



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 Zweirad-Reiniger

Article No.:

1360058

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

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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]:

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

* **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

EUH208	Contains Orange, sweet, ext.. May produce an allergic reaction.
EUH210	Safety data sheet available on request.

Precautionary Statements: -

2.3. Other hazards

No data available

SECTION 3: Composition / information on ingredients

* **3.2. Mixtures**

Additional information:

Regulation (EC) No. 648/2004 (Detergents regulation): anionic surfactants, perfumes, amphoteric surfactants < 0,1%



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Hazardous ingredients / Hazardous impurities / Stabilisers:

product identifiers	Substance name Classification according to Regulation (EC) No 1272/2008 [CLP]	Concentration
CAS No.: 111-76-2 EC No.: 203-905-0	2-butoxyethanol Acute Tox. 4, Eye Irrit. 2, Skin Irrit. 2 Warning H302-H312-H315-H319-H332	0 - < 0.2 Wt %
CAS No.: 8028-48-6 EC No.: 232-433-8	Orange, sweet, ext. Aquatic Chronic 2, Asp. Tox. 1, Flam. Liq. 3, Skin Irrit. 2, Skin Sens. 1 H226-H304-H315-H317-H411	0 - < 0.2 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:

No special measures are necessary. Remove contaminated, saturated clothing immediately. If unconscious 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, take off immediately all contaminated clothing, and wash immediately with plenty of water and soap. In case of skin irritation, consult a physician.

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.

After 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:

First aider: Pay attention to self-protection!

4.2. Most important symptoms and effects, both acute and delayed

May cause an allergic skin reaction.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:

In case of fire, use sand, extinguishing powder or 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**

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.

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.

Fire class: B



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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:

Use personal protection equipment.

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.

* 6.3. Methods and material for containment and cleaning up

For containment:

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

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

For cleaning up:

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

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:

No special measures are necessary.

Fire prevent measures:

No special fire protection measures are necessary.

Measures to prevent aerosol and dust generation:

See protective measures under point 7 and 8.

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. Wash hands before breaks and after work. When using do not eat, drink, smoke, sniff.

Remove contaminated, saturated clothing immediately.

* 7.2. Conditions for safe storage, including any incompatibilities

Technical measures and storage conditions:

Keep only in original container.

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: 12 - non-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

Keep container tightly closed.



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7.3. Specific end use(s)

Recommendation:

Observe technical data sheet.

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
VLA (FR)	sodium hydroxide CAS No.: 1310-73-2	② 2 mg/m ³
WEL (GB)	sodium hydroxide CAS No.: 1310-73-2	② 2 mg/m ³
BE	sodium hydroxide CAS No.: 1310-73-2	③ 2 mg/m ³ ⑤ (hydroxyde de)
CZ	sodium hydroxide CAS No.: 1310-73-2	① 1 mg/m ³ ② 2 mg/m ³
PL	sodium hydroxide CAS No.: 1310-73-2	① 0.5 mg/m ³ ② 1 mg/m ³
NO	sodium hydroxide CAS No.: 1310-73-2	③ 2 mg/m ³
IE	sodium hydroxide CAS No.: 1310-73-2	② 2 mg/m ³
FI	sodium hydroxide CAS No.: 1310-73-2	③ 2 mg/m ³
LT	sodium hydroxide CAS No.: 1310-73-2	③ 2 mg/m ³
SE	sodium hydroxide CAS No.: 1310-73-2	① 1 mg/m ³ ② 2 mg/m ³ ⑤ (inhalierbar fraktion)
SK	sodium hydroxide CAS No.: 1310-73-2	① 2 mg/m ³
ES	sodium hydroxide CAS No.: 1310-73-2	② 2 mg/m ³
HU	sodium hydroxide CAS No.: 1310-73-2	① 2 mg/m ³ ② 2 mg/m ³
BG	sodium hydroxide CAS No.: 1310-73-2	① 2 mg/m ³
HR	sodium hydroxide CAS No.: 1310-73-2	② 2 mg/m ³
DK	sodium hydroxide CAS No.: 1310-73-2	③ 2 mg/m ³
MAK (AT)	sodium hydroxide CAS No.: 1310-73-2	② 4 mg/m ³ ⑤ (einatembare Fraktion max. 8x5 min./Schicht, Momentanwert)
RO	sodium hydroxide CAS No.: 1310-73-2	① 1 mg/m ³ ② 3 mg/m ³
EE	sodium hydroxide CAS No.: 1310-73-2	① 1 mg/m ³ ③ 2 mg/m ³
Alberta (CA)	sodium hydroxide CAS No.: 1310-73-2	③ 2 mg/m ³
LV	sodium hydroxide CAS No.: 1310-73-2	① 0.5 mg/m ³
BC (CA)	sodium hydroxide CAS No.: 1310-73-2	③ 2 mg/m ³



