Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)

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

1.1. Product identifier

Trade name/designation:

RAVENOL LTC Lobrid Techn. Coolant Concentrate

Article No.:
1410125

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

Use of the substance/mixture:
Antifreeze agent

1.3. Details of the supplier of the safety data sheet

Supplier (manufacturer/importer/only representative/downstream user/distributor):

Ravensberger Schmierstoffvertrieb GmbH
Jöllenbecker Str. 2
33824 Werther
D
Telephone: +49 5203 9719 0
Telefax: +49 5203 9719 40
E-mail: kontakt@ravenol.de
Website: www.ravenol.de
E-mail (competent person): technik@ravenol.de

1.4. Emergency telephone number

Abt. Technik (Produktsicherheit), 24h: +49 700 24 112 112 (Contract ID: RAV) , +49 5203 9719 0 (Mo-Do 7.30 Uhr - 16.30 Uhr, Fr 7.30 Uhr - 13.15 Uhr) (Only available during office hours.)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Hazard classes and hazard categories	Hazard statements	Classification pro cedure
Acute toxicity (oral) *(Acute Tox. 4)*	H302: Harmful if swallowed.	
Serious eye damage/eye irritation *(Eye Irrit. 2)*	H319: Causes serious eye irritation.	
STOT-repeated exposure *(STOT RE 2)*	H373: May cause damage to organs through prolonged or repeated exposure. (...)	

*

2.2. Label elements

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

Hazard pictograms:

GHS07
Exclamation mark

GHS08
Health hazard

Signal word: Warning

Hazard components for labelling:
potassium 2-ethylhexanoate; ethane-1,2-diol

hazard statements for health hazards	
H302	Harmful if swallowed.
H319	Causes serious eye irritation.
H373	May cause damage to organs through prolonged or repeated exposure. (kidneys)

Supplemental Hazard information (EU): -

Precautionary statements	
P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.

Precautionary statements Prevention	
P264	Wash hands thoroughly after handling.

Precautionary statements Response	
P301 + P312	IF SWALLOWED: Call a POISON CENTER/doctor/Emergency telephone number/ if you feel unwell.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313	If eye irritation persists: Get medical advice/attention.

Precautionary statements Disposal	
P501	Dispose of contents/container to an appropriate recycling or disposal facility.

2.3. Other hazards

No data available

SECTION 3: Composition / information on ingredients

* ### 3.2. Mixtures

Hazardous ingredients / Hazardous impurities / Stabilisers:

product identifiers	**Substance name** **Classification according to Regulation (EC) No 1272/2008 [CLP]**	**Concen-tration**
CAS No.: 107-21-1 **EC No.:** 203-473-3 **REACH No.:** 01-2119456816-28-0000	**ethane-1,2-diol** Acute Tox. 4, STOT RE 2 **Warning** H302-H373	50 – < 95 Wt %
CAS No.: 3164-85-0 **EC No.:** 221-625-7	**potassium 2-ethylhexanoate** Eye Dam. 1, Repr. 2, Skin Irrit. 2 H315-H318-H361d	1 – < 3 Wt %

Full text of H- and EUH-phrases: see section 16.

SECTION 4: First aid measures

* ### 4.1. Description of first aid measures

General information:

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible). Remove victim out of the danger area. Remove contaminated, saturated clothing. If unconscious place in recovery position and seek medical advice. Do not leave affected person unattended.

Following inhalation:

In case of respiratory tract irritation, consult a physician. Provide fresh air. Get immediate medical advice/attention.

In case of skin contact:

In case of skin irritation, consult a physician. After contact with skin, wash immediately with plenty of water and soap. Take off immediately all contaminated clothing and wash it before reuse.

After 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. Remove contact lenses, if present and easy to do. Continue rinsing.

After ingestion:

If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label. If accidentally swallowed rinse the mouth with plenty of water (only if the person is conscious) and obtain immediate medical attention. If unconscious place in recovery position and seek medical advice. Harmful if swallowed. May cause damage to organs.(kidneys)

Self-protection of the first aider:

First aider: Pay attention to self-protection! Use personal protection equipment. No direct artificial respiration to be given by first aider.

