Safety Data Sheet

acc. to Regulation (EC) No. 1907/2006 (REACH)

Transition document following GB exit from the EU

Synmar Venti DOT 5.1

Version number: 2.0
Replaces version of: 2018-07-03 (1)

Revision: 2022-09-14

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

1.1 Product identifier

Trade name: **Synmar Venti DOT 5.1**

Article number: S400752

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

Relevant identified uses: Brake fluid
Professional use
Consumer use

1.3 Details of the supplier of the safety data sheet

Synmar B.V.
Albert Schweitzerstraat 7
7131 PG Lichtenvoorde
Netherlands

Telephone: +31 (0) 33 303 3044
e-mail: info@synmar.nl
Website: www.synmar.nl

e-mail (competent person): info@synmar.nl

1.4 Emergency telephone number

Emergency information service: +31 (0) 33 303 3044
This number is only available during the following office hours: Mon-Fri 09:00 - 17:00

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (acc. to GB CLP)

This mixture does not meet the criteria for classification.

Code	Supplemental hazard information
EUH210	safety data sheet available for professional user on request

2.2 Label elements

Labelling (acc. to GB CLP)

- signal word: Not required.
- pictograms: Not required.
- supplemental hazard information

EUH210 Safety data sheet available for professional user on request.

2.3 Other hazards

There is no additional information.

Results of PBT and vPvB assessment

Does not contain any substances that are assessed to be a PBT or a vPvB ≥ 0.1%.

Endocrine disrupting properties

Does not contain an endocrine disruptor (EDC) in a concentration of ≥ 0.1%.

SECTION 3: Composition/information on ingredients

3.1 Substances

Not relevant (mixture)

3.2 Mixtures

The product does not contain (other) ingredients which are classified according to present knowledge of the supplier and contribute to the classification of the product and hence require reporting in this section.
REACH information: In order to use the most updated information we have incorporated data available via the public REACH dossier into the safety datasheet.

Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms	Notes
triethylene glycol monobutylether	CAS No 143-22-6 EC No 205-592-6 Index No 603-183-00-0	10 – < 25	Eye Dam. 1 / H318		
2,2'-oxybisethanol	CAS No 111-46-6 EC No 203-872-2 Index No 603-140-00-6	10 – < 25	Acute Tox. 4 / H302		
2-(2-methoxyethoxy)ethanol; diethylene glycol monomethyl ether	CAS No 111-77-3 EC No 203-906-6 Index No 603-107-00-6	2.5 – < 5	Repr. 2 / H361d		
2-(2-butoxyethoxy)ethanol	CAS No 112-34-5 EC No 203-961-6 Index No 603-096-00-8	< 2.5	Eye Irrit. 2 / H319		

Name of substance	Identifier	Specific Conc. Limits	M-Factors	ATE	Exposure route
triethylene glycol monobutylether	CAS No 143-22-6 EC No 205-592-6	Eye Dam. 1; H318: C ≥ 30 % Eye Irrit. 2; H319: 20 % ≤ C < 30 %	-	-	
2,2'-oxybisethanol	CAS No 111-46-6 EC No 203-872-2	-	-	500 $^{mg}/_{kg}$	oral

Remarks

All the percentages given are percentages by weight unless stated otherwise. For full text of H-phrases: see SECTION 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General notes

Do not leave affected person unattended. Remove victim out of the danger area. In case of unconsciousness place person in the recovery position. Never give anything by mouth. Take off immediately all contaminated clothing. Wash contaminated clothing before reuse. In all cases of doubt, or when symptoms persist, seek medical advice.

Following inhalation

Provide fresh air. If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. In case of respiratory tract irritation, consult a physician.

Following skin contact

Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention.

Following eye contact

Irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Following ingestion

Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting. In case of vomiting keep the head low so that stomach contents cannot enter the lungs. Call a doctor if you feel unwell.

4.2 Most important symptoms and effects, both acute and delayed

If on skin

Repeated or prolonged skin contact may degrease the skin and dry out, which can lead to skin complaints and inflammations (dermatitis).

If in eyes

Redness, irritation.

