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 Glasklar

Article No.:
1360025

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

Use of the substance/mixture:
Reiniger

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
Germany
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

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1.4. Emergency telephone number

Abt. Technik (Produktsicherheit), 24h: +49 700 24 112 112 (Company ID: RAV) (outside USA/Canada) 011 49 700 24 112 112 (Company ID: RAV) (inside USA/Canada), +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]:
The mixture is classified as not hazardous according to regulation (EC) No 1272/2008 [CLP].

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2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP]
According to EC directives or the corresponding national regulations the product does not have to be labelled.

Hazard statements: -

Supplemental hazard information	
EUH210	Safety data sheet available on request.

Precautionary statements: -

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2.3. Other hazards

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

SECTION 3: Composition / information on ingredients

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3.2. Mixtures

Additional information:
Labelling for contents according to regulation (EC) No. 648/2004: non-ionic surfactants, perfumes <1%

Hazardous ingredients / Hazardous impurities / Stabilisers:

product identifiers	Substance name Classification according to Regulation (EC) No 1272/2008 [CLP]	Concen-tration
CAS No.: 64-17-5 **EC No.:** 200-578-6 **REACH No.:** 01-2119457610-43-0000	**ethanol** Eye Irrit. 2 (H319), Flam. Liq. 2 (H225) **Danger**	4 – < 7 weight-%
CAS No.: 107-98-2 **EC No.:** 203-539-1	**1-methoxypropan-2-ol** Flam. Liq. 3 (H226), STOT SE 3 (H336) **Warning**	0 – < 2 weight-%
CAS No.: 1336-21-6 **EC No.:** 215-647-6	**ammonium hydroxide** Aquatic Acute 1 (H400), Skin Corr. 1B (H314) **Danger** **Specific concentration limit (SCL)** STOT SE 3; H335: C ≥ 5%	0 – < 1 weight-%

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

SECTION 4: First aid measures

* 4.1. Description of first aid measures

General information:
No special measures are necessary. Remove contaminated, saturated clothing immediately. If unconscious but breathing normally, place in recovery position and seek medical advice.

Following inhalation:
Provide fresh air. Consult a doctor immediately in the case of inhaling spray mist and show him packing or label. In case of respiratory tract irritation, consult a physician.

In case of skin contact:
After contact with skin, wash immediately with plenty of water and soap. Consult a doctor immediately.

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.

Following ingestion:
Rinse mouth thoroughly with water. If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

Self-protection of the first aider:
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

No known symptoms to date.

* 4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically. Observe risk of aspiration if vomiting occurs.

SECTION 5: Firefighting measures

* 5.1. Extinguishing media

Suitable extinguishing media:
Co-ordinate fire-fighting measures to the fire surroundings.
Carbon dioxide (CO2)
Extinguishing powder
alcohol resistant foam
Use water spray jet to protect personnel and to cool endangered containers.
Non-combustible liquids.

Unsuitable extinguishing media:
Full water jet

* 5.2. Special hazards arising from the substance or mixture

During heating or in case of fire, toxic gases is possible.

Hazardous combustion products:
Nitrogen oxides (NOx), Carbon monoxide, Carbon dioxide (CO2)
During heating or in case of fire, toxic gases is possible.

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

5.4. Additional information
Do not inhale explosion and combustion gases. Move undamaged containers from immediate hazard area if it can be done safely. 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. Avoid contact with skin, eyes and clothes.

Protective equipment:
Personal protection equipment: see section 8

Emergency procedures:
Remove persons to safety. Provide adequate ventilation.

6.1.2. For emergency responders

Personal protection equipment:
Use appropriate respiratory protection.

* ### 6.2. Environmental precautions
Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains. Prevent spread over a wide area (e.g. by containment or oil barriers). In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

* ### 6.3. Methods and material for containment and cleaning up

For containment:
Suitable material for taking up: Sand, Kieselguhr, Universal binder, Chemical binding agents, containing acids
Prevent spread over a wide area (e.g. by containment or oil barriers).

For cleaning up:
Remove from the water surface (e.g. skimming, sucking). Absorb with liquid-binding material (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
Safe handling: see section 7
Disposal: see section 13
Personal protection equipment: see section 8

* ### 6.5. Additional information
Clear spills immediately. Use appropriate container to avoid environmental contamination.

SECTION 7: Handling and storage

* ### 7.1. Precautions for safe handling

Protective measures

Advices on safe handling:
Personal protection equipment: see section 8.
When using do not eat, drink, smoke, sniff. Wash hands before breaks and after work. Do not put any product-impregnated cleaning rags into your trouser pockets. Clear spills immediately. Use appropriate container to avoid environmental contamination.

