SAFETY DATA SHEET

according to Regulation No. 1907/2006 (REACH) and Commission Regulation (EU) 2020/878

Version: 1.0
Issue date: 2021-11-29

Lock defroster

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

1.1 Product identifier

Chemical name/ trade name: **Lock defroster**

Producer: **OMA CZ, a.s.**
Address: **Stráž pod Ralskem, 47127, Borová 103**

Distributor: **OMA CZ Slovakia s.r.o.**
Address: **Bratislava, 81104, Boženy Nemcovej 8**

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

Intended use: Designed for professional and consumer use as a defrosting fluid - an effective product for thorough thawing and lubrication of all types of locks.

Uses advised against: Other then the above mentioned.

1.3 Details of the supplier of the safety data sheet

Supplier of SDS: OMA CZ Slovakia s.r.o.
Address: Bratislava, 81104, Boženy Nemcovej 8
Identification No.: 50299964
Tel: +421903714919
www: www.omacz.sk
Responsible person for this SDS: OMA CZ, a.s., laborator@omacz.cz

1.4 Emergency telephone number

National Poisons Information Service (NPIS), Royal Infirmary of Edinburgh, Edinburgh EH16 4SA, United Kingdom, Tel.: +44 121 507 4123, 844 892 0111

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

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

Eye irritation, category 2, H319 Causes serious eye irritation.
Flammable liquids, category 2, H225 Highly flammable liquid and vapour.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 [CLP]:
Hazard pictogram(s):

Signal word(s): DANGER

Contain: Ethanol, Ethane-1,2-diol, Propan-2-ol, Butanone, Alcohols, C12-15, ethoxylated

Hazard statement(s):

H225 Highly flammable liquid and vapour.
H319 Causes serious eye irritation.

Precautionary statement(s):

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
P233 Keep container tightly closed.
P305/351/338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P403/235 Store in a well ventilated place. Keep cool.
P501 Dispose of contents / container as hazardous waste.

Supplemental information: Ingredient data sheet on request from the production director on tel: +420 515 539 752, or by e-mail: lzajicova@omacz.cz.

2.3 Other hazards

This mixture does not contain any substances which are classified as PBT or vPvB
This product does not contain SVHC.
This product does not contain endocrine disruptors in a concentration of 0.1% by weight or higher.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Name of the component	Content (weight %)	CAS EINECS Index N° Reg. Number	Classification according to Regulation (EC) No 1278/2008 (CLP)	
Ethanol	40 - < 44	64-17-5 200-578-6 603-002-00-5 01-2119457610-43	Eye Irrit. 2 *SCL: C ≥ 50%* Flam. Liq. 2	H319 H225
Glycerol	30	56-81-5 200-289-5 - 01-2119471987-18	*Substance with exposure limit for working environment, see sect. 8*	
Propan-2-ol	5 - < 10	67-63-0 200-661-7 603-117-00-0 01-2119457558-25	Eye Irrit. 2 Flam. Liq. 2 STOT SE 3	H319 H225 H336
Ethane-1,2-diol *	3 - < 5	107-21-1 203-473-3 603-027-00-1 01-2119456816-28	Acute Tox. 4 STOT RE 2	H302 H373
Butanone *	< 1,5	78-93-3 201-159-0 606-002-00-3 01-2119457290-43	Eye Irrit. 2 Flam. Liq. 2 STOT SE 3	H319 H225 H336 EUH066
Alcohols, C12-15, ethoxylated	< 0,5	68131-39-5 500-195-7 - 01-2119488720-33-0000	Aquatic Acute 1 Eye Dam. 1	H400 H318

** Substance with a Community workplace exposure limit.*

For full text of H-statements see SECTION 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General advice: In any case, avoid chaotic action. When medical treatment is required, always take the original package with the label or safety data sheet. For life-threatening conditions, first resuscitate the sufferer and obtain medical assistance. Breathing arrest - perform CPR immediately. Cardiac arrest - perform indirect CPR immediately. Unconscious - place the sufferer in a stable position on the side. It is always necessary to assess the situation in the light of the individual's own safety and that of the person affected.

Inhalation: Move affected person to fresh air, keep him calm, prevent hypothermia. Provide medical treatment.

Skin contact: Take off all contaminated clothing. Wash thoroughly with soap and water. If irritation occurs, seek medical advice.

Eye contact:	Immediately rinse eyes with running water, open eyelids. If the contact lenses are used, remove them carefully and continue to rinse, the affected eye wide open from the inner corner to the outer, so that the second eye is not affected and also under the lids for at least 15 minutes. If symptoms persist, seek medical advice.
Ingestion:	Rinse mouth with water, do not induce vomiting. Do not give anything by mouth to an unconscious person.
Protection of first aiders:	Pay attention to personal safety during rescue work.

4.2 Most important symptoms and effects, both acute and delayed

Causes serious eye irritation.

4.3 Indication of any immediate medical attention and special treatment needed

Decontamination. Symptomatic treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media:	Water mist, powder, Alcohol resistant foam, CO_2.
Unsuitable extinguishing media:	Strong water jet - could cause fire to spread.

