

Safety data sheet

according to Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU



ROTI®-Load 1 , 4x conc., reducing

article number: **K929**

Version: **5.0 en**

Replaces version of: 2024-09-21

Version: (4)

date of compilation: 2017-05-18

Revision: 2025-02-19

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

1.1 Product identifier

Identification of the substance **ROTI®-Load 1 , 4x conc., reducing**
Article number **K929**
Registration number (REACH) **not relevant (mixture)**

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

Relevant identified uses: **Laboratory chemical
Laboratory and analytical use**
Uses advised against: **Do not use for products which come into contact with foodstuffs. Do not use for private purposes (household). Food, drink and animal feeding-stuffs.**

1.3 Details of the supplier of the safety data sheet

Carl Roth GmbH + Co. KG
Schoemperlenstr. 3-5
D-76185 Karlsruhe
Germany

Telephone:+49 (0) 721 - 56 06 0

Telefax: +49 (0) 721 - 56 06 149

e-mail: sicherheit@carlroth.de

Website: www.carlroth.de

Competent person responsible for the safety data sheet: **Department Health, Safety and Environment**

e-mail (competent person): **sicherheit@carlroth.de**

1.4 Emergency telephone number

Name	Street	Postal code/city	Telephone	Website
National Poisons Information Centre Beaumont Hospital	Beaumont Road	Dublin 9	+353 1 809 2166	https://www.poisons.ie/

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

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

Section	Hazard class	Category	Hazard class and category	Hazard statement
3.1O	Acute toxicity (oral)	4	Acute Tox. 4	H302
3.1D	Acute toxicity (dermal)	3	Acute Tox. 3	H311
3.1I	Acute toxicity (inhal.)	4	Acute Tox. 4	H332
3.2	Skin corrosion/irritation	2	Skin Irrit. 2	H315

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Section	Hazard class	Cat-egory	Hazard class and category	Hazard statement
3.3	Serious eye damage/eye irritation	1	Eye Dam. 1	H318
3.4S	Skin sensitisation	1	Skin Sens. 1	H317
3.9	Specific target organ toxicity - repeated exposure	2	STOT RE 2	H373
4.1C	Hazardous to the aquatic environment - chronic hazard	2	Aquatic Chronic 2	H411

For full text of abbreviations: see SECTION 16

The most important adverse physicochemical, human health and environmental effects

Delayed or immediate effects can be expected after short or long-term exposure. Spillage and fire water can cause pollution of watercourses.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 (CLP)

Signal word Danger

Pictograms

GHS05, GHS06,
GHS08, GHS09



Hazard statements

H302+H332 Harmful if swallowed or if inhaled
H311 Toxic in contact with skin
H315 Causes skin irritation
H317 May cause an allergic skin reaction
H318 Causes serious eye damage
H373 May cause damage to organs (liver, heart) through prolonged or repeated exposure (if swallowed)
H411 Toxic to aquatic life with long lasting effects

Precautionary statements

Precautionary statements - prevention

P273 Avoid release to the environment
P280 Wear protective gloves/eye protection

Precautionary statements - response

P302+P352 IF ON SKIN: Wash with plenty of 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/doctor

Hazardous ingredients for labelling: 2-Mercaptoethanol, Sodium dodecyl sulfate

Labelling of packages where the contents do not exceed 125 ml

Signal word: **Danger**

Hazard pictogram(s):



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H311	Toxic in contact with skin.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
P280	Wear protective gloves/eye protection.
P302+P352	IF ON SKIN: Wash with plenty of 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/doctor.
contains:	2-Mercaptoethanol, Sodium dodecyl sulfate

Labelling of packages where the contents do not exceed 10 ml

Signal word: Not required

Hazard pictogram(s):



Hazard statements: Not required

Precautionary statements: Not required

2.3 Other hazards

Results of PBT and vPvB assessment

Does not contain a PBT-/vPvB-substance at a concentration of $\geq 0,1\%$.

Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of $\geq 0,1\%$.