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

Environmental precautions:
Shafts and sewers must be protected from entry of the product.

Advices on general occupational hygiene
Minimum standard for preventive measures while handling with working materials are specified in the TRGS 500.

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7.2. Conditions for safe storage, including any incompatibilities

Technical measures and storage conditions:
Keep only in original container. Keep container tightly closed in a cool, well-ventilated place.

Requirements for storage rooms and vessels:
No special measures are necessary. Shafts and sewers must be protected from entry of the product.
Keep only in the original container in a cool, well-ventilated place.

Hints on storage assembly:
TRGS 510

Storage class (TRGS 510, Germany): 10 – Combustible liquids that cannot be assigned to any of the above storage classes

Further information on storage conditions:
Keep away from heat. Protect from direct sunlight. Protect against: Frost

7.3. Specific end use(s)

Recommendation:
Observe technical data sheet.

SECTION 8: Exposure controls/personal protection

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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	ethanol CAS No.: 64-17-5 EC No.: 200-578-6	① 500 ppm (960 mg/m³) ② 1,000 ppm (1,920 mg/m³)
CZ	ethanol CAS No.: 64-17-5 EC No.: 200-578-6	① 522 ppm (1,000 mg/m³) ② 1,566 ppm (3,000 mg/m³)
PL	ethanol CAS No.: 64-17-5 EC No.: 200-578-6	① 1,900 mg/m³
NO	ethanol CAS No.: 64-17-5 EC No.: 200-578-6	① 500 ppm (950 mg/m³)
IE	ethanol CAS No.: 64-17-5 EC No.: 200-578-6	② 1,000 ppm
MY	ethanol CAS No.: 64-17-5 EC No.: 200-578-6	① 1,000 ppm (1,880 mg/m³)
HTP (FI)	ethanol CAS No.: 64-17-5 EC No.: 200-578-6	① 1,000 ppm (1,900 mg/m³) ② 1,300 ppm (2,500 mg/m³)
LT	ethanol CAS No.: 64-17-5 EC No.: 200-578-6	① 500 ppm (1,000 mg/m³) ② 1,000 ppm (1,900 mg/m³)
SE	ethanol CAS No.: 64-17-5 EC No.: 200-578-6	① 500 ppm (1,000 mg/m³) ③ 1,000 ppm (1,900 mg/m³)
NPEL (SK)	ethanol CAS No.: 64-17-5 EC No.: 200-578-6	① 500 ppm (960 mg/m³) ② 1,000 ppm (1,920 mg/m³)
DK	ethanol CAS No.: 64-17-5 EC No.: 200-578-6	① 1,000 ppm (1,900 mg/m³) ② 2,000 ppm (3,800 mg/m³)
NL	ethanol CAS No.: 64-17-5 EC No.: 200-578-6	① 260 mg/m³ ② 1,900 mg/m³ ⑤ (Kankerverwekkend, kan door de huid in het lichaam worden opgenomen)

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**
MAK (AT)	ethanol CAS No.: 64-17-5 EC No.: 200-578-6	① 1,000 ppm (1,900 mg/m³)
MAK (AT)	ethanol CAS No.: 64-17-5 EC No.: 200-578-6	② 2,000 ppm (3,800 mg/m³) ⑤ (max. 3x60 min./Schicht, Momentanwert)
BG	ethanol CAS No.: 64-17-5 EC No.: 200-578-6	① 1,000 mg/m³
HR	ethanol CAS No.: 64-17-5 EC No.: 200-578-6	① 1,000 ppm (1,900 mg/m³)
BE	ethanol CAS No.: 64-17-5 EC No.: 200-578-6	① 1,000 ppm (1,907 mg/m³)
RO	ethanol CAS No.: 64-17-5 EC No.: 200-578-6	① 1,000 ppm (1,900 mg/m³) ② 5,000 ppm (9,500 mg/m³)
EE	ethanol CAS No.: 64-17-5 EC No.: 200-578-6	① 500 ppm (1,000 mg/m³) ② 1,000 ppm (1,900 mg/m³)
Alberta (CA)	ethanol CAS No.: 64-17-5 EC No.: 200-578-6	① 1,000 ppm (1,880 mg/m³)
LV	ethanol CAS No.: 64-17-5 EC No.: 200-578-6	① 1,000 mg/m³
ES	ethanol CAS No.: 64-17-5 EC No.: 200-578-6	② 1,000 ppm (1,910 mg/m³)
BC (CA)	ethanol CAS No.: 64-17-5 EC No.: 200-578-6	② 1,000 ppm
VLA (FR)	ethanol CAS No.: 64-17-5 EC No.: 200-578-6	① 1,000 ppm (1,900 mg/m³) ② 5,000 ppm (9,500 mg/m³)
SI	ethanol CAS No.: 64-17-5 EC No.: 200-578-6	① 500 ppm (960 mg/m³) ② 1,000 ppm (1,920 mg/m³)
TW	ethanol CAS No.: 64-17-5 EC No.: 200-578-6	① 1,000 ppm (1,880 mg/m³)
WEL (GB)	ethanol CAS No.: 64-17-5 EC No.: 200-578-6	① 1,000 ppm (1,920 mg/m³)
KR	ethanol CAS No.: 64-17-5 EC No.: 200-578-6	① 1,000 ppm (1,900 mg/m³)
IS	ethanol CAS No.: 64-17-5 EC No.: 200-578-6	① 1,000 ppm (1,900 mg/m³)
HU	ethanol CAS No.: 64-17-5 EC No.: 200-578-6	① 1,900 mg/m³ ② 3,800 mg/m³
RU	ethanol CAS No.: 64-17-5 EC No.: 200-578-6	① 1,000 mg/m³ ③ 2,000 mg/m³
GR	ethanol CAS No.: 64-17-5 EC No.: 200-578-6	① 1,000 ppm (1,900 mg/m³)