5.2 Special hazards arising from the substance or mixture

Combustion products and hazardous gases: smoke, carbon monoxide, carbon dioxide. Do not breathe combustion products. Vapors may form explosive mixtures with air. Vapors are heavier than air and can spread over long distances and accumulate in low-lying areas. Do not empty into drains. It mixes with water. At high concentrations, it is above water surface may form explosive mixtures with air. The container may burst as a result gas evolution in case of fire.

5.3 Advice for firefighters

Rescue teams exposed to smoke or gases must be equipped with means for eye and respiratory protection, protective clothing. In confined spaces it is necessary to use a breathing apparatus. Containers exposed to fire cool with water mist. Collect extinguishing water separately, and avoid its penetration into the soil and water.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Prevent contamination of clothing and footwear by product and contact with skin and eyes. Wear suitable protective clothing, replace contaminated clothing. Ensure ventilation of the affected area. All persons not participating in rescue work should be taken to a safe distance. Take precautionary measures against static discharges. Eliminate all possible sources of ignition. No smoking and handling of open fire. Use explosion-proof and non-sparking luminaires tool.

6.2 Environmental precautions

Avoid leakage into the environment, soil, avoid ingress into surface water and sewers. In case of leakage, inform the water / sewer manager and the relevant authorities immediately.

6.3 Methods and material for containment and cleaning up

In case of leakage, locate and, if possible, drain or mechanically remove product, withdraw from the surface of the water. Allow residuals or smaller amounts to be absorbed in a suitable sorbent (kieselguhr, sand) and placed it in suitable and labelled containers and handed over to recycling / disposal of in accordance with applicable regulations.

6.4 Reference to other sections

See section 7, 8 a 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Use appropriate PPE. Use only in well-ventilated areas with fresh air supply. Do not eat, drink, smoke. Wash your hands after work. Comply with regulations on health and safety at work. All fire precautions must be observed during handling.

7.2 Conditions for safe storage, including any incompatibilities

Store in a vertical position to prevent leakage. Store in original packaging, in dry, well-ventilated, cool place. Do not store together with strong oxidising agents. Do not store together with food, beverage and medicines. The warehouse must be equipped with a first aid kit and a source of drinking water for eye wash. No smoking or handling open flames. Electrical equipment in closed warehouses must be explosion-proof.

7.3 Specific end use(s)

see section 1.2

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Exposure limits: According to national legislation of target country.

Substance	CAS	Permissible exposure limits (mg/m³)	Maximum permissible concentration (mg/m³)	Note
2-methylpropan-2-ol	75-65-0	308	462	
Butanone	78-93-3	600	900	
Ethanol	64-17-5	1920	-	
Ethane-1,2-diol	107-21-1	10 particulate. 52 vapour	- particulate. 104 vapour	
Glycerol	56-81-5	10	-	
Propan-2-ol	67-63-0	999	1250	

Substances with Community Exposure Limits: Union occupational exposure limit values in accordance with Directive 2000/39/EC (as amended).

Substance	CAS	Limit values		Note
		OEL (mg/m³)	STEL (mg/m³)	
Butanone	78-93-3	600	900	
Ethylene glycol	107-21-1	52	104	*Dermal*

DNEL:

Ethane-1,2-diol (CAS: 107-21-1)

Exposed group and route of exposure	Duration of exposure	Type of effect	Unit	Value

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Workers				
Inhalation	Long-term (chronic)	systemic	mg/m³	-
		local	mg/m³	35
Dermal	Long-term (chronic)	systemic	mg/kg $_{bw/d}$	106
Consumers				
Inhalation	Long-term (chronic)	systemic	mg/m³	-
		local	mg/m³	7
Dermal	Long-term (chronic)	systemic	mg/kg $_{bw/d}$	53

Ethanol (CAS: 64-17-5)

Exposed group and route of exposure	Duration of exposure	Type of effect	Unit	Value
Workers				
Inhalation	Long-term (chronic)	systemic	mg/m³	950
Dermal	Long-term (chronic)	systemic	mg/kg $_{bw/d}$	343
Consumers				
Inhalation	Long-term (chronic)	systemic	mg/m³	114
Dermal	Long-term (chronic)	systemic	mg/kg $_{bw/d}$	206
Oral	Long-term (chronic)	systemic	mg/kg $_{bw/d}$	87

Glycerol (CAS: 56-81-5)

Exposed group and route of exposure	Duration of exposure	Type of effect	Unit	Value
Workers				
Inhalation	Long-term (chronic)	systemic	mg/m³	-
		local	mg/m³	56
Consumers				
Inhalation	Long-term (chronic)	systemic	mg/m³	-
		local	mg/m³	33
Oral	Long-term (chronic)	systemic	mg/kg $_{bw/d}$	229

Propan-2-ol (CAS: 67-63-0)

Exposed group and route of exposure	Duration of exposure	Type of effect	Unit	Value
Workers				
Inhalation	Long-term (chronic)	systemic	mg/m³	500
Dermal	Long-term (chronic)	systemic	mg/kg $_{bw/d}$	888
Consumers				
Inhalation	Long-term (chronic)	systemic	mg/m³	89
Dermal	Long-term (chronic)	systemic	mg/kg $_{bw/d}$	319
Oral	Long-term (chronic)	systemic	mg/kg $_{bw/d}$	26