SECTION 3: Composition/information on ingredients

3.1 Substances

not relevant (mixture)

3.2 Mixtures

Description of the mixture

Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms	Notes
2-Mercaptoethanol	CAS No 60-24-2 EC No 200-464-6 REACH Reg. No 01-2119517582- 41-xxxx	10 – < 20	Acute Tox. 3 / H301 Acute Tox. 2 / H310 Acute Tox. 3 / H331 Skin Irrit. 2 / H315 Eye Dam. 1 / H318 Skin Sens. 1 / H317 STOT RE 2 / H373 Aquatic Acute 1 / H400 Aquatic Chronic 1 / H410	 	
Sodium dodecyl sulfate	CAS No 151-21-3 EC No 205-788-1	5 – < 10	Acute Tox. 4 / H302 Skin Irrit. 2 / H315 Eye Dam. 1 / H318 Aquatic Chronic 3 / H412	 	

Name of substance	Identifier	Specific Conc. Limits	M-Factors	ATE	Exposure route
2-Mercaptoethanol	CAS No 60-24-2 EC No 200-464-6	-	-	244 mg/kg 112 mg/kg 2,03 mg/l/4h	oral dermal inhalation: vapour
Sodium dodecyl sulfate	CAS No 151-21-3	-	-	977 mg/kg	oral

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Name of sub-stance	Identifier	Specific Conc. Limits	M-Factors	ATE	Exposure route
	EC No 205-788-1				

Remarks

For full text of abbreviations: see SECTION 16

SECTION 4: First aid measures

4.1 Description of first aid measures



General notes

Take off immediately all contaminated clothing. Self-protection of the first aider.

Following inhalation

Provide fresh air. In all cases of doubt, or when symptoms persist, seek medical advice.

Following skin contact

Rinse skin with water/shower. After contact with skin, wash immediately with plenty of water. In case of skin reactions, consult a physician. In case of skin irritation, consult a physician.

Following eye contact

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.

Following ingestion

Rinse mouth with water (only if the person is conscious). Call a doctor.

4.2 Most important symptoms and effects, both acute and delayed

Irritation, Allergic reactions, Gastrointestinal complaints, Nausea, Vomiting, Risk of serious damage to eyes, Risk of blindness

4.3 Indication of any immediate medical attention and special treatment needed

none

SECTION 5: Firefighting measures

5.1 Extinguishing media



Suitable extinguishing media

co-ordinate firefighting measures to the fire surroundings!
water spray, alcohol resistant foam, dry extinguishing powder, BC-powder, carbon dioxide (CO₂)

Unsuitable extinguishing media

water jet

5.2 Special hazards arising from the substance or mixture

Combustible.

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Hazardous combustion products

Carbon monoxide (CO), Carbon dioxide (CO₂), May produce toxic fumes of carbon monoxide if burning.

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Do not allow firefighting water to enter drains or water courses. Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus. Wear full chemical protective clothing.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures



For non-emergency personnel

Use personal protective equipment as required. Avoid contact with skin, eyes and clothes. Do not breathe vapour/spray.

6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it. If substance has entered a water course or sewer, inform the responsible authority.

6.3 Methods and material for containment and cleaning up

Advice on how to contain a spill

Covering of drains.

Advice on how to clean up a spill

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

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

Handle and open container with care. Provide adequate ventilation as well as local exhaust at critical locations. Clear contaminated areas thoroughly.

Measures to protect the environment

Avoid release to the environment.

Advice on general occupational hygiene

Thorough skin-cleansing after handling the product.

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed.

Incompatible substances or mixtures

Observe hints for combined storage. Incompatible materials: see section 10.

Consideration of other advice:

Store locked up.

Ventilation requirements

Keep any substance that emits harmful vapours or gases in a place that allows these to be permanently extracted.

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Specific designs for storage rooms or vessels

Recommended storage temperature: 15 – 25 °C

7.3 Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

National limit values

Occupational exposure limit values (Workplace Exposure Limits)

This information is not available.

Relevant DNELs of components						
Name of substance	CAS No	End-point	Threshold level	Protection goal, route of exposure	Used in	Exposure time
2-Mercaptoethanol	60-24-2	DNEL	0,17 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
2-Mercaptoethanol	60-24-2	DNEL	0,17 mg/m ³	human, inhalatory	worker (industry)	acute - systemic effects
2-Mercaptoethanol	60-24-2	DNEL	0,05 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
2-Mercaptoethanol	60-24-2	DNEL	0,05 mg/kg bw/day	human, dermal	worker (industry)	acute - systemic effects
Sodium dodecyl sulfate	151-21-3	DNEL	285 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
Sodium dodecyl sulfate	151-21-3	DNEL	4.060 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects