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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
JP	sodium hydroxide CAS No.: 1310-73-2	③ 2 mg/m ³
TW	sodium hydroxide CAS No.: 1310-73-2	① 2 mg/m ³
KR	sodium hydroxide CAS No.: 1310-73-2	③ 2 mg/m ³
IS	sodium hydroxide CAS No.: 1310-73-2	② 2 mg/m ³
CN	sodium hydroxide CAS No.: 1310-73-2	③ 2 mg/m ³
GR	sodium hydroxide CAS No.: 1310-73-2	① 2 mg/m ³ ② 2 mg/m ³
MY	sodium hydroxide CAS No.: 1310-73-2	③ 2 mg/m ³
OSHA (US)	sodium hydroxide CAS No.: 1310-73-2	① 2 mg/m ³
NIOSH (US)	sodium hydroxide CAS No.: 1310-73-2	③ 2 mg/m ³
ACGIH (US)	sodium hydroxide CAS No.: 1310-73-2	③ 2 mg/m ³
Québec (CA)	sodium hydroxide CAS No.: 1310-73-2	③ 2 mg/m ³
MAK (AT)	sodium hydroxide CAS No.: 1310-73-2	① 2 mg/m ³ ⑤ (einatembare Fraktion)
CH	sodium hydroxide CAS No.: 1310-73-2	① 2 mg/m ³ ② 2 mg/m ³ ⑤ (einatembare Fraktion)
MY	2-butoxyethanol CAS No.: 111-76-2	① 20 ppm (96.7 mg/m ³) ⑤ (resapan melalui kulit hendaklah diambil kira)
PL	2-butoxyethanol CAS No.: 111-76-2	① 98 mg/m ³ ② 200 mg/m ³ ⑤ (może przenikać przez skórę do organizmu)
NO	2-butoxyethanol CAS No.: 111-76-2	① 10 ppm (50 mg/m ³) ⑤ (kan absorberes gjennom huden)
FI	2-butoxyethanol CAS No.: 111-76-2	① 20 ppm (98 mg/m ³) ② 50 ppm (250 mg/m ³) ⑤ (kan absorberas genom huden)
LT	2-butoxyethanol CAS No.: 111-76-2	① 10 ppm (50 mg/m ³) ② 20 ppm (100 mg/m ³) ⑤ (tikėtinās įsisavinimas per odą)
DK	2-butoxyethanol CAS No.: 111-76-2	① 20 ppm (98 mg/m ³) ② 40 ppm (196 mg/m ³) ⑤ (kan optages gennem huden)
SE	2-butoxyethanol CAS No.: 111-76-2	① 10 ppm (50 mg/m ³) ② 50 ppm (246 mg/m ³) ⑤ (kan absorberas genom huden)
SK	2-butoxyethanol CAS No.: 111-76-2	① 20 ppm (98 mg/m ³) ② 50 ppm (246 mg/m ³) ⑤ (rátajte so vstrebávaním cez pokožku)