4.2. Most important symptoms and effects, both acute and delayed
Reference to other sections:
SECTION 2: Hazards identification
SECTION 11: Toxicological information

4.3. Indication of any immediate medical attention and special treatment needed
Observe risk of aspiration if vomiting occurs. Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media
Suitable extinguishing media:
alcohol resistant foam
Carbon dioxide (CO2)
Extinguishing powder
Use water spray jet to protect personnel and to cool endangered containers.

Unsuitable extinguishing media:
Full water jet

5.2. Special hazards arising from the substance or mixture
In case of fire may be liberated: Gases/vapours, toxic. The product itself does not burn.

Hazardous combustion products:
Nitrogen oxides (NOx) Carbon monoxide Carbon dioxide (CO2)

5.3. Advice for firefighters
In case of fire: Wear self-contained breathing apparatus.

5.4. Additional information
Co-ordinate fire-fighting measures to the fire surroundings. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

SECTION 6: Accidental release measures

*
6.1. Personal precautions, protective equipment and emergency procedures
6.1.1. For non-emergency personnel
Personal precautions:
Use personal protection equipment. Special danger of slipping by leaking/spilling product. Do not breathe vapour.

Protective equipment:
Wear protective gloves/protective clothing/eye protection/face protection.

Emergency procedures:
Eliminate all ignition sources if safe to do so. Remove persons to safety. Provide adequate ventilation.

6.1.2. For emergency responders
Personal protection equipment:
Use appropriate respiratory protection.

6.2. Environmental precautions
Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water. Immediately inform the responsible authorities in entry into waterways or sewage system.

6.3. Methods and material for containment and cleaning up
For containment:
Prevent spread over a wide area (e.g. by containment or oil barriers).

For cleaning up:
Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents).

Other information:
Treat the recovered material as prescribed in the section on waste disposal.

6.4. Reference to other sections
SECTION 7: Handling and storage
SECTION 8: Exposure controls/personal protection
SECTION 13: Disposal considerations

6.5. Additional information
Clear spills immediately.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Protective measures

Advices on safe handling:
Harmful if swallowed. Do not breathe gas/vapour. Keep out of reach of children. Wash hands before breaks and after work.

Fire prevent measures:
No special fire protection measures are necessary.

Measures to prevent aerosol and dust generation:
Provide adequate ventilation.

Environmental precautions:
See section 8.

Advices on general occupational hygiene

Minimum standard for preventive measures while handling with working materials are specified in the TRGS 500. When using do not eat, drink, smoke, sniff. Remove contaminated, saturated clothing.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures and storage conditions:
Keep locked up and out of reach of children.

Requirements for storage rooms and vessels:
Keep/Store only in original container. Shafts and sewers must be protected from entry of the product.

Hints on storage assembly:
Do not store together with: Food and feedingstuffs

Storage class: 12 – non-combustible liquids that cannot be assigned to any of the above storage classes

Further information on storage conditions:
Keep container tightly closed in a cool, well-ventilated place.

7.3. Specific end use(s)

Recommendation:
Observe technical data sheet.
Antifreeze / Coolant

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1. Occupational exposure limit values

Limit value type (country of origin)	**Substance name**	**① long-term occupational exposure limit value ② short-term occupational exposure limit value ③ Instantaneous value ④ Monitoring and observation processes ⑤ Remark**
CH	ethane-1,2-diol CAS No.: 107-21-1	① 10 ppm (26 mg/m³) ② 20 ppm (52 mg/m³) ⑤ (kann über die Haut aufgenommen werden)
BE	ethane-1,2-diol CAS No.: 107-21-1	① 20 ppm (52 mg/m³) ③ 40 ppm (104 mg/m³) ⑤ (Aérosol)
CZ	ethane-1,2-diol CAS No.: 107-21-1	① 19.7 ppm (50 mg/m³) ② 39.4 ppm (100 mg/m³)
PL	ethane-1,2-diol CAS No.: 107-21-1	① 15 mg/m³ ② 50 mg/m³
NO	ethane-1,2-diol CAS No.: 107-21-1	① 20 ppm (52 mg/m³) ② 40 ppm (104 mg/m³) ⑤ (kan absorberes gjennom huden)
TRGS 900 (DE)	ethane-1,2-diol CAS No.: 107-21-1	① 10 ppm (26 mg/m³) ② 20 ppm (52 mg/m³) ⑤ (kann über die Haut aufgenommen werden)