Relevant PNECs of components						
Name of substance	CAS No	End-point	Threshold level	Organism	Environmental compartment	Exposure time
2-Mercaptoethanol	60-24-2	PNEC	0,006 mg/l	aquatic organisms	freshwater	short-term (single instance)
2-Mercaptoethanol	60-24-2	PNEC	0,001 mg/l	aquatic organisms	marine water	short-term (single instance)
2-Mercaptoethanol	60-24-2	PNEC	60 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
2-Mercaptoethanol	60-24-2	PNEC	0,024 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
2-Mercaptoethanol	60-24-2	PNEC	0,002 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
2-Mercaptoethanol	60-24-2	PNEC	0,908 mg/kg	terrestrial organisms	soil	short-term (single instance)
Sodium dodecyl sulfate	151-21-3	PNEC	0,176 mg/l	aquatic organisms	freshwater	short-term (single instance)
Sodium dodecyl sulfate	151-21-3	PNEC	0,018 mg/l	aquatic organisms	marine water	short-term (single instance)
Sodium dodecyl	151-21-3	PNEC	1,35 mg/l	aquatic organ-	sewage treatment	short-term (single

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Relevant PNECs of components						
Name of substance	CAS No	End-point	Threshold level	Organism	Environmental compartment	Exposure time
sulfate				isms	plant (STP)	instance)
Sodium dodecyl sulfate	151-21-3	PNEC	6,97 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
Sodium dodecyl sulfate	151-21-3	PNEC	0,697 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
Sodium dodecyl sulfate	151-21-3	PNEC	1,29 mg/kg	terrestrial organisms	soil	short-term (single instance)

8.2 Exposure controls

Individual protection measures (personal protective equipment)

Eye/face protection



Use safety goggle with side protection.

Skin protection



• hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. 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 times are approximate values from measurements at 22 ° C and permanent contact. Increased temperatures due to heated substances, body heat etc. and a reduction of the effective layer thickness by stretching can lead to a considerable reduction of the breakthrough time. If in doubt, contact manufacturer. At an approx. 1.5 times larger / smaller layer thickness, the respective breakthrough time is doubled / halved. The data apply only to the pure substance. When transferred to substance mixtures, they may only be considered as a guide.

• type of material

Butyl caoutchouc (butyl rubber)

• material thickness

0,7 mm

• breakthrough times of the glove material

>480 minutes (permeation: level 6)

• Splash protection - Protective gloves

• type of material: NBR (Nitrile rubber)

• material thickness: >0,3 mm

• breakthrough times of the glove material: >120 minutes (permeation: level 4)

• other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.

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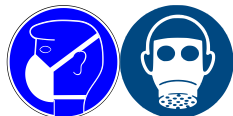
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Respiratory protection



Respiratory protection necessary at: Aerosol or mist formation. Type: A (against organic gases and vapours with a boiling point of > 65 °C , colour code: Brown).

Environmental exposure controls

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	clear - dark blue
Odour	disagreeable - like rotten eggs
Melting point/freezing point	not determined
Boiling point or initial boiling point and boiling range	not determined
Flammability	this material is combustible, but will not ignite readily
Lower and upper explosion limit	not determined
Flash point	not determined
Auto-ignition temperature	not determined
Decomposition temperature	not relevant
pH (value)	6 - 7 (20 °C)
Kinematic viscosity	not determined

Solubility(ies)

Water solubility miscible in any proportion

Partition coefficient

Partition coefficient n-octanol/water (log value): this information is not available

Vapour pressure not determined

Density and/or relative density

Density 1,1 - 1,2 g/cm³ at 20 °C

Relative vapour density Information on this property is not available.

Particle characteristics not relevant (liquid)

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Other safety parameters

Oxidising properties none

9.2 Other 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

Violent reaction with: strong oxidiser, Perchlorates, Strong acid

10.4 Conditions to avoid

Keep away from heat.

10.5 Incompatible materials

different plastics

10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

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 according to GHS (1272/2008/EC, CLP)

Acute toxicity

Harmful if swallowed. Toxic in contact with skin. Harmful if inhaled.