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**
OSHA (US)	ethanol CAS No.: 64-17-5 EC No.: 200-578-6	① 1,000 ppm (1,900 mg/m³)
NIOSH (US)	ethanol CAS No.: 64-17-5 EC No.: 200-578-6	① 1,000 ppm (1,900 mg/m³)
ACGIH (US)	ethanol CAS No.: 64-17-5 EC No.: 200-578-6	② 1,000 ppm
TRGS 900 (DE)	ethanol CAS No.: 64-17-5 EC No.: 200-578-6	① 200 ppm (380 mg/m³) ② 800 ppm (1,520 mg/m³)
Québec (CA)	ethanol CAS No.: 64-17-5 EC No.: 200-578-6	① 1,000 ppm (1,880 mg/m³)
BE	1-methoxypropan-2-ol CAS No.: 107-98-2 EC No.: 203-539-1	① 50 ppm (184 mg/m³) ② 100 ppm (369 mg/m³) ⑤ (peut être absorbé par la peau)
CZ	1-methoxypropan-2-ol CAS No.: 107-98-2 EC No.: 203-539-1	① 72.09 ppm (270 mg/m³) ② 146.85 ppm (550 mg/m³) ⑤ (může pronikat pokožkou)
TRGS 900 (DE)	1-methoxypropan-2-ol CAS No.: 107-98-2 EC No.: 203-539-1	① 100 ppm (370 mg/m³) ② 200 ppm (740 mg/m³)
PL	1-methoxypropan-2-ol CAS No.: 107-98-2 EC No.: 203-539-1	① 180 mg/m³ ② 360 mg/m³ ⑤ (może przenikać przez skórę do organizmu)
NO	1-methoxypropan-2-ol CAS No.: 107-98-2 EC No.: 203-539-1	① 50 ppm (180 mg/m³) ⑤ (kan absorberes gjennom huden)
IE	1-methoxypropan-2-ol CAS No.: 107-98-2 EC No.: 203-539-1	① 100 ppm (375 mg/m³) ② 150 ppm (568 mg/m³)
HTP (FI)	1-methoxypropan-2-ol CAS No.: 107-98-2 EC No.: 203-539-1	① 100 ppm (370 mg/m³) ② 150 ppm (560 mg/m³) ⑤ (kan absorberas genom huden)
DK	1-methoxypropan-2-ol CAS No.: 107-98-2 EC No.: 203-539-1	① 50 ppm (185 mg/m³) ② 100 ppm (370 mg/m³) ⑤ (kan optages gennem huden)
LT	1-methoxypropan-2-ol CAS No.: 107-98-2 EC No.: 203-539-1	① 50 ppm (190 mg/m³) ② 75 ppm (300 mg/m³) ⑤ (tikėtinas įsisavinimas per odą)
SE	1-methoxypropan-2-ol CAS No.: 107-98-2 EC No.: 203-539-1	① 50 ppm (190 mg/m³) ② 150 ppm (568 mg/m³) ⑤ (kan absorberas genom huden)
NPEL (SK)	1-methoxypropan-2-ol CAS No.: 107-98-2 EC No.: 203-539-1	① 100 ppm (375 mg/m³) ② 150 ppm (568 mg/m³) ⑤ (rátajte so vstrebávaním cez pokožku)
BG	1-methoxypropan-2-ol CAS No.: 107-98-2 EC No.: 203-539-1	① 100 ppm (375 mg/m³) ② 150 ppm (568 mg/m³) ⑤ (трябва да се очаква абсорбиране през кожата)
HR	1-methoxypropan-2-ol CAS No.: 107-98-2 EC No.: 203-539-1	① 100 ppm (375 mg/m³) ② 150 ppm (568 mg/m³)

