified as Hazardous according to the criteria of NOHSC.
 HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.

3. Composition/information on Ingredients

3.1 Substances

Not applicable

3.2 Mixtures

Chemical Name	EC No	CAS No	Weight-%
Fatty acids, tall-oil, reaction products with diethylenetriamine, maleic anhydride, tetraethylenepentamine and triethylenetetramine	273-601-0	68990-47-6	30-60
Hydrocarbons, C13-C18, n-alkanes, isoalkanes, cyclics, < 2% aromatics *	921-050-8	RM1003048	10-30
Rosin (impurity)	232-475-7	8050-09-7	5-10

Comments

The viscosity of this product is high enough that it is not an aspiration risk and the H304 phrase does not apply.

*Substances which have an EC Number that begins with the number "9" is a Provisional List Number. The list numbers published by ECHA do not have any legal significance. The EC substance definition and related classification & labelling has been developed in the framework of the Regulation (EC) No 1907/2006 (REACH). For information about the related CAS number see section 15 of this SDS.

Fatty acids, tall-oil, reaction products with diethylenetriamine, maleic anhydride, tetraethylenepentamine and triethylenetetramine can use either CAS # 68990-47-6 or CAS # 68442-77-3.

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. Seek medical attention.
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, CO₂, Dry Chemical.

Extinguishing media which must not be used for safety reasons

None known.

5.2. Special hazards arising from the substance or mixture

Unusual fire and explosion hazards

None known.

Hazardous combustion products

Thermal decomposition can lead to release of irritating gases and vapours

5.3 Advice for firefighters

Special protective equipment for fire-fighters

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

Special Fire-Fighting Procedures

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

6. Accidental Release Measures

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. See also section 8. Avoid contact with eyes. Do not get on skin or clothing. Wash thoroughly after handling.

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. Prevent the formation of vapors, mists and aerosols. Persons susceptible to allergic reactions should not handle this product.

Hygiene Measures

Use good work and personal hygiene practices to avoid exposure Do not eat, drink or smoke when using this product Wash hands and face before breaks and immediately after handling the product Remove contaminated clothing

7.2 Conditions for safe storage, including any incompatibilities

- Technical measures/precautions** Ensure adequate ventilation. 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 materials** Use specially constructed containers only

8. Exposure Controls/Personal Protection

8.1 Control parameters

Exposure Limits Oil mist (mineral) workplace exposure limits are currently under review by legislative authorities. This workplace exposure limit (WEL) standard is applicable to highly refined mineral oils and is provided as a guidance limit only LT. EXP = 5mg/m³ and ST. EXP = 10mg/m³.
No biological limit allocated

Component Information

Chemical Name	Arabic	Australia	Egypt
Fatty acids, tall-oil, reaction products with diethylenetriamine, maleic anhydride, tetraethylenepentamine and triethylenetetramine	Not determined	Not determined	Not determined
Hydrocarbons, C13-C18, n-alkanes, isoalkanes, cyclics, < 2% aromatics *	Not determined	Not determined	Not determined
Rosin (impurity)	Not determined	0.1mg/m ³ TWA	Not determined
Chemical Name	India	Indonesian	Japan
Fatty acids, tall-oil, reaction products with diethylenetriamine, maleic anhydride, tetraethylenepentamine and triethylenetetramine	Not determined	Not determined	Not determined
Hydrocarbons, C13-C18, n-alkanes, isoalkanes, cyclics, < 2% aromatics *	Not determined	Not determined	Not determined
Rosin (impurity)	Not determined	Not determined	Group 1 airway sensitizer Evaluation does not necessarily apply to all individuals within the group Group 1 skin sensitizer Evaluation