Acute toxicity estimate (ATE) of components			
Name of substance	CAS No	Exposure route	ATE
2-Mercaptoethanol	60-24-2	oral	244 mg/kg
2-Mercaptoethanol	60-24-2	dermal	112 mg/kg
2-Mercaptoethanol	60-24-2	inhalation: vapour	2,03 mg/l/4h
Sodium dodecyl sulfate	151-21-3	oral	977 mg/kg

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Acute toxicity of components					
Name of substance	CAS No	Exposure route	Endpoint	Value	Species
2-Mercaptoethanol	60-24-2	inhalation: vapour	LC50	2,03 mg/l/4h	rat
2-Mercaptoethanol	60-24-2	oral	LD50	244 mg/kg	rat
2-Mercaptoethanol	60-24-2	dermal	LD50	112 mg/kg	rabbit
Sodium dodecyl sulfate	151-21-3	oral	LD50	977 mg/kg	rat
Sodium dodecyl sulfate	151-21-3	dermal	LD50	>2.000 mg/kg	rat

Skin corrosion/irritation

Causes skin irritation.

Serious eye damage/eye irritation

Causes serious eye damage.

Respiratory or skin sensitisation

May cause an allergic skin reaction.

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

May cause damage to organs (liver, heart) through prolonged or repeated exposure (if swallowed).

Hazard category	Target organ	Exposure route
2	liver	if swallowed
2	heart	if swallowed

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

Endocrine disruptor for human health

Shall not be classified as an endocrine disruptor for human health.

Symptoms related to the physical, chemical and toxicological characteristics

• If swallowed

vomiting, nausea, gastrointestinal complaints

• If in eyes

Causes serious eye damage, risk of blindness

• If inhaled

irritant effects, cough, Dyspnoea

• If on skin

causes skin irritation, May produce an allergic reaction, pruritis, localised redness, risk of absorption via the skin

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• Other information

none

11.2 Information on other hazards

There is no additional information.

SECTION 12: Ecological information

12.1 Toxicity

Toxic to aquatic life with long lasting effects.

Aquatic toxicity (acute) of components					
Name of substance	CAS No	Endpoint	Value	Species	Exposure time
2-Mercaptoethanol	60-24-2	LC50	37 mg/l	fish	96 h
2-Mercaptoethanol	60-24-2	EC50	0,4 mg/l	aquatic invertebrates	48 h
2-Mercaptoethanol	60-24-2	ErC50	19 mg/l	algae	72 h
Sodium dodecyl sulfate	151-21-3	LC50	29 mg/l	fish	96 h
Sodium dodecyl sulfate	151-21-3	ErC50	>120 mg/l	algae	72 h

Aquatic toxicity (chronic) of components					
Name of substance	CAS No	Endpoint	Value	Species	Exposure time
2-Mercaptoethanol	60-24-2	EC50	125 mg/l	microorganisms	17 h
2-Mercaptoethanol	60-24-2	NOEC	>0,063 mg/l	aquatic invertebrates	21 d
2-Mercaptoethanol	60-24-2	LOEC	0,126 mg/l	aquatic invertebrates	21 d
Sodium dodecyl sulfate	151-21-3	EC50	135 mg/l	microorganisms	3 h
Sodium dodecyl sulfate	151-21-3	NOEC	0,88 mg/l	aquatic invertebrates	7 d
Sodium dodecyl sulfate	151-21-3	NOEC	≥1,357 mg/l	fish	42 d

12.2 Persistence and degradability

Degradability of components						
Name of substance	CAS No	Process	Degradation rate	Time	Method	Source
Sodium dodecyl sulfate	151-21-3	biotic/abiotic	90 %	28 d		
Sodium dodecyl sulfate	151-21-3	carbon dioxide generation	95 %	28 d		ECHA

12.3 Bioaccumulative potential

Data are not available.

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Bioaccumulative potential of components				
Name of substance	CAS No	BCF	Log KOW	BOD5/COD
2-Mercaptoethanol	60-24-2		-0,056 (pH value: 7, 25 °C)	
Sodium dodecyl sulfate	151-21-3		≤-2,03 (20 °C)	

12.4 Mobility in soil

Data are not available.

12.5 Results of PBT and vPvB assessment

Does not contain a PBT-/vPvB-substance at a concentration of $\geq 0,1\%$.

12.6 Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of $\geq 0,1\%$.

12.7 Other adverse effects

Data are not available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods



This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.

Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.

Waste treatment of containers/packagings

It is a dangerous waste; only packagings which are approved (e.g. acc. to ADR) may be used. Handle contaminated packages in the same way as the substance itself. Completely emptied packages can be recycled.