If swallowed

Nausea, diarrhoea.

4.3 Indication of any immediate medical attention and special treatment needed

None.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water mist; Foam; Alcohol resistant foam; Dry extinguishing powder; Carbon dioxide (CO2);
Co-ordinate firefighting measures to the fire surroundings.

Unsuitable extinguishing media

Water jet.

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products

During fire hazardous fumes/smoke could be produced: carbon monoxide (CO), carbon dioxide (CO2).

5.3 Advice for firefighters

Keep containers cool with water spray. In case of fire and/or explosion do not breathe fumes. Co-ordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

Special protective equipment for firefighters

Self-contained breathing apparatus (SCBA). Standard protective clothing for firefighters.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Remove persons to safety. Ventilate affected area. Special danger of slipping by leaking/spilling product.

For emergency responders

Wear breathing apparatus if exposed to vapours/dust/spray/gases. Use personal protective equipment as required.

6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it.

6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Bunding. Covering of drains.

Advice on how to clean up a spill

Wipe up with absorbent material (e.g. cloth, fleece). Absorbent material (e.g. sand, diatomaceous earth, acid binder, universal binder, sawdust, etc.). Pump out large quantities.

Appropriate containment techniques

Use of adsorbent materials.

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Recommendations

- measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation. Use only in well-ventilated areas.

Advice on general occupational hygiene

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.

7.2 Conditions for safe storage, including any incompatibilities

Managing of associated risks

- flammability hazards

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharge.

- incompatible substances or mixtures

Keep away from alkalis, oxidising substances, acids.

Control of effects

Protect against external exposure, such as

High temperatures. UV-radiation/sunlight.

Consideration of other advice

Store in a dry place. Store in a well-ventilated place. Keep container tightly closed.

- specific designs for storage rooms or vessels
- storage temperature — Maximum storage temperature: 40 °C
- maximum storage period — 60 ms
- packaging compatibilities

Keep only in original container.

7.3 Specific end use(s)

There is no additional information.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

National limit values

Occupational exposure limit values (Workplace Exposure Limits)

Country	Name of agent	CAS No	Identifier	TWA [ppm]	TWA [mg/m³]	STEL [ppm]	STEL [mg/m³]	Notation	Source
GB	2,2'-oxydiethanol	111-46-6	WEL	23	101				EH40/2005
GB	2-(2-methoxyethoxy)ethanol	111-77-3	WEL	10	50.1				EH40/2005
GB	2-(2-butoxyethoxy)ethanol	112-34-5	WEL	10	67.5	15	101.2		EH40/2005

Notation

STEL — short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)

TWA — time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours time-weighted average (unless otherwise specified)

Relevant DNELs/DMELs/PNECs and other threshold levels

Relevant DNELs of components of the mixture

Name of substance	CAS No	End-point	Threshold level	Protection goal, route of exposure	Used in	Exposure time
triethylene glycol monobutylether	143-22-6	DNEL	195 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects
triethylene glycol monobutylether	143-22-6	DNEL	208 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
triethylene glycol monobutylether	143-22-6	DNEL	117 mg/m³	human, inhalatory	consumer (private households)	chronic - systemic effects
triethylene glycol monobutylether	143-22-6	DNEL	125 mg/kg bw/day	human, dermal	consumer (private households)	chronic - systemic effects
triethylene glycol monobutylether	143-22-6	DNEL	12.5 mg/kg bw/day	human, oral	consumer (private households)	chronic - systemic effects
2,2'-oxybisethanol	111-46-6	DNEL	44 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects
2,2'-oxybisethanol	111-46-6	DNEL	60 mg/m³	human, inhalatory	worker (industry)	chronic - local effects
2,2'-oxybisethanol	111-46-6	DNEL	43 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects

Relevant DNELs of components of the mixture

Name of substance	CAS No	End-point	Threshold level	Protection goal, route of exposure	Used in	Exposure time
2,2'-oxybisethanol	111-46-6	DNEL	12 mg/m³	human, inhalatory	consumer (private households)	chronic - systemic effects
2,2'-oxybisethanol	111-46-6	DNEL	12 mg/m³	human, inhalatory	consumer (private households)	chronic - local effects
2,2'-oxybisethanol	111-46-6	DNEL	21 mg/kg bw/day	human, dermal	consumer (private households)	chronic - systemic effects
2-(2-methoxyethoxy)ethanol; diethylene glycol monomethyl ether	111-77-3	DNEL	50.1 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects
2-(2-methoxyethoxy)ethanol; diethylene glycol monomethyl ether	111-77-3	DNEL	2.22 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
2-(2-methoxyethoxy)ethanol; diethylene glycol monomethyl ether	111-77-3	DNEL	30.1 mg/m³	human, inhalatory	consumer (private households)	chronic - systemic effects
2-(2-methoxyethoxy)ethanol; diethylene glycol monomethyl ether	111-77-3	DNEL	1.33 mg/kg bw/day	human, dermal	consumer (private households)	chronic - systemic effects
2-(2-methoxyethoxy)ethanol; diethylene glycol monomethyl ether	111-77-3	DNEL	7.5 mg/kg bw/day	human, oral	consumer (private households)	chronic - systemic effects
2-(2-butoxyethoxy)ethanol	112-34-5	DNEL	67.5 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects
2-(2-butoxyethoxy)ethanol	112-34-5	DNEL	83 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
2-(2-butoxyethoxy)ethanol	112-34-5	DNEL	40.5 mg/m³	human, inhalatory	consumer (private households)	chronic - systemic effects
2-(2-butoxyethoxy)ethanol	112-34-5	DNEL	40.5 mg/m³	human, inhalatory	consumer (private households)	chronic - local effects
2-(2-butoxyethoxy)ethanol	112-34-5	DNEL	60.7 mg/m³	human, inhalatory	consumer (private households)	acute - local effects
2-(2-butoxyethoxy)ethanol	112-34-5	DNEL	50 mg/kg bw/day	human, dermal	consumer (private households)	chronic - systemic effects
2-(2-butoxyethoxy)ethanol	112-34-5	DNEL	67.5 mg/m³	human, inhalatory	worker (industry)	chronic - local effects
2-(2-butoxyethoxy)ethanol	112-34-5	DNEL	101.2 mg/m³	human, inhalatory	worker (industry)	acute - local effects
2-(2-butoxyethoxy)ethanol	112-34-5	DNEL	6.25 mg/kg bw/day	human, oral	consumer (private households)	chronic - systemic effects

Relevant PNECs of components of the mixture

Name of substance	CAS No	End-point	Threshold level	Organism	Environmental compartment	Exposure time
triethylene glycol monobutylether	143-22-6	PNEC	2 mg/l	aquatic organisms	freshwater	short-term (single instance)
triethylene glycol monobutylether	143-22-6	PNEC	0.2 mg/l	aquatic organisms	marine water	short-term (single instance)
triethylene glycol monobutylether	143-22-6	PNEC	200 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
triethylene glycol monobutylether	143-22-6	PNEC	7.7 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
triethylene glycol monobutylether	143-22-6	PNEC	0.77 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
triethylene glycol monobutylether	143-22-6	PNEC	0.47 mg/kg	terrestrial organisms	soil	short-term (single instance)
2,2'-oxybisethanol	111-46-6	PNEC	10 mg/l	aquatic organisms	water	intermittent release
2,2'-oxybisethanol	111-46-6	PNEC	10 mg/l	aquatic organisms	freshwater	short-term (single instance)
2,2'-oxybisethanol	111-46-6	PNEC	1 mg/l	aquatic organisms	marine water	short-term (single instance)
2,2'-oxybisethanol	111-46-6	PNEC	199.5 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
2,2'-oxybisethanol	111-46-6	PNEC	20.9 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
2,2'-oxybisethanol	111-46-6	PNEC	2.09 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
2,2'-oxybisethanol	111-46-6	PNEC	1.53 mg/kg	terrestrial organisms	soil	short-term (single instance)
2-(2-methoxyethoxy)ethanol; diethylene glycol monomethyl ether	111-77-3	PNEC	12 mg/l	aquatic organisms	water	intermittent release
2-(2-methoxyethoxy)ethanol; diethylene glycol monomethyl ether	111-77-3	PNEC	12 mg/l	aquatic organisms	freshwater	short-term (single instance)
2-(2-methoxyethoxy)ethanol; diethylene glycol monomethyl ether	111-77-3	PNEC	1.2 mg/l	aquatic organisms	marine water	short-term (single instance)
2-(2-methoxyethoxy)ethanol; diethylene glycol monomethyl ether	111-77-3	PNEC	10,000 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
2-(2-methoxyethoxy)ethanol; diethylene glycol monomethyl ether	111-77-3	PNEC	44.4 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
2-(2-methoxyethoxy)ethanol; diethylene glycol monomethyl ether	111-77-3	PNEC	0.44 mg/kg	aquatic organisms	marine sediment	short-term (single instance)