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**
ES	1-methoxypropan-2-ol CAS No.: 107-98-2 EC No.: 203-539-1	① 100 ppm (375 mg/m³) ② 150 ppm (568 mg/m³) ⑤ (puede ser absorbido a través dérmica)
RO	1-methoxypropan-2-ol CAS No.: 107-98-2 EC No.: 203-539-1	① 100 ppm (375 mg/m³) ② 150 ppm (568 mg/m³) ⑤ (e de asteptat asimilarea prin piele)
EE	1-methoxypropan-2-ol CAS No.: 107-98-2 EC No.: 203-539-1	① 100 ppm (375 mg/m³) ② 150 ppm (568 mg/m³) ⑤ (1-metoksü-2-propanool (propüleenglükool-monometüüleet er, o-metüülpropüleen-glükool
LV	1-methoxypropan-2-ol CAS No.: 107-98-2 EC No.: 203-539-1	① 100 ppm (375 mg/m³) ② 150 ppm (568 mg/m³) ⑤ (var absorbet caur adu)
Alberta (CA)	1-methoxypropan-2-ol CAS No.: 107-98-2 EC No.: 203-539-1	① 100 ppm (369 mg/m³) ② 150 ppm (553 mg/m³)
BC (CA)	1-methoxypropan-2-ol CAS No.: 107-98-2 EC No.: 203-539-1	① 50 ppm ② 100 ppm
IOELV (EU)	1-methoxypropan-2-ol CAS No.: 107-98-2 EC No.: 203-539-1	① 100 ppm (375 mg/m³) ② 150 ppm (568 mg/m³) ⑤ (may be absorbed through the skin)
VRC (FR)	1-methoxypropan-2-ol CAS No.: 107-98-2 EC No.: 203-539-1	① 50 ppm (188 mg/m³) ② 100 ppm (375 mg/m³) ⑤ (peut être absorbé par la peau)
MAK (AT)	1-methoxypropan-2-ol CAS No.: 107-98-2 EC No.: 203-539-1	① 50 ppm (187 mg/m³) ② 50 ppm (187 mg/m³) ⑤ (Momentanwert, kann über die Haut aufgenommen werden)
WEL (GB)	1-methoxypropan-2-ol CAS No.: 107-98-2 EC No.: 203-539-1	① 100 ppm (375 mg/m³) ② 150 ppm (560 mg/m³) ⑤ (may be absorbed through the skin)
SI	1-methoxypropan-2-ol CAS No.: 107-98-2 EC No.: 203-539-1	① 100 ppm (375 mg/m³) ② 150 ppm (568 mg/m³) ⑤ (računati je treba z možnostjo prodiranja skozi kožo)
TW	1-methoxypropan-2-ol CAS No.: 107-98-2 EC No.: 203-539-1	① 100 ppm (369 mg/m³)
KR	1-methoxypropan-2-ol CAS No.: 107-98-2 EC No.: 203-539-1	① 100 ppm (360 mg/m³) ② 150 ppm (540 mg/m³)
HU	1-methoxypropan-2-ol CAS No.: 107-98-2 EC No.: 203-539-1	① 375 mg/m³ ② 568 mg/m³ ⑤ (felvehető a bőrön keresztül)
IS	1-methoxypropan-2-ol CAS No.: 107-98-2 EC No.: 203-539-1	① 50 ppm (185 mg/m³) ② 150 ppm (568 mg/m³) ⑤ (efnið getur auðveldlega borist inn í líkamann gegnum húð)
MY	1-methoxypropan-2-ol CAS No.: 107-98-2 EC No.: 203-539-1	① 100 ppm (369 mg/m³)