Limit value type (country of origin)	Substance name	① long-term occupational exposure limit value ② short-term occupational exposure limit value ③ Instantaneous value ④ Monitoring and observation processes ⑤ Remark
IE	ethane-1,2-diol CAS No.: 107-21-1	① 10 mg/m³ ⑤ (may be absorbed through the skin)
IE	ethane-1,2-diol CAS No.: 107-21-1	① 20 ppm (52 mg/m³) ② 40 ppm (104 mg/m³) ⑤ (vapour, may be absorbed through the skin)
MY	ethane-1,2-diol CAS No.: 107-21-1	③ 39.4 ppm (100 mg/m³)
FI	ethane-1,2-diol CAS No.: 107-21-1	① 20 ppm (50 mg/m³) ② 40 ppm (100 mg/m³) ⑤ (kan absorberas genom huden)
LT	ethane-1,2-diol CAS No.: 107-21-1	① 10 ppm (25 mg/m³) ② 20 ppm (50 mg/m³) ⑤ (garų ir Aerozolis)
SE	ethane-1,2-diol CAS No.: 107-21-1	① 10 ppm (25 mg/m³) ② 40 ppm (104 mg/m³) ⑤ (kan absorberas genom huden)
SK	ethane-1,2-diol CAS No.: 107-21-1	① 20 ppm (52 mg/m³) ② 40 ppm (104 mg/m³) ⑤ (rátajte so vstrebávaním cez pokožku)
MAK (AT)	ethane-1,2-diol CAS No.: 107-21-1	① 10 ppm (26 mg/m³) ⑤ (kann über die Haut aufgenommen werden)
DK	ethane-1,2-diol CAS No.: 107-21-1	① 10 mg/m³ ② 20 mg/m³
DK	ethane-1,2-diol CAS No.: 107-21-1	① 10 ppm (26 mg/m³) ② 20 ppm (52 mg/m³) ⑤ (kan optages gennem huden)
MAK (AT)	ethane-1,2-diol CAS No.: 107-21-1	② 20 ppm (52 mg/m³) ⑤ (max. 8x5 min./Schicht, Momentanwert, kann über die Haut aufgenommen werden)
BG	ethane-1,2-diol CAS No.: 107-21-1	① 20 ppm (52 mg/m³) ② 40 ppm (104 mg/m³) ⑤ (трябва да се очаква абсорбиране през кожата)
HR	ethane-1,2-diol CAS No.: 107-21-1	① 20 ppm (52 mg/m³) ② 40 ppm (104 mg/m³)
ES	ethane-1,2-diol CAS No.: 107-21-1	① 20 ppm (52 mg/m³) ② 40 ppm (104 mg/m³) ⑤ (puede ser absorbido a través dérmica)
RO	ethane-1,2-diol CAS No.: 107-21-1	① 20 ppm (52 mg/m³) ② 40 ppm (104 mg/m³)
EE	ethane-1,2-diol CAS No.: 107-21-1	① 20 ppm (52 mg/m³) ② 40 ppm (104 mg/m³)
LV	ethane-1,2-diol CAS No.: 107-21-1	① 20 ppm (52 mg/m³) ② 40 ppm (104 mg/m³) ⑤ (var absorbet caur adu)
Alberta (CA)	ethane-1,2-diol CAS No.: 107-21-1	③ 100 mg/m³
BC (CA)	ethane-1,2-diol CAS No.: 107-21-1	③ 100 mg/m³ ⑤ (Aerosol)