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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
TRGS 900 (DE)	2-butoxyethanol CAS No.: 111-76-2	① 10 ppm (49 mg/m ³) ② 20 ppm (98 mg/m ³) ⑤ (kann über die Haut aufgenommen werden)
WEL (GB)	2-butoxyethanol CAS No.: 111-76-2	① 25 ppm (123 mg/m ³) ② 50 ppm (246 mg/m ³)
MAK (AT)	2-butoxyethanol CAS No.: 111-76-2	② 40 ppm (200 mg/m ³) ⑤ (max. 4x30 min./Schicht, kann über die Haut aufgenommen werden)
ES	2-butoxyethanol CAS No.: 111-76-2	① 20 ppm (98 mg/m ³) ② 50 ppm (245 mg/m ³) ⑤ (puede ser absorbido a través dérmica)
BG	2-butoxyethanol CAS No.: 111-76-2	① 20 ppm (98 mg/m ³) ② 50 ppm (246 mg/m ³) ⑤ (трябва да се очаква абсорбиране през кожата)
HR	2-butoxyethanol CAS No.: 111-76-2	① 20 ppm (98 mg/m ³) ② 50 ppm (246 mg/m ³) ⑤ (mora se uzeti u obzir prodiranje kroz kožu)
BE	2-butoxyethanol CAS No.: 111-76-2	① 20 ppm (98 mg/m ³) ② 50 ppm (246 mg/m ³) ⑤ (peut être absorbé par la peau)
CZ	2-butoxyethanol CAS No.: 111-76-2	① 100 mg/m ³ ② 200 mg/m ³
IE	2-butoxyethanol CAS No.: 111-76-2	① 20 ppm (98 mg/m ³) ② 50 ppm (246 mg/m ³) ⑤ (may be absorbed through the skin)
RO	2-butoxyethanol CAS No.: 111-76-2	① 30 ppm (150 mg/m ³) ② 50 ppm (250 mg/m ³) ⑤ (Butil celosolv)
RO	2-butoxyethanol CAS No.: 111-76-2	① 20 ppm (98 mg/m ³) ② 50 ppm (246 mg/m ³) ⑤ 2-Butoxietanol
EE	2-butoxyethanol CAS No.: 111-76-2	① 20 ppm (98 mg/m ³) ② 50 ppm (246 mg/m ³)
LV	2-butoxyethanol CAS No.: 111-76-2	① 20 ppm (98 mg/m ³) ② 50 ppm (246 mg/m ³) ⑤ (var absorbet caur adu)
Alberta (CA)	2-butoxyethanol CAS No.: 111-76-2	① 20 ppm (97 mg/m ³)
BC (CA)	2-butoxyethanol CAS No.: 111-76-2	① 20 ppm
IOELV (EU)	2-butoxyethanol CAS No.: 111-76-2	① 20 ppm (98 mg/m ³) ② 50 ppm (246 mg/m ³) ⑤ (may be absorbed through the skin)
VLA (FR)	2-butoxyethanol CAS No.: 111-76-2	① 10 ppm (49 mg/m ³) ② 50 ppm (246 mg/m ³) ⑤ (peut être absorbé par la peau)
SI	2-butoxyethanol CAS No.: 111-76-2	① 20 ppm (98 mg/m ³) ② 50 ppm (246 mg/m ³) ⑤ (računati je treba z možnostjo prodiranja skozi kožo)