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**
NL	1-methoxypropan-2-ol CAS No.: 107-98-2 EC No.: 203-539-1	① 375 mg/m³ ② 563 mg/m³ ⑤ (kan door de huid in het lichaam worden opgenomen)
GR	1-methoxypropan-2-ol CAS No.: 107-98-2 EC No.: 203-539-1	① 100 ppm (360 mg/m³) ② 300 ppm (1,080 mg/m³) ⑤ (αναμένετε απορρόφηση από το δέρμα)
TR	1-methoxypropan-2-ol CAS No.: 107-98-2 EC No.: 203-539-1	① 100 ppm (375 mg/m³) ② 150 ppm (568 mg/m³) ⑤ (cilt yoluyla alınabilir)
Québec (CA)	1-methoxypropan-2-ol CAS No.: 107-98-2 EC No.: 203-539-1	① 100 ppm (369 mg/m³) ② 150 ppm (553 mg/m³)
NIOSH (US)	1-methoxypropan-2-ol CAS No.: 107-98-2 EC No.: 203-539-1	① 100 ppm (360 mg/m³) ② 150 ppm (540 mg/m³)
ACGIH (US)	1-methoxypropan-2-ol CAS No.: 107-98-2 EC No.: 203-539-1	① 50 ppm (184 mg/m³) ② 100 ppm (369 mg/m³)
CH	1-methoxypropan-2-ol CAS No.: 107-98-2 EC No.: 203-539-1	① 100 ppm (360 mg/m³) ② 200 ppm (720 mg/m³)
CH	ammonium hydroxide CAS No.: 1336-21-6 EC No.: 215-647-6	① 20 ppm (14 mg/m³) ② 40 ppm (28 mg/m³)
MAK (AT)	ammonium hydroxide CAS No.: 1336-21-6 EC No.: 215-647-6	① 20 ppm (14 mg/m³)
BE	ammonium hydroxide CAS No.: 1336-21-6 EC No.: 215-647-6	① 20 ppm (14 mg/m³) ② 50 ppm (36 mg/m³)
CZ	ammonium hydroxide CAS No.: 1336-21-6 EC No.: 215-647-6	① 19.768 ppm (14 mg/m³) ② 50.832 ppm (36 mg/m³)
PL	ammonium hydroxide CAS No.: 1336-21-6 EC No.: 215-647-6	① 14 mg/m³ ② 28 mg/m³
NO	ammonium hydroxide CAS No.: 1336-21-6 EC No.: 215-647-6	① 15 ppm (11 mg/m³) ② 50 ppm (36 mg/m³)
IE	ammonium hydroxide CAS No.: 1336-21-6 EC No.: 215-647-6	① 20 ppm (14 mg/m³) ② 50 ppm (36 mg/m³)
HTP (FI)	ammonium hydroxide CAS No.: 1336-21-6 EC No.: 215-647-6	① 20 ppm (14 mg/m³) ② 50 ppm (36 mg/m³)
LT	ammonium hydroxide CAS No.: 1336-21-6 EC No.: 215-647-6	① 20 ppm (14 mg/m³) ② 50 ppm (36 mg/m³) ⑤
SE	ammonium hydroxide CAS No.: 1336-21-6 EC No.: 215-647-6	① 20 ppm (14 mg/m³) ② 50 ppm (36 mg/m³)
NPEL (SK)	ammonium hydroxide CAS No.: 1336-21-6 EC No.: 215-647-6	① 20 ppm (14 mg/m³) ② 50 ppm (36 mg/m³)
DK	ammonium hydroxide CAS No.: 1336-21-6 EC No.: 215-647-6	① 20 ppm (14 mg/m³) ② 40 ppm (28 mg/m³)