Limit value type (country of origin)	**Substance name**	**① long-term occupational exposure limit value** **② short-term occupational exposure limit value** **③ Instantaneous value** **④ Monitoring and observation processes** **⑤ Remark**
BC (CA)	ethane-1,2-diol CAS No.: 107-21-1	① 10 mg/m³ ② 20 mg/m³ ⑤ (particles)
BC (CA)	ethane-1,2-diol CAS No.: 107-21-1	③ 50 mg/m³ ⑤ (vapor)
IOELV (EU)	ethane-1,2-diol CAS No.: 107-21-1	① 20 ppm (52 mg/m³) ② 40 ppm (104 mg/m³) ⑤ (may be absorbed through the skin)
VRI (FR)	ethane-1,2-diol CAS No.: 107-21-1	① 20 ppm (52 mg/m³) ② 40 ppm (104 mg/m³) ⑤ (peut être absorbé par la peau)
WEL (GB)	ethane-1,2-diol CAS No.: 107-21-1	① 20 ppm (52 mg/m³) ② 40 ppm (104 mg/m³) ⑤ (vapour, may be absorbed through the skin)
SI	ethane-1,2-diol CAS No.: 107-21-1	① 20 ppm (52 mg/m³) ② 40 ppm (104 mg/m³) ⑤ (računati je treba z možnostjo prodiranja skozi kožo)
TW	ethane-1,2-diol CAS No.: 107-21-1	① 10 mg/m³ ⑤ (蒸汽)
TW	ethane-1,2-diol CAS No.: 107-21-1	③ 50 ppm (127 mg/m³) ⑤ (霧)
WEL (GB)	ethane-1,2-diol CAS No.: 107-21-1	① 10 mg/m³ ⑤ (may be absorbed through the skin)
KR	ethane-1,2-diol CAS No.: 107-21-1	③ 40 ppm (100 mg/m³) ⑤ (증기 와(과) 연무)
IS	ethane-1,2-diol CAS No.: 107-21-1	① 10 ppm (26 mg/m³) ② 40 ppm (104 mg/m³) ⑤ (efnið getur auðveldlega borist inn í líkamann gegnum húð)
IS	ethane-1,2-diol CAS No.: 107-21-1	① 10 ppm (26 mg/m³) ⑤ (úðaefni, efnið getur auðveldlega borist inn í líkamann gegnum húð)
CN	ethane-1,2-diol CAS No.: 107-21-1	① 20 mg/m³ ② 40 mg/m³
HU	ethane-1,2-diol CAS No.: 107-21-1	① 52 mg/m³ ② 104 mg/m³
RU	ethane-1,2-diol CAS No.: 107-21-1	① 5 mg/m³ ③ 10 mg/m³
GR	ethane-1,2-diol CAS No.: 107-21-1	① 50 ppm (125 mg/m³) ② 50 ppm (125 mg/m³)
NL	ethane-1,2-diol CAS No.: 107-21-1	① 52 mg/m³ ② 104 mg/m³ ⑤ (damp)
ACGIH (US)	ethane-1,2-diol CAS No.: 107-21-1	② 10 mg/m³ ⑤ (inhalable fraction Aerosol)
NL	ethane-1,2-diol CAS No.: 107-21-1	① 10 mg/m³ ⑤ (deeltjes)

Limit value type (country of origin)	Substance name	① long-term occupational exposure limit value ② short-term occupational exposure limit value ③ Instantaneous value ④ Monitoring and observation processes ⑤ Remark
ACGIH (US)	ethane-1,2-diol CAS No.: 107-21-1	① 25 ppm ② 50 ppm ⑤ (vapor)
Québec (CA)	ethane-1,2-diol CAS No.: 107-21-1	③ 50 ppm (127 mg/m³)

8.1.2. Biological limit values

No data available

8.1.3. DNEL-/PNEC-values

Substance name	DNEL value	① DNEL type ② Exposure route
ethane-1,2-diol CAS No.: 107-21-1	35 mg/m³	① DNEL worker ② inhalative, short-term, local, (acute)
ethane-1,2-diol CAS No.: 107-21-1	7 mg/m³	① DNEL Consumer ② inhalative, short-term, local, (acute)
ethane-1,2-diol CAS No.: 107-21-1	106 mg/kg bw/day	① DNEL worker ② dermal, long-term, systemic
ethane-1,2-diol CAS No.: 107-21-1	53 mg/kg bw/day	① DNEL Consumer ② dermal, long-term, systemic
potassium 2-ethylhexanoate CAS No.: 3164-85-0	41.98 mg/m³	① DNEL worker ② inhalative, long-term, systemic