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TW	2-butoxyethanol CAS No.: 111-76-2	① 25 ppm (121 mg/m ³) ⑤ (必須預計到從皮膚吸入)
KR	2-butoxyethanol CAS No.: 111-76-2	① 20 ppm (97 mg/m ³) ⑤ (피부를 통한 흡수를 예상해야 한다)
IS	2-butoxyethanol CAS No.: 111-76-2	① 20 ppm (100 mg/m ³) ② 50 ppm (246 mg/m ³) ⑤ (efnið getur auðveldlega borist inn í líkamann gegnum húð)
HU	2-butoxyethanol CAS No.: 111-76-2	① 98 mg/m ³ ② 246 mg/m ³ ⑤ (felvehető a bőrön keresztül)
GR	2-butoxyethanol CAS No.: 111-76-2	① 25 ppm (120 mg/m ³) ⑤ (αναμένετε απορρόφηση από το δέρμα)
NL	2-butoxyethanol CAS No.: 111-76-2	① 20 ppm (100 mg/m ³) ② 40 ppm (246 mg/m ³) ⑤ (kan door de huid in het lichaam worden opgenomen)
JP	2-butoxyethanol CAS No.: 111-76-2	③ 20 ppm (97 mg/m ³) ⑤ (may be absorbed through the skin)
TR	2-butoxyethanol CAS No.: 111-76-2	① 20 ppm (98 mg/m ³) ② 50 ppm (246 mg/m ³) ⑤ (cilt yoluyla alınabilir)
RU	2-butoxyethanol CAS No.: 111-76-2	③ 5 mg/m ³
OSHA (US)	2-butoxyethanol CAS No.: 111-76-2	① 50 ppm (240 mg/m ³) ⑤ (may be absorbed through the skin)
NIOSH (US)	2-butoxyethanol CAS No.: 111-76-2	① 5 ppm (24 mg/m ³) ⑤ (may be absorbed through the skin)
ACGIH (US)	2-butoxyethanol CAS No.: 111-76-2	① 20 ppm (97 mg/m ³)
MAK (AT)	2-butoxyethanol CAS No.: 111-76-2	① 20 ppm (98 mg/m ³) ⑤ (kann über die Haut aufgenommen werden)
Québec (CA)	2-butoxyethanol CAS No.: 111-76-2	① 20 ppm (97 mg/m ³)
CH	2-butoxyethanol CAS No.: 111-76-2	① 10 ppm (49 mg/m ³) ② 20 ppm (98 mg/m ³) ⑤ (kann über die Haut aufgenommen werden)
CH	Orange, sweet, ext. CAS No.: 8028-48-6	① 7 ppm (40 mg/m ³) ② 14 ppm (80 mg/m ³)
NO	Orange, sweet, ext. CAS No.: 8028-48-6	① 25 ppm (140 mg/m ³)
FI	Orange, sweet, ext. CAS No.: 8028-48-6	① 25 ppm (140 mg/m ³) ② 50 ppm (280 mg/m ³)
ES	Orange, sweet, ext. CAS No.: 8028-48-6	① 30 ppm (168 mg/m ³) ⑤ (puede ser absorbido a través dérmica)
TRGS 900 (DE)	Orange, sweet, ext. CAS No.: 8028-48-6	① 5 ppm (28 mg/m ³) ② 20 ppm (112 mg/m ³) ⑤ (kann über die Haut aufgenommen werden)
BE	propan-2-ol CAS No.: 67-63-0	① 200 ppm (500 mg/m ³) ② 400 ppm (1,000 mg/m ³)



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CZ	propan-2-ol CAS No.: 67-63-0	① 203.5 ppm (500 mg/m ³) ② 407 ppm (1,000 mg/m ³)
PL	propan-2-ol CAS No.: 67-63-0	① 900 mg/m ³ ② 1,200 mg/m ³
NO	propan-2-ol CAS No.: 67-63-0	① 100 ppm (245 mg/m ³)
IE	propan-2-ol CAS No.: 67-63-0	① 200 ppm ② 400 ppm
FI	propan-2-ol CAS No.: 67-63-0	① 200 ppm (500 mg/m ³) ② 250 ppm (620 mg/m ³)
LT	propan-2-ol CAS No.: 67-63-0	① 150 ppm (350 mg/m ³) ② 250 ppm (600 mg/m ³) ⑤
SE	propan-2-ol CAS No.: 67-63-0	① 150 ppm (350 mg/m ³) ③ 250 ppm (600 mg/m ³)
MY	propan-2-ol CAS No.: 67-63-0	① 400 ppm (983 mg/m ³)
SK	propan-2-ol CAS No.: 67-63-0	① 200 ppm (500 mg/m ³) ② 400 ppm (1,000 mg/m ³)
PT	propan-2-ol CAS No.: 67-63-0	① 200 ppm ② 400 ppm
MAK (AT)	propan-2-ol CAS No.: 67-63-0	② 800 ppm (2,000 mg/m ³) ⑤ (max. 4x15 min./Schicht)
BG	propan-2-ol CAS No.: 67-63-0	① 980 mg/m ³ ② 1,224 mg/m ³
DK	propan-2-ol CAS No.: 67-63-0	① 200 ppm (490 mg/m ³) ② 400 ppm (980 mg/m ³)
HR	propan-2-ol CAS No.: 67-63-0	① 400 ppm (999 mg/m ³) ② 500 ppm (1,250 mg/m ³)
CN	propan-2-ol CAS No.: 67-63-0	① 350 mg/m ³ ② 700 mg/m ³
RO	propan-2-ol CAS No.: 67-63-0	① 81 ppm (200 mg/m ³) ② 203 ppm (500 mg/m ³)
ES	propan-2-ol CAS No.: 67-63-0	① 200 ppm (500 mg/m ³) ② 400 ppm (1,000 mg/m ³) ⑤ VLB, s
EE	propan-2-ol CAS No.: 67-63-0	① 150 ppm (350 mg/m ³) ② 250 ppm (600 mg/m ³)
Alberta (CA)	propan-2-ol CAS No.: 67-63-0	① 200 ppm (492 mg/m ³) ② 400 ppm (984 mg/m ³)
LV	propan-2-ol CAS No.: 67-63-0	① 350 mg/m ³ ② 600 mg/m ³
BC (CA)	propan-2-ol CAS No.: 67-63-0	① 200 ppm ② 400 ppm
JP	propan-2-ol CAS No.: 67-63-0	③ 400 ppm (980 mg/m ³)
VLA (FR)	propan-2-ol CAS No.: 67-63-0	② 400 ppm (980 mg/m ³)