13.2 Relevant provisions relating to waste

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

Properties of waste which render it hazardous

- HP 4** irritant - skin irritation and eye damage
- HP 5** specific target organ toxicity (STOT)/aspiration toxicity
- HP 6** acute toxicity
- HP 13** sensitising
- HP 14** ecotoxic

13.3 Remarks

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

SECTION 14: Transport information

14.1 UN number or ID number

ADRRID	UN 2810
IMDG-Code	UN 2810


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ICAO-TI	UN 2810
14.2 UN proper shipping name	
ADRRID	TOXIC LIQUID, ORGANIC, N.O.S.
IMDG-Code	TOXIC LIQUID, ORGANIC, N.O.S.
ICAO-TI	Toxic liquid, organic, n.o.s.
Technical name (hazardous ingredients)	Thioglycol
14.3 Transport hazard class(es)	
ADRRID	6.1
IMDG-Code	6.1
ICAO-TI	6.1
14.4 Packing group	
ADRRID	III
IMDG-Code	III
ICAO-TI	III
14.5 Environmental hazards	hazardous to the aquatic environment
Environmentally hazardous substance (aquatic environment):	Thioglycol
14.6 Special precautions for user	
Provisions for dangerous goods (ADR) should be complied within the premises.	
14.7 Maritime transport in bulk according to IMO instruments	
The cargo is not intended to be carried in bulk.	
14.8 Information for each of the UN Model Regulations	
Agreement concerning the International Carriage of Dangerous Goods by Road (ADR)Additional information	
Proper shipping name	TOXIC LIQUID, ORGANIC, N.O.S.
Particulars in the transport document	UN2810, TOXIC LIQUID, ORGANIC, N.O.S., (contains: Thioglycol), 6.1, III, (E), environmentally hazardous
Classification code	T1
Danger label(s)	6.1, "Fish and tree"
	
Environmental hazards	yes (hazardous to the aquatic environment)
Special provisions (SP)	274, 614, 802(ADN)
Excepted quantities (EQ)	E1
Limited quantities (LQ)	5 L
Transport category (TC)	2
Tunnel restriction code (TRC)	E

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Hazard identification No 60

Regulations concerning the International Carriage of Dangerous Goods by Rail (RID) Additional information

Classification code T1

Danger label(s) 6.1, "Fish and tree"



Environmental hazards Yes
Hazardous to water

Special provisions (SP) 274, 614, 802(ADN)

Excepted quantities (EQ) E1

Limited quantities (LQ) 5 L

Transport category (TC) 2

Hazard identification No 60

International Maritime Dangerous Goods Code (IMDG) - Additional information

Proper shipping name TOXIC LIQUID, ORGANIC, N.O.S.

Particulars in the shipper's declaration UN2810, TOXIC LIQUID, ORGANIC, N.O.S., (contains: Thioglycol), 6.1, III, MARINE POLLUTANT

Marine pollutant YES (hazardous to the aquatic environment), (Thioglycol)

Danger label(s) 6.1, "Fish and tree"



Special provisions (SP) 223, 274

Excepted quantities (EQ) E1

Limited quantities (LQ) 5 L

EmS F-A, S-A

Stowage category A

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

Proper shipping name Toxic liquid, organic, n.o.s.

Particulars in the shipper's declaration UN2810, Toxic liquid, organic, n.o.s., (contains: Thioglycol), 6.1, III

Environmental hazards YES (hazardous to the aquatic environment)

Danger label(s) 6.1



Special provisions (SP) A3, A4, A137

Excepted quantities (EQ) E1

Limited quantities (LQ) 2 L

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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)

Restrictions according to REACH, Annex XVII

Dangerous substances with restrictions (REACH, Annex XVII)				
Name of substance	Name acc. to inventory	CAS No	Restriction	No
ROTI®-Load 1	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 H304.
 4. Decorative oil lamps for supply to the general public shall not be placed on the market unless they conform to the European Standard on Decorative oil lamps (EN 14059) adopted by the European Committee for Standardisation (CEN).
 5. Without prejudice to the implementation of other Union provisions relating to the classification, labelling and packaging of substances and mixtures, suppliers shall ensure, before the placing on the market, that the following requirements are met:
 - (a) lamp oils, labelled with 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 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 fluid may lead to life threatening lung damage';
 - (c) lamps oils and grill lighters, labelled with H304, intended for supply to the general public are packaged in black opaque containers not exceeding 1 litre by 1 December 2010.;

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

none of the ingredients are listed

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
E2	environmental hazards (hazardous to the aquatic environment, cat. 2)	200	500	57)