Relevant PNECs of components of the mixture

Name of substance	CAS No	End-point	Threshold level	Organism	Environmental compartment	Exposure time
2-(2-methoxyethoxy)ethanol; diethylene glycol monomethyl ether	111-77-3	PNEC	2.1 $^{mg}/_{kg}$	terrestrial organisms	soil	short-term (single instance)
2-(2-butoxyethoxy)ethanol	112-34-5	PNEC	56 $^{mg}/_{kg}$	aquatic organisms	water	short-term (single instance)
2-(2-butoxyethoxy)ethanol	112-34-5	PNEC	11 $^{mg}/_{l}$	aquatic organisms	water	intermittent release
2-(2-butoxyethoxy)ethanol	112-34-5	PNEC	200 $^{mg}/_{l}$	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
2-(2-butoxyethoxy)ethanol	112-34-5	PNEC	1.1 $^{mg}/_{l}$	aquatic organisms	freshwater	short-term (single instance)
2-(2-butoxyethoxy)ethanol	112-34-5	PNEC	0.11 $^{mg}/_{l}$	aquatic organisms	marine water	short-term (single instance)
2-(2-butoxyethoxy)ethanol	112-34-5	PNEC	4.4 $^{mg}/_{kg}$	aquatic organisms	freshwater sediment	short-term (single instance)
2-(2-butoxyethoxy)ethanol	112-34-5	PNEC	0.44 $^{mg}/_{kg}$	aquatic organisms	marine sediment	short-term (single instance)
2-(2-butoxyethoxy)ethanol	112-34-5	PNEC	0.32 $^{mg}/_{kg}$	terrestrial organisms	soil	short-term (single instance)

8.2 Exposure controls

Appropriate engineering controls

General ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection

Use safety goggle with side protection

Skin protection

Chemical protective clothing.

- hand protection

Wear suitable gloves. Check leak-tightness/impermeability prior to use. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

- type of material

PVC: polyvinyl chloride, Nitrile rubber, Butyl rubber

- breakthrough time of the glove material

Use gloves with a minimum breakthrough time of the glove material: >10 minutes (permeation: level 1).

- other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling. Provide eyewash stations and safety showers at the workplace.

Respiratory protection

In case of inadequate ventilation wear respiratory protection. Type: A-P2 (combined filters against particles and organic gases and vapours, colour code: Brown/White).

Environmental exposure controls

Take appropriate precautions to avoid uncontrolled release into the environment. Keep away from drains, surface and ground water.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	liquid
Colour	yellow
Odour	characteristic
Melting point/freezing point	≤-36 °C
Boiling point or initial boiling point and boiling range	>280 °C
Evaporation rate	<0.1 (n-butyl acetate = 1)
Flammability	this material is combustible, but will not ignite readily
Lower and upper explosion limit	LEL: 0.6 vol% / UEL: 7 vol%
Flash point	100 °C
Auto-ignition temperature	>240 °C (auto-ignition temperature (liquids and gases))
Decomposition temperature	no data available
pH (value)	not determined
Kinematic viscosity	10 – 20 cSt

Solubility(ies)

Water solubility	miscible in any proportion

Partition coefficient n-octanol/water (log value)	<2

Vapour pressure	<0.1 hPa at 20 °C

Density	1.06 – 1.07 $^{kg}/_{l}$
Relative vapour density	>1 at 20 °C (air = 1)

Particle characteristics	not relevant (liquid)

9.2 Other information

There is no additional information.