Butanone (CAS: 78-93-3)

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Exposed group and route of exposure	Duration of exposure	Type of effect	Unit	Value
Workers				
Inhalation	Long-term (chronic)	systemic	mg/m³	600
Dermal	Long-term (chronic)	systemic	mg/kg $_{bw/d}$	1 161
Consumers				
Inhalation	Long-term (chronic)	systemic	mg/m³	106
Dermal	Long-term (chronic)	systemic	mg/kg $_{bw/d}$	412
Oral	Long-term (chronic)	systemic	mg/kg $_{bw/d}$	31

Alcohols, C12-15, ethoxylated (CAS: 68131-39-5)

Exposed group and route of exposure	Duration of exposure	Type of effect	Unit	Value
Workers				
Inhalation	Long-term (chronic)	systemic	mg/m³	294
Dermal	Long-term (chronic)	systemic	mg/kg $_{bw/d}$	2 080
Consumers				
Inhalation	Long-term (chronic)	systemic	mg/m³	87
Dermal	Long-term (chronic)	systemic	mg/kg $_{bw/d}$	1 250
Oral	Long-term (chronic)	systemic	mg/kg $_{bw/d}$	25

PNEC:

Ethane-1,2-diol (CAS: 107-21-1)

Component of the environment		PNEC	Unit	Value
Water environment	Freshwater	PNEC $_{water, fresh.}$	mg/L	10
	Freshwater, occasional leakage	PNEC $_{water, fresh.}$	mg/L	10
	Freshwater sediment	PNEC $_{sed., fresh.}$	mg/kg $_{sediment dw}$	37
	Seawater	PNEC $_{water, mar.}$	mg/L	1
	Marine sediment	PNEC $_{sed., mar.}$	mg/kg $_{sediment dw}$	3.7
Microbiological activity	Wastewater treatment plant	PNEC $_{sew. treat.}$	mg/L	199.5
Terrestrial environment / organisms	Soil	PNEC $_{soil}$	mg/kg $_{soil dw}$	1.53

Ethanol (CAS: 64-17-5)

Component of the environment		PNEC	Unit	Value
Water environment	Freshwater	PNEC $_{water, fresh.}$	mg/L	0.96
	Freshwater, occasional leakage	PNEC $_{water, fresh.}$	mg/L	2.75
	Freshwater sediment	PNEC $_{sed., fresh.}$	mg/kg $_{sediment dw}$	3.6
	Seawater	PNEC $_{water, mar.}$	mg/L	0.79
	Marine sediment	PNEC $_{sed., mar.}$	mg/kg $_{sediment dw}$	2.9
Microbiological activity	Wastewater treatment plant	PNEC $_{sew. treat.}$	mg/L	580
Terrestrial environment / organisms	Soil	PNEC $_{soil}$	mg/kg $_{soil dw}$	0.63
Food chain	Predators	PNEC $_{oral.}$	mg/kg $_{food}$	380

Glycerol (CAS: 56-81-5)

Component of the environment		PNEC	Unit	Value
Water environment	Freshwater	PNEC $_{water, fresh.}$	mg/L	0.885
	Freshwater, occasional leakage	PNEC $_{water, fresh.}$	mg/L	8.85
	Freshwater sediment	PNEC $_{sed., fresh.}$	mg/kg $_{sediment dw}$	3.3
	Seawater	PNEC $_{water, mar.}$	mg/L	0.088
	Marine sediment	PNEC $_{sed., mar.}$	mg/kg $_{sediment dw}$	0.33
Microbiological activity	Wastewater treatment plant	PNEC $_{sew. treat.}$	mg/L	1 000
Terrestrial environment / organisms	Soil	PNEC $_{soil}$	mg/kg $_{soil dw}$	0.141

Propan-2-ol (CAS: 67-63-0)

Component of the environment		PNEC	Unit	Value
Water environment	Freshwater	PNEC $_{water, fresh.}$	mg/L	140.9
	Freshwater, occasional leakage	PNEC $_{water, fresh.}$	mg/L	140.9
	Freshwater sediment	PNEC $_{sed., fresh.}$	mg/kg $_{sediment dw}$	552
	Seawater	PNEC $_{water, mar.}$	mg/L	140.9
	Marine sediment	PNEC $_{sed., mar.}$	mg/kg $_{sediment dw}$	552
Microbiological activity	Wastewater treatment plant	PNEC $_{sew. treat.}$	mg/L	2 251
Terrestrial environment / organisms	Soil	PNEC $_{soil}$	mg/kg $_{soil dw}$	28
Food chain	Predators	PNEC $_{oral.}$	mg/kg $_{food}$	160

Butanone (CAS: 78-93-3)