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MAK (AT)	propan-2-ol CAS No.: 67-63-0	① 200 ppm (500 mg/m ³)
SI	propan-2-ol CAS No.: 67-63-0	① 200 ppm (500 mg/m ³) ② 400 ppm (1,000 mg/m ³)
WEL (GB)	propan-2-ol CAS No.: 67-63-0	① 400 ppm (999 mg/m ³) ② 500 ppm (1,250 mg/m ³)
TW	propan-2-ol CAS No.: 67-63-0	① 400 ppm (983 mg/m ³)
KR	propan-2-ol CAS No.: 67-63-0	① 200 ppm (480 mg/m ³) ② 400 ppm (980 mg/m ³)
IS	propan-2-ol CAS No.: 67-63-0	① 200 ppm (490 mg/m ³) ⑤ (efnið getur auðveldlega borist inn í líkamann gegnum húð)
CH	propan-2-ol CAS No.: 67-63-0	① 200 ppm (500 mg/m ³) ② 400 ppm (1,000 mg/m ³)
HU	propan-2-ol CAS No.: 67-63-0	① 500 mg/m ³ ② 2,000 mg/m ³ ⑤ (felvehető a bőrön keresztül)
RU	propan-2-ol CAS No.: 67-63-0	① 10 mg/m ³ ③ 50 mg/m ³
GR	propan-2-ol CAS No.: 67-63-0	① 400 ppm (980 mg/m ³) ② 500 ppm (1,225 mg/m ³)
Québec (CA)	propan-2-ol CAS No.: 67-63-0	① 400 ppm (985 mg/m ³) ② 500 ppm (1,230 mg/m ³)
OSHA (US)	propan-2-ol CAS No.: 67-63-0	① 400 ppm (980 mg/m ³)
NIOSH (US)	propan-2-ol CAS No.: 67-63-0	① 400 ppm (980 mg/m ³) ② 500 ppm (1,225 mg/m ³)
ACGIH (US)	propan-2-ol CAS No.: 67-63-0	① 200 ppm (492 mg/m ³) ② 400 ppm (984 mg/m ³)
TRGS 900 (DE)	propan-2-ol CAS No.: 67-63-0	① 200 ppm (500 mg/m ³) ② 400 ppm (1,000 mg/m ³)

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
VLB (ES)	2-butoxyethanol CAS No.: 111-76-2	200 mg/g creatinina	① Ácido butoixacético ② orina ③ fin de exposición o fin de turno
OEL-B (JP)	2-butoxyethanol CAS No.: 111-76-2	200 mg/g creatinine	① Butoxyacetic acid ② urine ③ end of exposure or end of shift
BMGV (GB)	2-butoxyethanol CAS No.: 111-76-2	240 mmol/mol creatinine	① Butoxyacetic acid ② urine ③ end of exposure or end of shift
ACGIH-BEI (US)	2-butoxyethanol CAS No.: 111-76-2	200 mg/g creatinine	① Butoxyacetic acid (BAA) ② urine ③ end of exposure or end of shift