			does not necessarily apply to all individuals within the group
Chemical Name	Kazakhstan	Kuwait	New Zealand
Fatty acids, tall-oil, reaction products with diethylenetriamine, maleic anhydride, tetraethylenepentamine and triethylenetetramine	Not determined	Not determined	Not determined
Hydrocarbons, C13-C18, n-alkanes, isoalkanes, cyclics, < 2% aromatics *	Not determined	Not determined	Not determined
Rosin (impurity)	Not determined	Not determined	Not determined
Chemical Name	Malaysia	Philippines	Russia
Fatty acids, tall-oil, reaction products with diethylenetriamine, maleic anhydride, tetraethylenepentamine and triethylenetetramine	Not determined	Not determined	Not determined
Hydrocarbons, C13-C18, n-alkanes, isoalkanes, cyclics, < 2% aromatics *	Not determined	Not determined	Not determined
Rosin (impurity)	Not determined	Not determined	4 mg/m ³ MAC Allergenic substance
Chemical Name	Thailand	Vietnam	Turkey
Fatty acids, tall-oil, reaction products with diethylenetriamine, maleic anhydride, tetraethylenepentamine and triethylenetetramine	Not determined	Not determined	Not determined
Hydrocarbons, C13-C18, n-alkanes, isoalkanes, cyclics, < 2% aromatics *	Not determined	Not determined	Not determined
Rosin (impurity)	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 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 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: Neoprene Nitrile PVC
Break through time >480 minutes
Glove thickness >=0.4 mm

Respiratory protection

Be aware that liquid may penetrate the gloves. Frequent change is advisable.
No personal respiratory protective equipment normally required 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,

Skin and body protection

brown) At work in confined or poorly ventilated spaces, respiratory protection with air supply must be used.
 Wear suitable protective clothing Eye wash and emergency shower must be available at the work place.

Hygiene Measures

Wash hands before eating, drinking or smoking Remove and wash contaminated clothing before re-use



8.2.3 Environmental exposure controls

Environmental exposure

Use appropriate containment to avoid environmental contamination See section 6 for more information

9. Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Viscous
Odour	Hydrocarbon like
Colour	Dark 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	No information available	
Boiling point/range	No information available	
Flash point	> 61 °C / > 141.8 °F	
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	0.8- 1.0 g/cm ³	@ 20 °C.
Water solubility	Insoluble in water	
Solubility in other solvents	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Kinematic viscosity	> 20.5 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 -10°C / 14 °F
Molecular weight No information available
VOC content(%) None
Density No information available

Comments

The data listed above are typical physical and chemical properties and should not be construed as product specification.

10. Stability and Reactivity

10.1 Reactivity

No specific reactivity hazards associated with this product.

10.2 Chemical stability

Stable under normal temperature conditions and recommended use.

10.3 Possibility of Hazardous Reactions

Hazardous polymerisation

Hazardous polymerisation does not occur.

10.4 Conditions to avoid

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 May cause an allergic skin reaction. Repeated exposure may cause skin dryness or cracking.
Ingestion Ingestion may cause stomach discomfort.

Unknown acute toxicity Not applicable.

Toxicology data for the components

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Fatty acids, tall-oil, reaction products with diethylenetriamine, maleic anhydride, tetraethylenepentamine and triethylenetetramine	> 2020 mg/kg (Rat) Literature data	> 2000 mg/kg (Rat) OECD 402 - Duration: 24h Literature data	No data available
Hydrocarbons, C13-C18, n-alkanes, isoalkanes, cyclics, < 2% aromatics *	> 5000 mg/kg (Rat) Litterature data	> 2000 mg/kg (Rabbit)	> 5.2 mg/l (Rat)
Rosin (impurity)	= 7600 mg/kg (Rat)	> 2500 mg/kg (Rabbit)	= 1.5 mg/L (Rat) 4 h

Sensitisation May cause sensitisation 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 Skin contact.

Routes of entry Skin contact.

Specific target organ toxicity - Single exposure Not classified

Specific target organ toxicity - Repeated exposure Not classified.

Aspiration hazard The viscosity of this product is high enough that it is not an aspiration risk and the H304 phrase does not apply.