Substance name	PNEC Value	① PNEC type
ethane-1,2-diol CAS No.: 107-21-1	10 mg/l	① PNEC aquatic, freshwater
ethane-1,2-diol CAS No.: 107-21-1	1 mg/l	① PNEC aquatic, marine water
ethane-1,2-diol CAS No.: 107-21-1	199.5 mg/l	① PNEC sewage treatment plant
ethane-1,2-diol CAS No.: 107-21-1	37 mg/kg	① PNEC sediment, freshwater
ethane-1,2-diol CAS No.: 107-21-1	3.7 mg/kg	① PNEC sediment, marine water
ethane-1,2-diol CAS No.: 107-21-1	1.53 mg/kg	① PNEC soil

8.2. Exposure controls

8.2.1. Appropriate engineering controls

See section 7. No additional measures necessary.

8.2.2. Personal protection equipment

Eye/face protection:

During transfer: Eye glasses with side protection
DIN-/EN-Norms: DIN EN 166

Skin protection:
Hand protection
Suitable material: NBR (Nitrile rubber), PVC (polyvinyl chloride), CR (polychloroprene, chloroprene rubber)
Thickness of the glove material: >= 0,3 mm
Breakthrough time (maximum wearing time) 480 min
Breakthrough times and swelling properties of the material must be taken into consideration.
The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances.
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.
Tested protective gloves must be worn: EN ISO 374

Suitable protective clothing: Protective clothing

Respiratory protection:
Usually no personal respirative protection necessary.

Thermal hazards:
No data available.

Other protection measures:
Wash hands before breaks and after work.

8.2.3. Environmental exposure controls
See section 7. No additional measures necessary.

SECTION 9: Physical and chemical properties

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9.1. Information on basic physical and chemical properties

Appearance
Physical state: Liquid
Colour: violet
Odour: characteristic

Safety relevant basis data

parameter		at °C	Method	Remark
pH	8.1	20 °C		
Melting point	*not determined*			
Freezing point	< -35 °C			Mix 50/50% with water
Initial boiling point and boiling range	198 °C			
Decomposition temperature	*not determined*			
Flash point	115 °C			
Evaporation rate	*not determined*			
Auto-ignition temperature	*not determined*			
Upper/lower flammability or explosive limits	*not determined*			
Vapour pressure	*not determined*			
Vapour density	*not determined*			
Density	1,120 kg/m³	20 °C		
Bulk density	*not determined*			
Water solubility	completely miscible			
Partition coefficient: n-octanol/ water	*not determined*			
Dynamic viscosity	*not determined*			
Kinematic viscosity	*not determined*			

9.2. Other information
No data available

SECTION 10: Stability and reactivity

10.1. Reactivity
No known hazardous reactions. hygroscopic.

10.2. Chemical stability
The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions
responds with: Oxidising agent, strong, Strong acid

10.4. Conditions to avoid
To avoid thermal decomposition do not overheat.

10.5. Incompatible materials
Oxidising agent, strong
Acid, concentrated

10.6. Hazardous decomposition products
The product is stable under storage at normal ambient temperatures.

SECTION 11: Toxicological information

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11.1. Information on toxicological effects

CAS No.	Substance name	Toxicological information
107-21-1	ethane-1,2-diol	**LD_{50} oral:** 4,700 mg/kg (Rat) **LD_{50} dermal:** 10,600 mg/kg (Rabbit) **LC_{50} Acute inhalation toxicity (vapour):** >2.5 mg/l 6 h (Rat)
3164-85-0	potassium 2-ethylhexanoate	**LD_{50} oral:** 2,043 mg/kg (Rat) **LD_{50} dermal:** >2,000 mg/kg (Rat)

Acute oral toxicity:
Harmful if swallowed.