Information with regard to physical hazard classes	hazard classes acc. to GHS (physical hazards): not relevant

Other safety characteristics

Miscibility	Completely miscible with water.

SECTION 10: Stability and reactivity

10.1 Reactivity

This material is not reactive under normal ambient conditions.

10.2 Chemical stability

The material is stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.

10.3 Possibility of hazardous reactions

No known hazardous reactions.

10.4 Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Moisture.

10.5 Incompatible materials

Acids. Oxidisers.

10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Test data are not available for the complete mixture.

Classification procedure

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

Classification acc. to GHS

This mixture does not meet the criteria for classification.

Acute toxicity

Shall not be classified as acutely toxic.

- acute toxicity of components of the mixture

Acute toxicity estimate (ATE) of components of the mixture			
Name of substance	**CAS No**	**Exposure route**	**ATE**
2,2'-oxybisethanol	111-46-6	oral	500 $^{mg}/_{kg}$

Acute toxicity of components of the mixture					
Name of substance	**CAS No**	**Exposure route**	**Endpoint**	**Value**	**Species**
triethylene glycol monobutylether	143-22-6	dermal	LD50	3,540 $^{mg}/_{kg}$	rabbit
2,2'-oxybisethanol	111-46-6	inhalation: dust/ mist	LC50	>4.6 $^{mg}/_{l}$/4h	rat
2,2'-oxybisethanol	111-46-6	dermal	LD50	13,300 $^{mg}/_{kg}$	rabbit
2-(2-methoxyethoxy)ethanol; diethylene glycol monomethyl ether	111-77-3	oral	LD50	7,128 $^{mg}/_{kg}$	mouse
2-(2-methoxyethoxy)ethanol; diethylene glycol monomethyl ether	111-77-3	dermal	LD50	9,404 $^{mg}/_{kg}$	rabbit
2-(2-butoxyethoxy)ethanol	112-34-5	oral	LD50	2,410 $^{mg}/_{kg}$	mouse
2-(2-butoxyethoxy)ethanol	112-34-5	dermal	LD50	2,764 $^{mg}/_{kg}$	rabbit

Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

Serious eye damage/eye irritation

Shall not be classified as seriously damaging to the eye or eye irritant.

Respiratory or skin sensitisation

Shall not be classified as a respiratory or skin sensitiser.

Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

Carcinogenicity

Shall not be classified as carcinogenic.

Reproductive toxicity

Shall not be classified as a reproductive toxicant.

Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

11.2 Information on other hazards

Endocrine disrupting properties

Does not contain an endocrine disruptor (EDC) in a concentration of ≥ 0.1%.

SECTION 12: Ecological information

12.1 Toxicity

Shall not be classified as hazardous to the aquatic environment.

Aquatic toxicity (acute) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Species	Exposure time
triethylene glycol monobutylether	143-22-6	LC50	4,600 mg/l	fish	96 h
triethylene glycol monobutylether	143-22-6	EC50	780 mg/l	algae	72 h
triethylene glycol monobutylether	143-22-6	ErC50	840 mg/l	algae	72 h
triethylene glycol monobutylether	143-22-6	NOEC	1,000 mg/l	fish	96 h
triethylene glycol monobutylether	143-22-6	growth (EbCx) 10%	151.7 mg/l	algae	72 h
triethylene glycol monobutylether	143-22-6	growth rate (ErCx) 10%	190 mg/l	algae	72 h
2,2'-oxybisethanol	111-46-6	LC50	75,200 mg/l	fish	96 h
2,2'-oxybisethanol	111-46-6	EC50	>10,000 mg/l	aquatic invertebrates	24 h
2-(2-methoxyethoxy)ethanol; diethylene glycol monomethyl ether	111-77-3	LC50	5,741 mg/l	fish	96 h
2-(2-methoxyethoxy)ethanol; diethylene glycol monomethyl ether	111-77-3	EC50	1,192 mg/l	aquatic invertebrates	48 h
2-(2-methoxyethoxy)ethanol; diethylene glycol monomethyl ether	111-77-3	growth (EbCx) 10%	688 mg/l	aquatic invertebrates	48 h
2-(2-butoxyethoxy)ethanol	112-34-5	LC50	1,300 mg/l	fish	96 h
2-(2-butoxyethoxy)ethanol	112-34-5	EC50	>100 mg/l	aquatic invertebrates	48 h
2-(2-butoxyethoxy)ethanol	112-34-5	ErC50	>100 mg/l	algae	96 h
2-(2-butoxyethoxy)ethanol	112-34-5	NOEC	≥100 mg/l	aquatic invertebrates	48 h