Component of the environment		PNEC	Unit	Value
Water environment	Freshwater	PNEC $_{water, fresh.}$	mg/L	55.8
	Freshwater, occasional leakage	PNEC $_{water, fresh.}$	mg/L	55.8
	Freshwater sediment	PNEC $_{sed., fresh.}$	mg/kg $_{sediment dw}$	284.74
	Seawater	PNEC $_{water, mar.}$	mg/L	55.8
	Marine sediment	PNEC $_{sed., mar.}$	mg/kg $_{sediment dw}$	284.7
Microbiological activity	Wastewater treatment plant	PNEC $_{sew. treat.}$	mg/L	709
Terrestrial environment / organisms	Soil	PNEC $_{soil}$	mg/kg $_{soil dw}$	22.5
Food chain	Predators	PNEC $_{oral.}$	mg/kg $_{food}$	1 000

Alcohols, C12-15, ethoxylated (CAS: 68131-39-5)

Component of the environment		PNEC	Unit	Value
Water environment	Freshwater	PNEC $_{water, fresh.}$	mg/L	0.051
	Freshwater, occasional leakage	PNEC $_{water, fresh.}$	mg/L	0.001
	Freshwater sediment	PNEC $_{sed., fresh.}$	mg/kg $_{sediment dw}$	81.64
	Seawater	PNEC $_{water, mar.}$	mg/L	0.005
	Marine sediment	PNEC $_{sed., mar.}$	mg/kg $_{sediment dw}$	8.16
Microbiological activity	Wastewater treatment plant	PNEC $_{sew. treat.}$		10 g/L
Terrestrial environment / organisms	Soil	PNEC $_{soil}$	mg/kg $_{soil dw}$	1

8.2 Exposure controls

Technical measures:	Technical measures and appropriate work procedures take precedence over personal protective equipment. Observe the usual hygiene principles. Do not eat, drink, smoke. Before breaks and after work wash your hands with warm water and soap. Ensure that there is a safety shower or sink with running water for eye lavage near the workplace. All personal protective equipment should be kept in a still usable condition and damaged immediately replaced.

Individual protection measures

Respiratory protection:	If the exposure limits are exceeds, for mist / dust / vapour / aerosol formation use mask with A/P filter according to EN 14387.
Hand protection:	Protective gloves resistant to chemicals according to EN 374. Observe the manufacturer's exact instructions, including the time of use. Replace damaged gloves. Suitable material: butyl rubber, nitrilka rubber, neoprene, viton. material thickness: Items 0.5 mm, penetration time: > 480 min.
Eye / face protection:	Wear safety glasses with side shields or face shield according to EN 166.
Skin protection:	Working clothes (EN 340) and footwear (EN 347).
Thermal hazards:	No data available.
Environmental exposure controls:	Avoid unnecessary releases into the environment.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state:	Liquid
Colour:	Light blue
Odour:	Alcohol
Odour threshold:	not determined
pH :	No data available.
Melting point / freezing point (°C):	not determined
Boiling point or initial boiling point and boiling range (°C):	84
Flash point (°C):	15
Evaporation rate:	not determined
Flammability (gases, liquids and solids):	not determined
Lower and upper explosion limit:	not determined
Vapour pressure (20 °C):	not determined
Vapour pressure (50 °C):	not determined
Relative vapour density:	not determined
Density and/or relative density (g/cm³, 20 °C):	1.005
Solubility (20 °C):	Unlimited
Partition coefficient n-octanol/water (log value):	not determined
Auto-ignition temperature:	not determined
Decomposition temperature:	not determined
Kinematic viscosity:	No data available.
Refractive index (20 °C):	not determined
Oxidising properties:	not determined
Explosive properties:	not determined

9.2 Other information

VOC (%):	not determined
Dry matter content:	not determined
Additional information:	no other information

9.2.1 Information with regard to physical hazard classes

Flammable liquids	Flammable liquids, category 2, H225 Highly flammable liquid and vapour.

9.2.2 Other safety characteristics:

mechanical sensitivity:	No data available.
self-accelerating polymerisation temperature:	No data available.
formation of explosible dust/air mixtures:	No data available.
acid/alkaline reserve:	No data available.
evaporation rate	No data available.
miscibility:	No data available.
conductivity:	No data available.
corrosiveness:	No data available.
gas group:	No data available.
redox potential:	No data available.
radical formation potential:	No data available.
photocatalytic properties:	No data available.

SECTION 10: Stability and reactivity

10.1 Reactivity The product reacts with strong oxidants.

10.2 Chemical stability The product is stable at the specified conditions of storage, handling and use.

10.3 Possibility of hazardous reactions The product reacts violently with alkali metals to evolve hydrogen.

10.4 Conditions to avoid Observe handling and storage conditions in section 7. Avoid the formation of concentrations above the explosive limit and exposure of the product to high temperatures, open fire and sources of ignition.

10.5 Incompatible materials Strong oxidizing agents, strong acids, strong alkalines.

10.6 Hazardous decomposition products Hazardous decomposition products are not known. Thermal decomposition and very high temperatures can produce harmful products (carbon oxides).

SECTION 11: Toxicological information

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

Ethane-1,2-diol (CAS: 107-21-1)

Acute toxicity:

Test type	Results	Exposure	Tested organisms
key study	7 712 mg/kg bw LD50	oral: gavage	rat
key study	> 3 500 mg/kg bw LD50	dermal	mouse
key study	> 2.5 mg/L air	inhalation: aerosol	rat

Serious eye damage / irritation:

Test type	Results	Exposure	Tested organisms
key study	not irritating	Eye	rabbit

Skin corrosion / irritation:

Test type	Results	Exposure	Tested organisms
key study	not irritating	Skin	rabbit

Respiratory or skin sensitisation:

Test type	Results	Exposure	Tested organisms
weight of evidence	GHS criteria not met	Skin	human

STOT - single exposure:

Test type	Results	Exposure	Tested organisms
	No data available.		