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**
MAK (AT)	ammonium hydroxide CAS No.: 1336-21-6 EC No.: 215-647-6	② 50 ppm (36 mg/m³) ⑤ (max. 4x15 min./Schicht)
BG	ammonium hydroxide CAS No.: 1336-21-6 EC No.: 215-647-6	① 20 ppm (14 mg/m³) ② 50 ppm (36 mg/m³)
HR	ammonium hydroxide CAS No.: 1336-21-6 EC No.: 215-647-6	① 20 ppm (14 mg/m³) ② 50 ppm (36 mg/m³)
ES	ammonium hydroxide CAS No.: 1336-21-6 EC No.: 215-647-6	① 20 ppm (14 mg/m³) ② 50 ppm (36 mg/m³) ⑤ VLI
RO	ammonium hydroxide CAS No.: 1336-21-6 EC No.: 215-647-6	① 20 ppm (14 mg/m³) ② 50 ppm (36 mg/m³)
EE	ammonium hydroxide CAS No.: 1336-21-6 EC No.: 215-647-6	① 20 ppm (14 mg/m³) ② 50 ppm (36 mg/m³)
LV	ammonium hydroxide CAS No.: 1336-21-6 EC No.: 215-647-6	① 20 ppm (14 mg/m³) ② 50 ppm (36 mg/m³)
Alberta (CA)	ammonium hydroxide CAS No.: 1336-21-6 EC No.: 215-647-6	① 25 ppm (17 mg/m³) ② 35 ppm (24 mg/m³)
BC (CA)	ammonium hydroxide CAS No.: 1336-21-6 EC No.: 215-647-6	① 25 ppm ② 35 ppm
IOELV (EU)	ammonium hydroxide CAS No.: 1336-21-6 EC No.: 215-647-6	① 20 ppm (14 mg/m³) ② 50 ppm (36 mg/m³)
VRC (FR)	ammonium hydroxide CAS No.: 1336-21-6 EC No.: 215-647-6	① 10 ppm (7 mg/m³) ② 20 ppm (14 mg/m³)
JP	ammonium hydroxide CAS No.: 1336-21-6 EC No.: 215-647-6	① 25 ppm (17 mg/m³)
WEL (GB)	ammonium hydroxide CAS No.: 1336-21-6 EC No.: 215-647-6	① 25 ppm (18 mg/m³) ② 35 ppm (25 mg/m³)
SI	ammonium hydroxide CAS No.: 1336-21-6 EC No.: 215-647-6	① 20 ppm (14 mg/m³) ② 50 ppm (36 mg/m³)
TW	ammonium hydroxide CAS No.: 1336-21-6 EC No.: 215-647-6	① 50 ppm (35 mg/m³)
KR	ammonium hydroxide CAS No.: 1336-21-6 EC No.: 215-647-6	① 25 ppm (18 mg/m³) ② 35 ppm (27 mg/m³)
IS	ammonium hydroxide CAS No.: 1336-21-6 EC No.: 215-647-6	① 20 ppm (14 mg/m³) ② 50 ppm (36 mg/m³) ⑤ (efnið getur auðveldlega borist inn í líkamann gegnum húð)
HU	ammonium hydroxide CAS No.: 1336-21-6 EC No.: 215-647-6	① 14 mg/m³ ② 36 mg/m³
CN	ammonium hydroxide CAS No.: 1336-21-6 EC No.: 215-647-6	① 20 mg/m³ ② 30 mg/m³

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
GR	ammonium hydroxide CAS No.: 1336-21-6 EC No.: 215-647-6	① 50 ppm (35 mg/m³) ② 50 ppm (35 mg/m³)
NL	ammonium hydroxide CAS No.: 1336-21-6 EC No.: 215-647-6	① 14 mg/m³ ② 36 mg/m³
TR	ammonium hydroxide CAS No.: 1336-21-6 EC No.: 215-647-6	① 20 ppm (14 mg/m³) ② 50 ppm (36 mg/m³)
RU	ammonium hydroxide CAS No.: 1336-21-6 EC No.: 215-647-6	③ 20 mg/m³
OSHA (US)	ammonium hydroxide CAS No.: 1336-21-6 EC No.: 215-647-6	① 50 ppm (35 mg/m³)
NIOSH (US)	ammonium hydroxide CAS No.: 1336-21-6 EC No.: 215-647-6	① 25 ppm (18 mg/m³) ② 35 ppm (27 mg/m³)
ACGIH (US)	ammonium hydroxide CAS No.: 1336-21-6 EC No.: 215-647-6	① 25 ppm (17 mg/m³) ② 35 ppm (24 mg/m³)
Québec (CA)	ammonium hydroxide CAS No.: 1336-21-6 EC No.: 215-647-6	① 25 ppm (17 mg/m³) ② 35 ppm (24 mg/m³)
MY	ammonium hydroxide CAS No.: 1336-21-6 EC No.: 215-647-6	① 25 ppm (17 mg/m³)
TRGS 900 (DE)	ammonium hydroxide CAS No.: 1336-21-6 EC No.: 215-647-6	① 20 ppm (14 mg/m³) ② 40 ppm (28 mg/m³)

8.1.2. Biological limit values

Limit value type (country of origin)	Substance name	Limit value	① parameter ② Test material ③ Time of sampling ④ Remark
BAT (CH)	1-methoxypropan-2-ol CAS No.: 107-98-2 EC No.: 203-539-1	20 mg/L	① 1-Methoxypropan-2-ol ② Urin ③ Expositionsende bzw. Schichtende
TRGS 903 (DE)	1-methoxypropan-2-ol CAS No.: 107-98-2 EC No.: 203-539-1	15 mg/L	① Methoxypropanol-2 ② Urin ③ Expositionsende bzw. Schichtende
BAT (SI)	1-methoxypropan-2-ol CAS No.: 107-98-2 EC No.: 203-539-1	15 mg/L	① 1-metoksipropan-2-ol ② urin ③ ob koncu delovne izmene