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
Fatty acids, tall-oil, reaction products with diethylenetriamine, maleic anhydride, tetraethylenepentamine and triethylenetetramine	OECD 203 Fish LC50 > 100 mg/l - Duration h: 96 Literature data	OECD 201 Algae EC50 > 100 mg/l - Duration h: 72 Literature data	OECD 202 Daphnia magna NOEC = 100 mg/l - Duration h: 48 Literature data
Hydrocarbons, C13-C18, n-alkanes, isoalkanes, cyclics, < 2% aromatics *	OECD 203 Fish LC50 > 1 g/l. Duration: 96 h. Notes: Litterature data.	ISO 10253 Algae EC50 > 3 g/l. Duration: 72 h. Notes: Litterature data	ISO 14669 Daphnia magna LC50 > 3 g/l. Duration: 48 h. Notes: Litterature data.
Rosin (impurity)	No information available	= 400 mg/L EC50 Desmodesmus subspicatus 72 h	3.8 - 5.4 mg/L EC50 Daphnia magna 48 h

12.2 Persistence and degradability

See component information below.

Chemical Name	Persistence and degradability
Fatty acids, tall-oil, reaction products with diethylenetriamine, maleic anhydride, tetraethylenepentamine and triethylenetetramine	Inherently biodegradable
Hydrocarbons, C13-C18, n-alkanes, isoalkanes, cyclics, < 2% aromatics *	Readily biodegradable, failing 10-d window
Rosin (impurity)	Readily biodegradable - Test : OECD 301D Duration 28 days 71% (Literature data)

12.3 Bioaccumulative potential

See component information below.

Chemical Name	Bioaccumulation
Fatty acids, tall-oil, reaction products with diethylenetriamine, maleic anhydride, tetraethylenepentamine and triethylenetetramine	No bioaccumulation expected due to high molecular weight.
Hydrocarbons, C13-C18, n-alkanes, isoalkanes, cyclics, < 2% aromatics *	Material may have some potential to bioaccumulate
Rosin (impurity)	Does not bioaccumulate - Test BCF - Bioconcentration factor (BCF) : 56.23 Notes: Calculated data (in silico)

12.4 Mobility

Mobility

Insoluble in water. See component information below.

Chemical Name	Mobility
Fatty acids, tall-oil, reaction products with diethylenetriamine, maleic anhydride, tetraethylenepentamine and triethylenetetramine	No information available
Hydrocarbons, C13-C18, n-alkanes,	Insoluble

isoalkanes, cyclics, < 2% aromatics *	
Rosin (impurity)	No information available

Mobility in soil

See component information below.

Chemical Name	Mobility in soil
Fatty acids, tall-oil, reaction products with diethylenetriamine, maleic anhydride, tetraethylenepentamine and triethylenetetramine	No information available
Hydrocarbons, C13-C18, n-alkanes, isoalkanes, cyclics, < 2% aromatics *	No information available
Rosin (impurity)	Static - Test : Koc:5357 Notes: Calculated data (in silico)

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

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

Australian Standard for the Uniform Scheduling of Drugs and Poisons

Rosin (impurity)
 Schedule 5

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

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

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

Safe Work Australia.

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

Not classified as dangerous goods in accordance with the Australian Code for the Transport of Dangerous Goods by Road and Rail (ADG)

International inventories

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

Australia (AICS) Complies
Korea (KECL) Complies
Inventory - New Zealand - Inventory of Chemicals (NZIoC) Complies

CAS Number 64742-47-8 (List No. 921-050-8) can be used to identify the substance given a list number in section 3 in areas not subject to the REACH regulation.

16. Other Information

Prepared by Global Regulatory Compliance - Chemicals (GRC - Chemicals) , Anne Karin (Anka) Fosse
Supersedes Date: 08/Jan/2016
Revision date 14/Mar/2019
Version 7
This SDS has been revised in the following section(s) 1, 2, 3, 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

HMIS classification

Health	2
Flammability	1
Physical hazard	0
PPE	E

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