Acute dermal toxicity:
No information available for acute dermal and inhalative toxicity.

Acute inhalation toxicity:
No information available for acute dermal and inhalative toxicity.

Skin corrosion/irritation:
Based on available data, the classification criteria are not met. Frequently or prolonged contact with skin may cause dermal irritation.

Serious eye damage/irritation:
Causes serious eye irritation.

Respiratory or skin sensitisation:
Based on available data, the classification criteria are not met.

Germ cell mutagenicity:
No indications of human germ cell mutagenicity exist.

Carcinogenicity:
No indication of human carcinogenicity.

Reproductive toxicity:
Based on available data, the classification criteria are not met.

STOT-single exposure:
Based on available data, the classification criteria are not met.

STOT-repeated exposure:
May cause damage to kidneys through prolonged or repeated exposure if swallowed.

Aspiration hazard:
Observe risk of aspiration if vomiting occurs.

Additional information:
There are no data available on the preparation/mixture itself.
Practical experiences do not give any evidence for CMR activity of categories 1 or 2.
Hazardous ingredients: Ethylene glycol

SECTION 12: Ecological information

* 12.1. Toxicity

CAS No.	Substance name	Toxicological information
107-21-1	ethane-1,2-diol	**LC_{50}:** 8,050 – 72,900 mg/l 4 d **EC_{50}:** >100 mg/l 2 d (Daphnia magna (Big water flea)) **ErC_{50}:** 6,500 – 13,000 mg/l 4 d **NOEC:** 72,860 mg/l -∞ h **NOEC:** 8,590 mg/l -∞ h
3164-85-0	potassium 2-ethylhexanoate	**LC_{50}:** >100 mg/l 4 d (Oryzias latipes (Ricefish)) **EC_{50}:** 106 mg/l 2 d (Daphnia magna (Big water flea)) **EC_{50}:** 49.3 mg/l 3 d (Desmodesmus subspicatus)

Assessment/classification:
There are no data available on the preparation/mixture itself.

Additional ecotoxicological information:
Do not allow uncontrolled discharge of product into the environment.

* 12.2. Persistence and degradability

CAS No.	Substance name	Biodegradation	Remark
107-21-1	ethane-1,2-diol	Yes, rapidly	
3164-85-0	potassium 2-ethylhexanoate	Yes, rapidly	

Biodegradation:
Readily biodegradable (according to OECD criteria).

* 12.3. Bioaccumulative potential

CAS No.	Substance name	Log K_{OW}	Bioconcentration factor (BCF)
107-21-1	ethane-1,2-diol	-1.36	
3164-85-0	potassium 2-ethylhexanoate	2.96	

Accumulation / Evaluation:
There are no data available on the preparation/mixture itself.

12.4. Mobility in soil

No data available

* 12.5. Results of PBT and vPvB assessment

CAS No.	Substance name	Results of PBT and vPvB assessment
107-21-1	ethane-1,2-diol	The substance in the mixture does not meet the PBT/vPvB criteria according to REACH, annex XIII.
3164-85-0	potassium 2-ethylhexanoate	The substance in the mixture does not meet the PBT/vPvB criteria according to REACH, annex XIII.

The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

12.6. Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Dispose of waste according to applicable legislation.

Waste treatment options

Appropriate disposal / Product:
Dispose of waste according to applicable legislation. Consult the appropriate local waste disposal expert about waste disposal.

Appropriate disposal / Package:
Non-contaminated packages may be recycled.

13.2. Additional information

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

SECTION 14: Transport information

No dangerous good in sense of these transport regulations.

Land transport (ADR/ RID)	Inland waterway craft (ADN)	Sea transport (IMDG)	
14.1. UN-No.			
No dangerous good in sense of these transport regulations.	No dangerous good in sense of these transport regulations.	No dangerous good in sense of these transport regulations.	
14.2. UN proper shipping name			
No dangerous good in sense of these transport regulations.	No dangerous good in sense of these transport regulations.	No dangerous good in sense of these transport regulations.	
14.3. Transport hazard class(es)			
not relevant			
14.4. Packing group			
not relevant			
14.5. Environmental hazards			
not relevant			
14.6. Special precautions for user			
not relevant			

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

No transport as bulk according to IBC Code.