8.1.3. DNEL-/PNEC-values

Substance name	DNEL value	① DNEL type ② Exposure route
ethanol CAS No.: 64-17-5 EC No.: 200-578-6	950 mg/m³	① DNEL worker ② Long-term – inhalation, systemic effects
ethanol CAS No.: 64-17-5 EC No.: 200-578-6	114 mg/m³	① DNEL Consumer ② Long-term – inhalation, systemic effects
ethanol CAS No.: 64-17-5 EC No.: 200-578-6	1,900 mg/m³	① DNEL worker ② Acute - inhalation, local effects
ethanol CAS No.: 64-17-5 EC No.: 200-578-6	950 mg/m³	① DNEL Consumer ② Acute - inhalation, local effects
ethanol CAS No.: 64-17-5 EC No.: 200-578-6	343 mg/kg bw/day	① DNEL worker ② Long-term - dermal, systemic effects
ethanol CAS No.: 64-17-5 EC No.: 200-578-6	206 mg/kg bw/day	① DNEL Consumer ② Long-term - dermal, systemic effects
1-methoxypropan-2-ol CAS No.: 107-98-2 EC No.: 203-539-1	369 mg/m³	① DNEL worker ② Long-term – inhalation, systemic effects

* ## 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
Wear eye/face protection. EN 166

Skin protection:

Hand protection
Suitable material: NBR (Nitrile rubber), PVC (polyvinyl chloride)
Thickness of the glove material: >= 0,4 mm
Breakthrough 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.

8.2.3. Environmental exposure controls

See section 7. No additional measures necessary.

* ## 8.3. Additional information

See section 7. No additional measures necessary.

SECTION 9: Physical and chemical properties

* ## 9.1. Information on basic physical and chemical properties

Appearance

Physical state: Liquid
Colour: colourless
Odour: characteristic

Safety relevant basis data

parameter		at °C	Method	Remark
pH	8	20 °C		
Melting point	*not determined*			
Freezing point	*not determined*			
Initial boiling point and boiling range	*not determined*			
Decomposition temperature	*not determined*			
Flash point	*not applicable*			
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	990 kg/m³	20 °C		
Relative density	*not determined*			
Bulk density	*not determined*			
Water solubility	completely miscible			
Partition coefficient: n-octanol/ water	*not determined*			
Dynamic viscosity	*not determined*			
Kinematic viscosity	*not determined*	40 °C		

* **9.2. Other information**

Solvent content:
organic solvents <12 %
Water >= 88 %
Solid content 0

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is stable under storage at normal ambient temperatures.

10.2. Chemical stability

The mixture is chemically stable under recommended conditions of storage, use and temperature.

* **10.3. Possibility of hazardous reactions**

No hazardous reaction when handled and stored according to provisions.

* **10.4. Conditions to avoid**

To avoid thermal decomposition do not overheat.

* **10.5. Incompatible materials**

Materials to avoid: Acid, Oxidising agent, Reducing agent
There are no data available on the preparation/mixture itself.

10.6. Hazardous decomposition products

No known hazardous decomposition products.

SECTION 11: Toxicological information

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

Substance name	Toxicological information
ethanol CAS No.: 64-17-5 EC No.: 200-578-6	**LD_{50} oral:** 10,470 mg/kg (Rat) **LC_{50} Acute inhalation toxicity (vapour):** 124 mg/l (Mouse) **LD_{50} dermal:** >2,000 mg/kg (Rabbit) **LC_{50} Acute inhalation toxicity (gas):** 20,000 ppmV 4 h (rat)
1-methoxypropan-2-ol CAS No.: 107-98-2 EC No.: 203-539-1	**LD_{50} oral:** 5,000 mg/kg (Rat) **LD_{50} dermal:** 13,500 mg/kg **LC_{50} Acute inhalation toxicity (vapour):** 37 mg/l 4 h (Rat)

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

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

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

Skin corrosion/irritation:
No irritant effect.

Serious eye damage/irritation:
No irritant effect.

Respiratory or skin sensitisation:
No sensitizing effects known.

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

Carcinogenicity:
No indication of human carcinogenicity.

Reproductive toxicity:
No indications of human reproductive toxicity exist.

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

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

Aspiration hazard:
Observe risk of aspiration if vomiting occurs.

Additional information:
Frequently or prolonged contact with skin may cause dermal irritation.

* 11.2. Information on other hazards

Endocrine disrupting properties:
This product does not contain a substance that has endocrine disrupting properties with respect to humans as no components meets the criteria.