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Limit value type (country of origin)	Substance name	Limit value	① parameter ② Test material ③ Time of sampling ④ Remark
BAT (CH)	2-butoxyethanol CAS No.: 111-76-2	100 mg/L	① (Butoxyessigsäure) ② Urin ③ bei Langzeitexposition, Expositionsende bzw. Schichtende
BAT (CH)	2-butoxyethanol CAS No.: 111-76-2	200 mg/L	① (Gesamt-Butoxyessigsäure) ② Urin ③ bei Langzeitexposition
TRGS 903 (DE)	2-butoxyethanol CAS No.: 111-76-2	150 mg/L	① Butoxyessigsäure; Nach Hydrolyse: ② Urin ③ bei Langzeitexposition, Expositionsende bzw. Schichtende
BAT (SI)	2-butoxyethanol CAS No.: 111-76-2	150	① butoksi očetna kislina; po hidrolizi: ② urin ③ po več zaporednih delavnikih, ob koncu delovne izmene
BAT (CH)	propan-2-ol CAS No.: 67-63-0	25 mg/L	① Aceton ② Urin ③ Expositionsende bzw. Schichtende
BAT (CH)	propan-2-ol CAS No.: 67-63-0	25 mg/L	① Aceton ② Blut ③ Expositionsende bzw. Schichtende
VLB (ES)	propan-2-ol CAS No.: 67-63-0	40 mg/L	① acetona ② orina ③ en caso de exposición por largo tiempo, fin de exposición o fin de turno
TRGS 903 (DE)	propan-2-ol CAS No.: 67-63-0	25 mg/L	① Aceton ② Blut ③ Expositionsende bzw. Schichtende
TRGS 903 (DE)	propan-2-ol CAS No.: 67-63-0	25 mg/L	① Aceton ② Urin ③ Expositionsende bzw. Schichtende
ACGIH-BEI (US)	propan-2-ol CAS No.: 67-63-0	40 mg/L	① Acetone in urine ② urine ③ end of shift at end of workweek
VLBO (RO)	propan-2-ol CAS No.: 67-63-0	50 mg/L	① Alcohol izopropilic ② urina ③ finalul expunerii, resp. finalul schimbului
BAT (SI)	propan-2-ol CAS No.: 67-63-0	25 mg/L	① aceton ② kri ③ ob koncu delovne izmene
BAT (SI)	propan-2-ol CAS No.: 67-63-0	25 mg/L	① aceton ② urin ③ ob koncu delovne izmene
BIO (HR)	propan-2-ol CAS No.: 67-63-0	50 mg/L	① aceton ② krv ③ kraj izloženosti, odnosno kraj smjene
BIO (HR)	propan-2-ol CAS No.: 67-63-0	50 mg/L	① aceton ② urin ③ kraj izloženosti, odnosno kraj smjene



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8.1.3. DNEL-/PNEC-values

Substance name	DNEL value	① DNEL type ② Exposure route
Benzenesulfonic acid, 4-C10-13-sec-alkyl derivs., compds. with triethanolamine CAS No.: 68411-31-4	4.1 mg/m ³	① DNEL worker ② inhalative, long-term, systemic
Benzenesulfonic acid, 4-C10-13-sec-alkyl derivs., compds. with triethanolamine CAS No.: 68411-31-4	5.29 mg/kg bw/day	① DNEL worker ② dermal, long-term, systemic
sodium hydroxide CAS No.: 1310-73-2	1 mg/m ³	① DNEL worker ② inhalative, long-term, local
sodium hydroxide CAS No.: 1310-73-2	1 mg/m ³	① DNEL Consumer ② inhalative, long-term, local
2-butoxyethanol CAS No.: 111-76-2	98 mg/m ³	① DNEL worker ② inhalative, long-term, systemic
Orange, sweet, ext. CAS No.: 8028-48-6	31.1 mg/m ³	① DNEL worker ② inhalative, long-term, systemic
Orange, sweet, ext. CAS No.: 8028-48-6	31.1 mg/m ³	① DNEL worker ② inhalative, long-term, systemic
Orange, sweet, ext. CAS No.: 8028-48-6	7.78 mg/m ³	① DNEL Consumer ② inhalative, long-term, systemic
Orange, sweet, ext. CAS No.: 8028-48-6	8.89 mg/kg bw/day	① DNEL worker ② dermal, long-term, systemic
Orange, sweet, ext. CAS No.: 8028-48-6	4.44 mg/kg bw/day	① DNEL Consumer ② dermal, long-term, systemic
Orange, sweet, ext. CAS No.: 8028-48-6	4.44 mg/kg bw/day	① DNEL Consumer ② oral, long-term, systemic
Alcohols, C12-14, ethoxylated, sulfates, sodium salts CAS No.: 68891-38-3	175 mg/m ³	① DNEL worker ② inhalative, long-term, systemic
Alcohols, C12-14, ethoxylated, sulfates, sodium salts CAS No.: 68891-38-3	2,750 mg/kg bw/day	① DNEL worker ② dermal, long-term, systemic
Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts CAS No.: 68411-30-3	6 mg/m ³	① DNEL worker ② inhalative, long-term, systemic
Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts CAS No.: 68411-30-3	4.1 mg/m ³	① DNEL worker ② inhalative, long-term, systemic
Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts CAS No.: 68411-30-3	1.01 mg/m ³	① DNEL Consumer ② inhalative, long-term, systemic
Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts CAS No.: 68411-30-3	5.29 mg/kg bw/day	① DNEL worker ② dermal, long-term, systemic
Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts CAS No.: 68411-30-3	1.2 mg/kg bw/day	① DNEL Consumer ② dermal, long-term, systemic
Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts CAS No.: 68411-30-3	0.58 mg/kg bw/day	① DNEL Consumer ② oral, long-term, systemic
sodium p-cumenesulphonate CAS No.: 15763-76-5	26.9 mg/m ³	① DNEL worker ② inhalative, long-term, systemic
Potassium-p-cumenesulphonate CAS No.: 164524-02-1	26.9 mg/m ³	① DNEL worker ② inhalative, long-term, systemic