SECTION 15: Regulatory information

*

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

15.1.1. EU legislation

Other regulations (EU):

Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances [Seveso-III-Directive]: This product is not assigned to a hazard category.

15.1.2. National regulations

[DE] National regulations

Restrictions of occupation

Observe restrictions to employment for juvenils according to the 'juvenile work protection guideline' (94/33/EC).
Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

Störfallverordnung

for substances contained in the product:

This product is not assigned to a hazard category.

Water hazard class (WGK)

WGK:

1 - schwach wassergefährdend

Source:

Self-classification (mixture; calculation rule).

Technische Regeln für Gefahrstoffe

Minimum standard for preventive measures while handling with working materials are specified in the TRGS 500.

Berufsgenossenschaftliche Vorschriften (BGV)

Berufsgenossenschaftliche Informationen (BGI) 868
Berufsgenossenschaftliche Regeln (BGR) 189, 190, 192, 195

15.2. Chemical Safety Assessment
Chemical safety assessments for substances in this mixture were not carried out.

15.3. Additional information
Tactile warning according to EN/ISO 11683. Child-resistant fastenings (EN/862/ISO 8317).

SECTION 16: Other information

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16.1. Indication of changes

2.2.	Label elements
3.2.	Mixtures
4.1.	Description of first aid measures
6.1.	Personal precautions, protective equipment and emergency procedures
9.1.	Information on basic physical and chemical properties
11.1.	Information on toxicological effects
12.1.	Toxicity
12.2.	Persistence and degradability
12.3.	Bioaccumulative potential
12.5.	Results of PBT and vPvB assessment
15.1.	Safety, health and environmental regulations/legislation specific for the substance or mixture
16.1.	Indication of changes
16.5.	Relevant R-, H- and EUH-phrases (Number and full text)

16.2. Abbreviations and acronyms
See overview table at www.euphrac.eu
For abbreviations and acronyms, see: ECHA Guidance on information requirements and chemical safety assessment, chapter R.20 (Table of terms and abbreviations).

16.3. Key literature references and sources for data
67/548/EEC - Dangerous Substances Directive
1999/45/EEC - Dangerous Preparations Directive
EC 1907/2006 - REACH Regulation
1272/2008 EC - Regulation on classification, labeling and packaging of substances and mixtures, and amending Directives 67/548/EEC and 1999/45/EC and Regulation (EC) No 1907/2006
Regulation (EC) No 1907/2006 (REACH), Annex II
European Chemicals Agency (ECHA), C & L classification and labeling inventory
European Chemicals Agency (ECHA), ECHA CHEM Registered substances
OECD The Global Portal to Information on Chemical Substances (ChemPortal)
Institute for Occupational Safety and Health of the German Social Accident Insurance (IFA): GESTIS substance database and International limit values for chemical substances
Federal Environment Agency, Section IV 2.4: Documentation and Information Centre substances hazardous to water Rigoletto (catalog substances hazardous to water)

16.4. Classification for mixtures and used evaluation method according to regulation (EC) No 1272/2008 [CLP]
Classification according to Regulation (EC) No 1272/2008 [CLP]:

Hazard classes and hazard categories	Hazard statements	Classification pro cedure
Acute toxicity (oral) *(Acute Tox. 4)*	H302: Harmful if swallowed.	
Serious eye damage/eye irritation *(Eye Irrit. 2)*	H319: Causes serious eye irritation.	
STOT-repeated exposure *(STOT RE 2)*	H373: May cause damage to organs through prolonged or repeated exposure. (...)	

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16.5. Relevant R-, H- and EUH-phrases (Number and full text)

Hazard statements	
H302	Harmful if swallowed.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H361d	Suspected of damaging the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure. (...)

16.6. Training advice
No data available

16.7. Additional information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

* Data changed compared with the previous version