Notation

57) Hazardous to the Aquatic Environment in category Chronic 2

Deco-Paint Directive

VOC content	25,92 %
VOC content (Water content was discounted)	465,2 g/l

Industrial Emissions Directive (IED)

VOC content	19,1 %
VOC content (Water content was discounted)	342,8 g/l

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Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)

none of the ingredients are listed

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
Sodium dodecyl sulfate	Metals and their compounds		a)	
2-Mercaptoethanol	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 on the marketing and use of explosives precursors

none of the ingredients are listed

Regulation on drug precursors

none of the ingredients are listed

Regulation on substances that deplete the ozone layer (ODS)

none of the ingredients are listed

Regulation concerning the export and import of hazardous chemicals (PIC)

none of the ingredients are listed

Regulation on persistent organic pollutants (POP)

none of the ingredients are listed

Other information

Directive 94/33/EC on the protection of young people at work. Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

National inventories

Country	Inventory	Status
AU	AIIC	not all ingredients are listed
CA	DSL	not all ingredients are listed
CA	NDSL	not all ingredients are listed
CN	IECSC	not all ingredients are listed
EU	ECSI	all ingredients are listed
EU	REACH Reg.	not all ingredients are listed
JP	CSCL-ENCS	not all ingredients are listed
JP	ISHA-ENCS	not all ingredients are listed
KR	KECI	not all ingredients are listed

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Country	Inventory	Status
MX	INSQ	not all ingredients are listed
NZ	NZIoC	not all ingredients are listed
PH	PICCS	not all ingredients are listed
TR	CICR	not all ingredients are listed
TW	TCSI	all ingredients are listed
US	TSCA	not all ingredients are listed

Legend

AIIC	Australian Inventory of Industrial Chemicals
CICR	Chemical Inventory and Control Regulation
CSCL-ENCS	List of Existing and New Chemical Substances (CSCL-ENCS)
DSL	Domestic Substances List (DSL)
ECSI	EC Substance Inventory (EINECS, ELINCS, NLP)
IECSC	Inventory of Existing Chemical Substances Produced or Imported in China
INSQ	National Inventory of Chemical Substances
ISHA-ENCS	Inventory of Existing and New Chemical Substances (ISHA-ENCS)
KECI	Korea Existing Chemicals Inventory
NDSL	Non-domestic Substances List (NDSL)
NZIoC	New Zealand Inventory of Chemicals
PICCS	Philippine Inventory of Chemicals and Chemical Substances (PICCS)
REACH Reg.	REACH registered substances
TCSI	Taiwan Chemical Substance Inventory
TSCA	Toxic Substance Control Act

15.2 Chemical safety assessment

According to REACH, Article 14 (1) a chemical safety assessment has been carried out for this substance or components of this mixture when the substance has been registered in quantities of 10 tonnes or more per year per registrant.

SECTION 16: Other information

Indication of changes (revised safety data sheet)

Section	Former entry (text/value)	Actual entry (text/value)	Safety-relevant
15.1		List of pollutants (WFD): change in the listing (table)	yes
15.1		National inventories: change in the listing (table)	yes

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)
Aquatic Acute	Hazardous to the aquatic environment - acute hazard
Aquatic Chronic	Hazardous to the aquatic environment - chronic hazard
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)
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures
COD	Chemical oxygen demand

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Abbr.	Descriptions of used abbreviations
DGR	Dangerous Goods Regulations (see IATA/DGR)
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)
ED	Endocrine disruptor
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
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
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
ICAO-TI	Technical instructions for the safe transport of dangerous goods by air
IMDG	International Maritime Dangerous Goods Code
IMDG-Code	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
LOEC	Lowest Observed Effect Concentration
log KOW	n-Octanol/water
NLP	No-Longer Polymer
NOEC	No Observed Effect Concentration
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail)
Skin Corr.	Corrosive to skin
Skin Irrit.	Irritant to skin
Skin Sens.	Skin sensitisation
STOT RE	Specific target organ toxicity - repeated exposure
SVHC	Substance of Very High Concern
VOC	Volatile Organic Compounds

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Abbr.	Descriptions of used abbreviations
vPvB	Very Persistent and very Bioaccumulative

Key literature references and sources for data

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures. Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU.

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
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H310	Fatal in contact with skin.
H311	Toxic in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H331	Toxic if inhaled.
H332	Harmful if inhaled.
H373	May cause damage to organs (liver, heart) through prolonged or repeated exposure (if swallowed).
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Disclaimer

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