STOT - repeated exposure:

Test type	Results	Exposure	Tested organisms
OECD 408, weight of evidence	150 mg/kg bw/day, NOEL	oral	rat

Carcinogenicity:

Test type	Results	Exposure	Tested organisms
weight of evidence	1 500 mg/kg bw/day NOAEL	oral: feed	mouse

Germ cell mutagenicity:

Test type	Results	Exposure	Tested organisms
key study	ambiguous	In vitro	Chinese hamster Ovary (CHO)

Reproductive toxicity:

Test type	Results	Exposure	Tested organisms
weight of evidence	> 1 000 mg/kg bw/day NOAEL	oral: feed	rat

Aspiration hazard:

Test type	Results	Exposure	Tested organisms
	No data available.		

Ethanol (CAS: 64-17-5)

Acute toxicity:

Test type	Results	Exposure	Tested organisms
OECD 401, key study	10 470 mg/kg bw, LD50	oral	rat
supporting study	17 100 mg/kg bw, LD50	dermal	rabbit
OECD 403, key study	124.7 mg/L air 116.9 mg/L air 133.8 mg/L air	inhalation: vapour	rat

Serious eye damage / irritation:

Test type	Results	Exposure	Tested organisms
OECD 405, key study	Category 2A (irritating to eyes)	Eye	rabbit

Skin corrosion / irritation:

Test type	Results	Exposure	Tested organisms
OECD 404, key study	not irritating	Skin	rabbit

Respiratory or skin sensitisation:

Test type	Results	Exposure	Tested organisms
OECD 406, key study	not sensitising	Skin	guinea pig

STOT - single exposure:

Test type	Results	Exposure	Tested organisms
	No data available.		

STOT - repeated exposure:

Test type	Results	Exposure	Tested organisms
OECD 408, key study	1 730 mg/kg bw/day, NOAEL 3 200 mg/kg bw/day, LOAEL	oral	rat
weight of evidence	0.013 mg/L air, NOAEC 0.13 mg/L air, LOAEC	inhalation	monkey

Carcinogenicity:

Test type	Results	Exposure	Tested organisms
supporting study	466 - 529 mg/kg bw/day, NOAEL 1 872 - 2 101 , LOAEL	oral: drinking water	rat
OECD 453, key study	>= 1.3 mg/L air, NOAEC	inhalation: vapour	mouse

Germ cell mutagenicity:

Test type	Results	Exposure	Tested organisms
OECD 478, key study	ambiguous	oral: gavage	mouse
weight of evidence	negative	inhalation: vapour	mouse

Reproductive toxicity:

Test type	Results	Exposure	Tested organisms
OECD 416, key study	15 %, NOAEL	oral: drinking water	mouse

Aspiration hazard:

Test type	Results	Exposure	Tested organisms
	No data available.		

Glycerol (CAS: 56-81-5)

Acute toxicity:

Test type	Results	Exposure	Tested organisms
key study	27 mg/kg bw, LD50	oral: gavage	rat
key study	45 mL/kg bw, LD50	dermal	guinea pig

key study	4 655 mg-min/liter, L(Ct)50	inhalation: vapour	rat

Serious eye damage / irritation:

Test type	Results	Exposure	Tested organisms
key study	not irritating	Eye	rabbit

Skin corrosion / irritation:

Test type	Results	Exposure	Tested organisms
key study	not irritating	Skin	rabbit

Respiratory or skin sensitisation:

Test type	Results	Exposure	Tested organisms
	No data available.		

STOT - single exposure:

Test type	Results	Exposure	Tested organisms
	No data available.		

STOT - repeated exposure:

Test type	Results	Exposure	Tested organisms
key study	50 000 ppm, NOEL 200 000 ppm, LOEL	oral	rat
key study	167 mg/m³ air (analytical), NOAEL	inhalation	rat
supporting study	4.0 ml/kg, NOEL	dermal	rabbit

Carcinogenicity:

Test type	Results	Exposure	Tested organisms
	No data available.		

Germ cell mutagenicity:

Test type	Results	Exposure	Tested organisms
key study	negative	In vitro	S. typhimurium TA 1535, TA 1537, TA 98 and TA 100

Reproductive toxicity:

Test type	Results	Exposure	Tested organisms
	No data available.		

Aspiration hazard:

Test type	Results	Exposure	Tested organisms
	No data available.		