Aquatic toxicity (chronic) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Species	Exposure time
triethylene glycol monobutylether	143-22-6	NOEC	>100 mg/l	aquatic invertebrates	21 d
2,2'-oxybisethanol	111-46-6	EC50	>10,000 mg/l	aquatic invertebrates	24 h
2,2'-oxybisethanol	111-46-6	growth (EbCx) 20%	>1,995 mg/l	microorganisms	30 min
2-(2-methoxyethoxy)ethanol; diethylene glycol monomethyl ether	111-77-3	EC50	>1,000 mg/l	microorganisms	30 min
2-(2-methoxyethoxy)ethanol; diethylene glycol monomethyl ether	111-77-3	growth (EbCx) 20%	>1,000 mg/l	microorganisms	30 min
2-(2-butoxyethoxy)ethanol	112-34-5	growth (EbCx) 10%	>1,995 mg/l	microorganisms	30 min

12.2 Persistence and degradability

Not readily biodegradable.

Degradability of components of the mixture

Name of substance	CAS No	Process	Degradation rate	Time	Method
triethylene glycol monobutylether	143-22-6	oxygen depletion	3 %	5 d	
2-(2-methoxyethoxy)ethanol; diethylene glycol monomethyl ether	111-77-3	carbon dioxide generation	9.1 %	3 d	
2-(2-butoxyethoxy)ethanol	112-34-5	oxygen depletion	85 %	28 d	

12.3 Bioaccumulative potential

Not expected to bioaccumulate.

n-octanol/water (log KOW)	<2

Bioaccumulative potential of components of the mixture

Name of substance	CAS No	BCF	Log KOW	BOD5/COD
triethylene glycol monobutylether	143-22-6		0.51 (pH value: 7, 25 °C)	
2,2'-oxybisethanol	111-46-6	100	-1.98	
2-(2-methoxyethoxy)ethanol; diethylene glycol monomethyl ether	111-77-3		-0.47 (pH value: 6.7, 20 °C)	
2-(2-butoxyethoxy)ethanol	112-34-5		1 (pH value: 7, 20 °C)	

12.4 Mobility in soil

Spillages may penetrate the soil causing ground water contamination. Insoluble in water.

12.5 Results of PBT and vPvB assessment

Does not contain any substances that are assessed to be a PBT or a vPvB ≥ 0.1%.

12.6 Endocrine disrupting properties

Does not contain an endocrine disruptor (EDC) in a concentration of ≥ 0.1%.

12.7 Other adverse effects

This product floats on water and may affect the oxygen-balance in the water.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment.

Waste treatment of containers/packagings

Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

Remarks

Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

SECTION 14: Transport information

14.1	**UN number**	not subject to transport regulations
14.2	**UN proper shipping name**	not relevant
14.3	**Transport hazard class(es)**	none
14.4	**Packing group**	not assigned
14.5	**Environmental hazards**	non-environmentally hazardous acc. to the dangerous goods regulations

14.6 Special precautions for user

There is no additional information.

14.7 Maritime transport in bulk according to IMO instruments

No data available.

Information for each of the UN Model Regulations

International Maritime Dangerous Goods Code (IMDG) - additional information

Not subject to IMDG.

International Civil Aviation Organization (ICAO-IATA/DGR) - additional information

Not subject to ICAO-IATA.