SECTION 12: Ecological information

* 12.1. Toxicity

Substance name	Toxicological information
ethanol CAS No.: 64-17-5 EC No.: 200-578-6	**LC_{50}:** 11,000 mg/l 4 d (fish) **LC_{50}:** 9,280 mg/l 2 d (crustaceans) **EC_{50}:** 9,950 mg/l 2 d (crustaceans) **EC_{50}:** 275 mg/l 3 d (Algae/water plant, Chlorella vulgaris) **LC_{50}:** 13,000 mg/l 4 d (fish, Oncorhynchus mykiss (Rainbow trout)) **EC_{50}:** >10,000 mg/l 2 d (crustaceans, Daphnia magna (Big water flea)) **LC_{50}:** 5,012 mg/l **EC_{50}:** 275 mg/l 3 d (Chlorella vulgaris)

Assessment/classification:
The substance/mixture does not fullfill the criteria of the acute aquatic toxicity according to Regulation (EC) No 1272/2008 [CLP], Annex I.
The surfactant contained in this mixture complies with the biodegradability criteria as laid down in Regulation (EC) No. 648/2004 on detergents.

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

* 12.2. Persistence and degradability

Substance name	Biodegradation	Remark
ethanol CAS No.: 64-17-5 EC No.: 200-578-6	Yes, rapidly	

* 12.3. Bioaccumulative potential

Substance name	Log K_{OW}	Bioconcentration factor (BCF)
ethanol CAS No.: 64-17-5 EC No.: 200-578-6	-0.32	3.2

Accumulation / Evaluation:
The product has not been tested.

12.4. Mobility in soil

The product has not been tested.

* 12.5. Results of PBT and vPvB assessment

Substance name	Results of PBT and vPvB assessment
ethanol CAS No.: 64-17-5 EC No.: 200-578-6	This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.
1-methoxypropan-2-ol CAS No.: 107-98-2 EC No.: 203-539-1	This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.
ammonium hydroxide CAS No.: 1336-21-6 EC No.: 215-647-6	This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.

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

* 12.6. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

12.7. Other adverse effects

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

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)	Air transport (ICAO-TI / IATA-DGR)
14.1. UN number or ID number			
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.	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.	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. Maritime transport in bulk according to IMO instruments

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.
Safety data sheet available on request.

15.1.2. National regulations

[DE] National regulations

Störfallverordnung

for substances possibly developing during an incident:

This product is not assigned to a hazard category.

Technische Anleitung Luft (TA-Luft)

Remark:

To follow: 5.2.5

Water hazard class

WGK:
1 - schwach wassergefährdend

Source:
Self-classification (mixture; calculation rule).

Technische Regeln für Gefahrstoffe

Minimum protective measures according to TRGS 500

Berufsgenossenschaftliche Vorschriften (DGUV-Vorschriften)

Berufsgenossenschaftliche Informationen (DGUV-Informationen) 868
Berufsgenossenschaftliche Regeln (DGUV-Regeln) 189, 190, 192, 195

[CH] National regulations

Other regulations, restrictions and prohibition regulations

Mengenschwelle (Schweiz - StFV)
Gefahrencode
Brandverhütung, BVD (Schweiz)
Störfallverordnung (StFV)

15.2. Chemical Safety Assessment

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

15.3. Additional information

No data available

SECTION 16: Other information

*

16.1. Indication of changes

1.4.	Emergency telephone number
2.2.	Label elements
2.3.	Other hazards
3.2.	Mixtures
4.1.	Description of first aid measures
4.2.	Most important symptoms and effects, both acute and delayed
4.3.	Indication of any immediate medical attention and special treatment needed
5.1.	Extinguishing media
5.2.	Special hazards arising from the substance or mixture
5.3.	Advice for firefighters
6.1.	Personal precautions, protective equipment and emergency procedures
6.2.	Environmental precautions
6.3.	Methods and material for containment and cleaning up
6.5.	Additional information
7.1.	Precautions for safe handling
7.2.	Conditions for safe storage, including any incompatibilities
8.1.	Control parameters
8.2.	Exposure controls
8.3.	Additional information
9.1.	Information on basic physical and chemical properties
9.2.	Other information
10.3.	Possibility of hazardous reactions
10.4.	Conditions to avoid
10.5.	Incompatible materials
11.1.	Information on hazard classes as defined in Regulation (EC) No 1272/2008
11.2.	Information on other hazards
12.1.	Toxicity
12.2.	Persistence and degradability
12.3.	Bioaccumulative potential
12.5.	Results of PBT and vPvB assessment
12.6.	Endocrine disrupting properties
13.1.	Waste treatment methods
13.2.	Additional information

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

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

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]:

The mixture is classified as not hazardous according to regulation (EC) No 1272/2008 [CLP].

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

Hazard statements	
H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H314	Causes severe skin burns and eye damage.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H400	Very toxic to aquatic life.

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