Propan-2-ol (CAS: 67-63-0)

Acute toxicity:

Test type	Results	Exposure	Tested organisms

OECD 401, key study	5.84 g/kg body weight, LD50	oral: unspecified	rat
OECD 402, key study	16.4 mL/kg bw, LD50	dermal	rabbit
OECD 403, key study	> 10 000 ppm, LC50 / 6 h	inhalation: vapour	rat

Serious eye damage / irritation:

Test type	Results	Exposure	Tested organisms
OECD 405, key study	Category II	Eye	rabbit

Skin corrosion / irritation:

Test type	Results	Exposure	Tested organisms
key study	other: Not classified	Skin	rabbit

Respiratory or skin sensitisation:

Test type	Results	Exposure	Tested organisms
OECD 406, key study	not sensitising	Skin	guinea pig

STOT - single exposure:

Test type	Results	Exposure	Tested organisms
	No data available.		

STOT - repeated exposure:

Test type	Results	Exposure	Tested organisms
key study	500 ppm, NOEC 5 000 ppm, NOAEC	inhalation	rat

Carcinogenicity:

Test type	Results	Exposure	Tested organisms
OECD 451, key study	5 000 ppm, NOEL	inhalation: vapour	rat

Germ cell mutagenicity:

Test type	Results	Exposure	Tested organisms
OECD 476, key study	negative	In vitro	Chinese hamster Ovary (CHO)

Reproductive toxicity:

Test type	Results	Exposure	Tested organisms
OECD 416, weight of evidence	500 mg/kg bw/day, NOAEL 1 000 mg/kg bw/day, NOAEL	oral: gavage	rat

Aspiration hazard:

Test type	Results	Exposure	Tested organisms
	No data available.		

Butanone (CAS: 78-93-3)

Acute toxicity:

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Test type	Results	Exposure	Tested organisms
OECD 423, key study	2 054 mg/kg, LD50 2 328 mg/kg, LD50 2 193 mg/kg, LD50	oral: gavage	rat
OECD 402, key study	> 10 mL/kg bw, LD50	dermal	rabbit

Serious eye damage / irritation:

Test type	Results	Exposure	Tested organisms
OECD 405, key study	Category 2 (irritating to eyes) based on GHS criteria	Eye	rabbit

Skin corrosion / irritation:

Test type	Results	Exposure	Tested organisms
OECD 404, key study	GHS criteria not met	Skin	rabbit

Respiratory or skin sensitisation:

Test type	Results	Exposure	Tested organisms
OECD 406, key study	GHS criteria not met	Skin	guinea pig

STOT - single exposure:

Test type	Results	Exposure	Tested organisms
	No data available.		

STOT - repeated exposure:

Test type	Results	Exposure	Tested organisms
OECD 413, key study	5 041 ppm, NOAEC	inhalation	rat

Carcinogenicity:

Test type	Results	Exposure	Tested organisms
	No data available.		

Germ cell mutagenicity:

Test type	Results	Exposure	Tested organisms
OECD 476, key study	negative	In vitro	mouse lymphoma L5178Y cells

Reproductive toxicity:

Test type	Results	Exposure	Tested organisms
OECD 416, key study	10 000 mg/L, NOAEL 20 000 mg/L, LOAEL	oral: drinking water	rat

Aspiration hazard:

Test type	Results	Exposure	Tested organisms
	No data available.		

Alcohols, C12-15, ethoxylated (CAS: 68131-39-5)

Acute toxicity:

Test type	Results	Exposure	Tested organisms

OECD 401, key study	> 5 000 mg/kg bw, LD50	oral: gavage	rat
OECD 402, key study	> 2 000 mg/kg bw, LD50	dermal	rat
OECD 403, weight of evidence	> 100 mg/m³ air, LC50	inhalation: vapour	rat

Serious eye damage / irritation:

Test type	Results	Exposure	Tested organisms
OECD 405, key study	other: CLP/EU GHS criteria not met, no classification required according to Regulation (EC) No. 1272/2008.	Eye	rabbit

Skin corrosion / irritation:

Test type	Results	Exposure	Tested organisms
OECD 404, key study	other: CLP/EU GHS criteria not met, no classification required according to Regulation (EC) No. 1272/2008.	Skin	rabbit

Respiratory or skin sensitisation:

Test type	Results	Exposure	Tested organisms
OECD 406, key study	other: CLP/EU GHS criteria not met, no classification required according to Regulation (EC) No. 1272/2008.	Skin	guinea pig

STOT - single exposure:

Test type	Results	Exposure	Tested organisms
	No data available.		

STOT - repeated exposure:

Test type	Results	Exposure	Tested organisms
OECD 408, key study	500 mg/kg bw/day, NOAEL	oral	rat

Carcinogenicity:

Test type	Results	Exposure	Tested organisms
	No data available.		

Germ cell mutagenicity:

Test type	Results	Exposure	Tested organisms
OECD 475, weight of evidence	negative	oral: gavage	rat

Reproductive toxicity:

Test type	Results	Exposure	Tested organisms
OECD 416, key study	>= 250 mg/kg bw/day, NOAEL 100 mg/kg bw/day, NOEL	dermal	rat

Aspiration hazard:

Lock defroster

Test type	Results	Exposure	Tested organisms
	No data available.		