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Substance name	PNEC Value	① PNEC type
Benzenesulfonic acid, 4-C10-13-sec-alkyl derivs., compds. with triethanolamine CAS No.: 68411-31-4	0.268 mg/l	① PNEC aquatic, freshwater
Benzenesulfonic acid, 4-C10-13-sec-alkyl derivs., compds. with triethanolamine CAS No.: 68411-31-4	0.027 mg/l	① PNEC aquatic, marine water
Benzenesulfonic acid, 4-C10-13-sec-alkyl derivs., compds. with triethanolamine CAS No.: 68411-31-4	7 mg/l	① PNEC sewage treatment plant
Benzenesulfonic acid, 4-C10-13-sec-alkyl derivs., compds. with triethanolamine CAS No.: 68411-31-4	8.1 mg/kg bw/day	① PNEC sediment, freshwater
Benzenesulfonic acid, 4-C10-13-sec-alkyl derivs., compds. with triethanolamine CAS No.: 68411-31-4	8.1 mg/kg bw/day	① PNEC sediment, marine water
Orange, sweet, ext. CAS No.: 8028-48-6	0.0054 mg/l	① PNEC aquatic, freshwater
Orange, sweet, ext. CAS No.: 8028-48-6	0.00054 mg/l	① PNEC aquatic, marine water
Orange, sweet, ext. CAS No.: 8028-48-6	2.1 mg/l	① PNEC sewage treatment plant
Orange, sweet, ext. CAS No.: 8028-48-6	1.3 mg/kg bw/day	① PNEC sediment, freshwater
Orange, sweet, ext. CAS No.: 8028-48-6	0.13 mg/kg bw/day	① PNEC sediment, marine water
Orange, sweet, ext. CAS No.: 8028-48-6	0.261 mg/kg bw/day	① PNEC soil
Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts CAS No.: 68411-30-3	0.268 mg/l	① PNEC aquatic, freshwater
Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts CAS No.: 68411-30-3	0.0268 mg/l	① PNEC aquatic, marine water
Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts CAS No.: 68411-30-3	7 µg/l	① PNEC sewage treatment plant
Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts CAS No.: 68411-30-3	8.1 mg/kg bw/day	① PNEC sediment, freshwater
Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts CAS No.: 68411-30-3	9.1 mg/kg bw/day	① PNEC sediment, marine water
Benzenesulfonic acid, C10-13-alkyl derivs., sodium salts CAS No.: 68411-30-3	35 mg/kg bw/day	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



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Skin protection:

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

Odour: characteristic

Safety relevant basis data

parameter		at °C	Method	Remark
pH	<i>not determined</i>			
Melting point	<i>not determined</i>			
Freezing point	<i>not applicable</i>			
Initial boiling point and boiling range	<i>not determined</i>			
Decomposition temperature	<i>not applicable</i>			
Flash point	<i>not applicable</i>			
Evaporation rate	<i>not applicable</i>			
Auto-ignition temperature	<i>not applicable</i>			
Upper/lower flammability or explosive limits	<i>not determined</i>			
Vapour pressure	<i>No data available</i>			
Vapour density	<i>not applicable</i>			
Density	1,002 kg/m ³	20 °C		
Bulk density	<i>not applicable</i>			
Water solubility	completely miscible			
Partition coefficient: n-octanol/water	<i>No data available</i>			
Dynamic viscosity	<i>not applicable</i>			
Kinematic viscosity	<i>not determined</i>	40 °C		

9.2. Other information

No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

No known hazardous reactions.

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

No hazardous reaction when handled and stored according to provisions.



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10.4. Conditions to avoid

No special measures are necessary.

10.5. Incompatible materials

Oxidising agent, strong, Acid, concentrated

10.6. Hazardous decomposition products

No known hazardous decomposition products.

SECTION 11: Toxicological information

* 11.1. Information on toxicological effects

CAS No.	Substance name	Toxicological information
8028-48-6	Orange, sweet, ext.	LD₅₀ oral: >4,400 - 5,700 mg/kg (Rat) LD₅₀ dermal: >2,000 - 5,000 mg/kg (Rabbit)

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:

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

Serious eye damage/irritation:

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

Respiratory or skin sensitisation:

May cause an allergic skin reaction.

Germ cell mutagenicity:

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

Carcinogenicity:

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

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:

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

SECTION 12: Ecological information

* 12.1. Toxicity

CAS No.	Substance name	Toxicological information
8028-48-6	Orange, sweet, ext.	LC₅₀: 0.72 mg/l 4 d (fish, Pimephales promelas (fathead minnow)) EC₅₀: 0.42 mg/l 2 d (crustaceans, Daphnia magna (Big water flea)) OECD 202 EC₅₀: 150 mg/l 3 d (Algae/water plant, Desmodium subspicatus) OECD 201

Assessment/classification:

The product has not been tested.

* 12.2. Persistence and degradability

CAS No.	Substance name	Biodegradation	Remark
8028-48-6	Orange, sweet, ext.	Yes, rapidly	72-83,4 % (OECD 301B)

Biodegradation:

Readily biodegradable (according to OECD criteria).



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12.3. Bioaccumulative potential

Partition coefficient: n-octanol/water:

No data available

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**

CAS No.	Substance name	Results of PBT and vPvB assessment
111-76-2	2-butoxyethanol	The substance in the mixture does not meet the PBT/vPvB criteria according to REACH, annex XIII.
8028-48-6	Orange, sweet, ext.	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 information 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)	
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* **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.	
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* **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.	
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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.



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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

Störfallverordnung

for substances contained in the product:

This product is not assigned to a hazard category.

Technische Anleitung Luft (TA-Luft)

Remark:

To follow: 5.2.5.

Water hazard class (WGK)

WGK:

1 - schwach wassergefährdend

Source:

Self-classification (mixture; calculation rule).

Technische Regeln für Gefahrstoffe

Minimum protective measures according to TRGS 500

Berufsgenossenschaftliche Vorschriften (BGV)

Berufsgenossenschaftliche Informationen (BGI) 868

Berufsgenossenschaftliche Regeln (BGR) 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

1.3.	Details of the supplier of the safety data sheet
1.4.	Emergency telephone number
2.2.	Label elements
3.2.	Mixtures
4.1.	Description of first aid measures
5.2.	Special hazards arising from the substance or mixture
6.1.	Personal precautions, protective equipment and emergency procedures
6.3.	Methods and material for containment and cleaning up
7.1.	Precautions for safe handling
7.2.	Conditions for safe storage, including any incompatibilities
8.1.	Control parameters
8.2.	Exposure controls
9.1.	Information on basic physical and chemical properties
11.1.	Information on toxicological effects
12.1.	Toxicity



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12.2.	Persistence and degradability
12.5.	Results of PBT and vPvB assessment
13.1.	Waste treatment methods
14.1.	UN number
14.2.	UN proper shipping name
14.7.	Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
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	
H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H411	Toxic to aquatic life with long lasting effects.

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