SECTION 15: Regulatory information

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

Relevant provisions of the European Union (EU)

Seveso Directive

2012/18/EU (Seveso III)

No	Dangerous substance/hazard categories	Qualifying quantity (tonnes) for the application of lower and upper-tier requirements	Notes
	not assigned		

Regulation concerning the establishment of a European Pollutant Release and Transfer Register (PRTR)

None of the ingredients are listed.

Water Framework Directive (WFD)

List of pollutants (WFD)

Name of substance	Name acc. to inventory	CAS No	Listed in	Remarks
2,2'-oxybisethanol	Substances and preparations, or the breakdown products of such, which have been proved to possess carcinogenic or mutagenic properties or properties which may affect steroidogenic, thyroid, reproduction or other endocrine-related functions in or via the aquatic environment		a)	

List of pollutants (WFD)				
Name of substance	**Name acc. to inventory**	**CAS No**	**Listed in**	**Remarks**
2-(2-methoxyethoxy)ethanol; diethylene glycol monomethyl ether	Substances and preparations, or the breakdown products of such, which have been proved to possess carcinogenic or mutagenic properties or properties which may affect steroidogenic, thyroid, reproduction or other endocrine-related functions in or via the aquatic environment		a)	

Legend
A) Indicative list of the main pollutants

Regulation (EU) 2019/1148 of the European Parliament and of the Council of 20 June 2019 on the marketing and use of explosives precursors, amending Regulation (EC) No 1907/2006 and repealing Regulation (EU) No 98/2013

None of the ingredients are listed.

Regulation on persistent organic pollutants (POP)

None of the ingredients are listed.

National regulations (GB)

List of substances subject to authorisation (GB REACH, Annex 14) / SVHC - candidate list

none of the ingredients are listed

Restrictions according to GB REACH, Annex 17

Dangerous substances with restrictions (GB REACH, Annex 17)				
Name of substance	**Name acc. to inventory**	**CAS No**	**Conditions of restriction**	**No**
2-(2-butoxyethoxy)ethanol	2-(2-butoxyethoxy)ethanol (DEGBE)	112-34-5	R55	55
2-(2-butoxyethoxy)ethanol	this product meets the criteria for classification in accordance with Regulation No 1272/2008/EC		R3	3
2,2'-oxybisethanol	this product meets the criteria for classification in accordance with Regulation No 1272/2008/EC		R3	3
triethylene glycol monobutylether	this product meets the criteria for classification in accordance with Regulation No 1272/2008/EC		R3	3
2-(2-methoxyethoxy)ethanol; diethylene glycol monomethyl ether	2-(2-methoxyethoxy)ethanol (DEGME)	111-77-3	R54	54
2-(2-methoxyethoxy)ethanol; diethylene glycol monomethyl ether	this product meets the criteria for classification in accordance with Regulation No 1272/2008/EC		R3	3

Legend
R3
1. Shall not be used in:
— ornamental articles intended to produce light or colour effects by means of different phases, for example in ornamental lamps and ashtrays,
— tricks and jokes,
— games for one or more participants, or any article intended to be used as such, even with ornamental aspects,
2. Articles not complying with paragraph 1 shall not be placed on the market.
3. Shall not be placed on the market if they contain a colouring agent, unless required for fiscal reasons, or perfume, or both, if they:
— can be used as fuel in decorative oil lamps for supply to the general public, and,
— present an aspiration hazard and are labelled with R65 or H304,
4. Decorative oil lamps for supply to the general public shall not be placed on the market unless they conform to the British Standard Specification on Decorative oil lamps (BS EN 14059) adopted by the British Standards Institute.