Mixture:

Acute toxicity:	The product does not meet the criteria for classification.
Serious eye damage / irritation:	Causes serious eye irritation.
Skin corrosion / irritation:	The product does not meet the criteria for classification.
Respiratory or skin sensitisation:	The product does not meet the criteria for classification.
STOT - single exposure:	The product does not meet the criteria for classification.
STOT - repeated exposure:	The product does not meet the criteria for classification.
Carcinogenicity:	The product does not meet the criteria for classification.
Germ cell mutagenicity:	The product does not meet the criteria for classification.
Reproductive toxicity:	The product does not meet the criteria for classification.
Aspiration hazard:	The product does not meet the criteria for classification.

11.2 Information on other hazards

Endocrine disrupting properties

This product does not contain endocrine disruptors in a concentration of 0.1% by weight or higher.

Other information: No data available.

SECTION 12: Ecological information

12.1 Toxicity

The product does not meet the criteria for classification.

Ethane-1,2-diol (CAS: 107-21-1)

Toxicity	Tested organisms	Results	Test type
Acute toxicity to fish	*Pimephales promelas*	> 72 860 mg/L LC50 / 96 h	
Acute toxicity to invertebrates	*Daphnia magna*	> 100 mg/L EC50 / 48 h	OECD 202
Acute toxicity to aquatic algae	*Pseudokirchneriella subcapitata*	> 100 mg/L NOEC / 72 h	OECD 201

Ethanol (CAS: 64-17-5)

Toxicity	Tested organisms	Results	Test type
Acute toxicity to fish	*Lepomis macrochirus*	15 400 mg/L, LC50 / 96 h 12 700 mg/L, EC50 / 96 h	
Acute toxicity to invertebrates	*Daphnia magna*	> 10 000 mg/L, EC50 / 48 h	
Acute toxicity to aquatic algae	*Pseudokirchneriella subcapitata*	ca. 22 000 mg/L, EC50 / 96 h	OECD 201

Glycerol (CAS: 56-81-5)

Toxicity	Tested organisms	Results	Test type
Acute toxicity to fish	*Oncorhynchus mykiss*	54 000 mg/L, LC50 / 96 h	
Acute toxicity to invertebrates	*Daphnia magna*	> 10 000 mg/L, EC50 / 24 h	
Acute toxicity to aquatic algae	*Scenedesmus quadricauda*	> 10 000 mg/L, other: / 8 d	

Propan-2-ol (CAS: 67-63-0)

Toxicity	Tested organisms	Results	Test type

Lock defroster

Acute toxicity to fish	*Pimephales promelas*	10 000 mg/L, LC50 / 96 h 9 640 mg/L, LC50 / 96 h	OECD 203
Acute toxicity to invertebrates	*Daphnia magna*	> 10 000 mg/L, LC50 / 24 h	OECD 202
Acute toxicity to aquatic algae	*Scenedesmus quadricauda*	1 800 mg/L, TT / 7 d	

Butanone (CAS: 78-93-3)

Toxicity	Tested organisms	Results	Test type
Acute toxicity to fish	*Pimephales promelas*	2 993 mg/L, LC50 / 96 h 1 170 mg/L, NOEC / 96 h	OECD 203
Acute toxicity to invertebrates	*Daphnia magna*	308 mg/L, EC50 / 48 h	OECD 202
Acute toxicity to aquatic algae	*Pseudokirchneriella subcapitata*	1 972 mg/L, EC50 / 72 h	OECD 201

Alcohols, C12-15, ethoxylated (CAS: 68131-39-5)

Toxicity	Tested organisms	Results	Test type
Acute toxicity to fish	*Danio rerio*	> 2 mg/L, LC50 / 96 h	OECD 203
Acute toxicity to invertebrates	*Daphnia magna*	0.14 mg/L, EC50 / 48 h	
Acute toxicity to aquatic algae	*Pseudokirchneriella subcapitata*	> 2 mg/L, EC50 / 72 h	OECD 201

12.2 Persistence and degradability Toxicological data are not available.

12.3 Bioaccumulative potential The product is biodegradable.

12.4 Mobility in soil Toxicological data are not available.

12.5 Results of PBT and vPvB assessment This mixture does not contain any substances which are classified as PBT or vPvB

12.6 Endocrine disrupting properties

This product does not contain endocrine disruptors in a concentration of 0.1% by weight or higher.

12.7 Other adverse effects In larger quantities, the mixture is hazardous to water. It does not show under normal handling no anomalies in biological treatment plants.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Catalogue No. of mixture waste: 16 01 14 Antifreeze fluids containing dangerous substances

Waste codes / waste designations according to LoW: 15 01 10 Packaging containing residues of or contaminated by dangerous substances

-cleaned packaging: 15 01 02 Plastic packaging

Recommended procedure for mixture waste disposal: Remains of the mixture to be collected in labelled containers and handed over to a person authorized to handle hazardous waste. Suitable method of disposal: incineration in hazardous waste incineration plant. If possible, regenerate the product.

Recommended procedure for packaging disposal:	Empty containers must be disposed of in accordance with valid waste legislation. After perfect cleaning, the packaging can be used as a secondary raw material for the same purpose. Recommended way of disposing of is recycling, burning in a hazardous waste incinerator or storing hazardous waste.
Physical / chemical properties that may affect waste treatment method:	No determinated.
Sewage disposal-relevant information:	Do not allow to enter into surface water or drains.
Other disposal recommendations:	Dispose of waste according to applicable legislation.

SECTION 14: Transport information

	Type of transport	Land transport ADR / RID	Sea transport IMDG	Air Transport ICAO / IATA
14.1	**UN number or ID number**	1987	1987	1987
14.2	**UN proper shipping name**	ALCOHOLS, N.O.S. (Ethanol, Propan-2-ol, Butanone, 2-methylpropan-2-ol)	ALCOHOLS, N.O.S. (Ethanol, Propan-2-ol, Butanone, 2-methylpropan-2-ol)	ALCOHOLS, N.O.S. (Ethanol, Propan-2-ol, Butanone, 2-methylpropan-2-ol)
14.3	**Transport hazard class(es)**	3	3	3
	Classification code	30	-	-
	EmS	-	F-E, S-D	-
	Packaging instructions	P001 / IBC03 / LP01 / R001	P001;LP01 / IBC03 (IBC)	(passanger/cargo) 355 / 366
	Labels	3		
				
14.4	**Packing group**	III	III	III

14.5 Environmental hazards

No data available.

14.6 Special precautions for user

No data available.

14.7 Maritime transport in bulk according to IMO instruments

Not specified.

Other information

Type of transport	Land transport ADR / RID	Sea transport IMDG	Air Transport ICAO / IATA
Limited quantities:	5 L	5 L	
Excepted quantities:	E1	E1	E1
Transport category:	3	-	-
Tunnel restriction code:	(D/E)	-	-
Segregation group:	-	-	-

SECTION 15: Regulatory information

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

Regulation (EC) No. 1272/2008 (CLP) on classification, labelling and packaging of substances and mixtures,…
Regulation (EC) No. 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH),…
Applicable national regulations.

15.2 Chemical safety assessment has not been prepared.

SECTION 16: Other information

Complete text of all classifications and hazard classes referred to in SECTION 3

Hazard class:

Acute Tox. 4 - Acute Toxicity, category 4
Aquatic Acute 1 - Acute aquatic toxicity, category 1
Eye Dam. 1 - Serious eye damage, category 1
Eye Irrit. 2 - Eye irritation, category 2
Flam. Liq. 2 - Flammable liquids, category 2
STOT RE 2 - Specific target organ toxicity (repeated exposure), category 2
STOT SE 3 - Specific target organ toxicity — single exposure, category 3

H-statements:

H225 Highly flammable liquid and vapour.

H302 Harmful if swallowed.

H318 Causes serious eye damage.

H319 Causes serious eye irritation.

H336 May cause drowsiness or dizziness.

H373 May cause damage to organs <or state all organs affected, if known> through prolonged or repeated exposure <state route of exposure if it is conclusively proven that no other routes of exposure cause the hazard>.

H400 Very toxic to aquatic life.

Abbreviations:

ADN	Inland waterways
ADR	Accord Dangereuses Route
CAS	Chemical Abstracts Service
DNEL	Derived no-effect level
EC50	Effect concentration for 50%
EINECS	European Inventory of Existing Commercial Chemical Substances
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods
LC50	Lethal concentration for 50%
LD50	Lethal dose for 50%
LOAEC	Lowest observable adverse effect concentration
LOAEL	Lowest observable adverse effect level
LOEC	Lowest observable effect concentration
LOEL	Lowest observable effect level
NOAEC	No observable adverse effect concentration
NOAEL	No observable adverse effect level
NOEC	No observable effect concentration
NOEL	No observable effect level
NPK-P	Maximum permissible concentration
OEL	Occupational Exposure Limit (workplace exposure limit - 8 hours / shift)
PBT	Persistent, bioacumulative and toxic
PEL	Permissible exposure limits

PNEC	Predicted no-effect concentration
RID	Regulations for the International Carriage of Dangerous Goods by Rail
SCL	Specific concentration limits
STEL	Short Term Exposure Limit (short exposure - corresponds to approx. 15 min.)
TT	Toxic threshold
VOC	Volatile organic substances
vPvB	Very persistent and very bioacumulative

Indication of changes: first edition of SDS

This version is in accordance with Regulations (EC) No. 1907/2006 (REACH) and No. 1272/2008 (CLP).

Key literature references and sources for data: manufacturer information, CASEC database.

Classification was performed by calculation method.

Instructions for training:
Workers who come into contact with hazardous substances/mixtures must be in the necessary extent informed about the effects of these substances/mixtures, about the ways how to deal with them.
Workers must be in the necessary extent informed with protective measures, the principles of first aid, with the necessary sanitation practices and procedures for liquidation of failures and accidents.
A person dealing with this chemical product must be familiar with the safety rules and the data given in the MSDS.

If the hazardous chemical substance / mixture is classified as corrosive or toxic, workers must be familiar with the rules for handling with corrosive / toxic chemical substance/mixture.
Persons transporting hazardous substances must be familiar with the guidelines for emergency response in accordance with the regulations of ADR / RID.
Other information:
The above information describes the conditions for safe handling and corresponds with current knowledge of the manufacturer.

The manufacturer bears responsibility for the above described properties of the product when used according to specifications.
The user is responsible for determining suitability of product for specific purposes and adapt security measures if such application is contrary to the manufacturers recommendations.