Legend

5. Without prejudice to the implementation of other legislation relating to the classification, packaging and labelling of dangerous substances and mixtures, suppliers shall ensure, before the placing on the market, that the following requirements are met:
(a) lamp oils, labelled with R65 or H304, intended for supply to the general public are visibly, legibly and indelibly marked as follows: 'Keep lamps filled with this liquid out of the reach of children'; and, by 1 December 2010 'Just a sip of lamp oil
— or even sucking the wick of lamps
— may lead to life-threatening lung damage';
(b) grill lighter fluids, labelled with R65 or H304, intended for supply to the general public are legibly and indelibly marked by 1 December 2010 as
follows: 'Just a sip of grill lighter may lead to life-threatening lung damage';
(c) lamp oils and grill lighters, labelled with R65 or H304, intended for supply to the general public are packaged in black opaque containers not exceeding 1 litre by 1 December 2010.
7. Natural or legal persons placing on the market for the first time lamp oils and grill lighter fluids, labelled with R65 or H304, shall by 1 December 2011, and annually thereafter, provide data on alternatives to lamp oils and grill lighter fluids labelled R65 or H304 to the Agency.

R54 Shall not be placed on the market after 27 June 2010. for supply to the general public, as a constituent of paints, paint strippers, cleaning agents, self-shining emulsions or floor sealants in concentrations equal to or greater than 0.1 % by weight.

R55 1. Shall not be placed on the market for the first time after 27 June 2010. for supply to the general public, as a constituent of spray paints or spray cleaners in aerosol dispensers in concentrations equal to or greater than 3 % by weight.
2. Spray paints and spray cleaners in aerosol dispensers containing DEGBE and not conforming to paragraph 1 shall not be placed on the market for supply to the general public after 27 December 2010.
3. Without prejudice to other legislation concerning the classification, packaging and labelling of substances and mixtures, suppliers shall ensure before the placing on the market that paints other than spray paints containing DEGBE in concentrations equal to or greater than 3% by weight of that are placed on the market for supply to the general public are visibly, legibly and indelibly marked by 27 December 2010 as follows:
'Do not use in paint spraying equipment'.

15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this mixture by the supplier.

SECTION 16: Other information

Indication of changes (revised safety data sheet)

Complete revision of the safety data sheet.

Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
Acute Tox.	Acute toxicity
ADR	Accord relatif au transport international des marchandises dangereuses par route (Agreement concerning the International Carriage of Dangerous Goods by Road)
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BOD	Biochemical Oxygen Demand
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
COD	Chemical oxygen demand
DGR	Dangerous Goods Regulations (see IATA/DGR)
DMEL	Derived Minimal Effect Level
DNEL	Derived No-Effect Level
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union)
EH40/2005	EH40/2005 Workplace exposure limits (http://www.nationalarchives.gov.uk/doc/open-government-licence/)
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances

Abbr.	Descriptions of used abbreviations
ErC50	≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control
Eye Dam.	Seriously damaging to the eye
Eye Irrit.	Irritant to the eye
GB CLP	The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use) (Amendment etc.) (EU Exit) Regulations 2019, SI 2019/720 (as amended)
GB REACH	The REACH etc. (Amendment etc.) (EU Exit) Regulations 2019, SI 2019/758 (as amended)
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
index No	The Index number is the identification code given to the substance in Part 3 of Annex VI to Regulation (EC) No 1272/2008
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval
LEL	Lower explosion limit (LEL)
log KOW	n-Octanol/water
NLP	No-Longer Polymer
NOEC	No Observed Effect Concentration
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
ppm	Parts per million
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
Repr.	Reproductive toxicity
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
STEL	Short-term exposure limit
TWA	Time-weighted average
UEL	Upper explosion limit (UEL)
vPvB	Very Persistent and very Bioaccumulative
WEL	Workplace exposure limit

Key literature references and sources for data

The REACH etc. (Amendment etc.) (EU Exit) Regulations 2019, SI 2019/758 (as amended). The Chemicals (Health and Safety) and Genetically Modified Organisms (Contained Use) (Amendment etc.) (EU Exit) Regulations 2019, SI 2019/720 (as amended). GB mandatory classification and labelling.

Agreement concerning the International Carriage of Dangerous Goods by Road (ADR). Regulations concerning the International Carriage of Dangerous Goods by Rail (RID). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

Classification procedure

Physical and chemical properties: The classification is based on tested mixture.
Health hazards, Environmental hazards: The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

List of relevant phrases (code and full text as stated in section 2 and 3)

Code	Text
H302	Harmful if swallowed.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H361d	Suspected of damaging the unborn child.

Disclaimer

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.