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## 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 ETC Concentrate Protect C12evo

Article No.:

1410165

UFI:

SMRK-8GFV-GY1Y-92KG

#### 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

Produktsicherheit

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): sdb@ravenol.de

#### 1.4. Emergency telephone number

24 hr. emergency phone number, 24h: +49 700 24 112 112 (Contract ID: RAV) / +1 872 5888271  
(Contract ID: RAV)

### 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 procedure
Acute toxicity (oral) ( <i>Acute Tox. 4</i> )	H302: Harmful if swallowed.	Calculation method.
STOT-repeated exposure ( <i>STOT RE 2</i> )	H373: May cause damage to organs through prolonged or repeated exposure.	Calculation method.

#### 2.2. Label elements

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

Hazard pictograms:



GHS07

Exclamation mark



GHS08

Health hazard

Signal word: Warning



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**Hazard components for labelling:**

1,2-Ethanediol

Hazard statements for health hazards	
H302	Harmful if swallowed.
H373	May cause damage to kidneys through prolonged or repeated exposure if swallowed.

Supplemental hazard information: none

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	
P260	Do not breathe vapours and spray.
P264	Wash hands thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.

Precautionary statements Response	
P301 + P312	IF SWALLOWED: Call a POISON CENTER/doctor/Emergency phone number/ if you feel unwell.
P330	Rinse mouth.

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

**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**

**3.2. Mixtures**

**Hazardous ingredients / Hazardous impurities / Stabilisers:**

Product identifiers	Substance name Classification according to Regulation (EC) No 1272/2008 [CLP]	Concentration
CAS No.: 107-21-1 EC No.: 203-473-3 REACH No.: 01-2119456816-28-0173	<b>1,2-Ethanediol</b> Acute Tox. 4 (H302), STOT RE 2 (H373) Warning	80 - < 95 weight-%
CAS No.: 17265-14-4 EC No.: 241-300-3	<b>disodium sebacate</b> Eye Irrit. 2 (H319) Warning	2 - < 5 weight-%
CAS No.: 29385-43-1 EC No.: 249-596-6 REACH No.: 01-2119979081-35-XXXX	<b>methyl-1H-benzotriazole</b> Acute Tox. 4 (H302), Aquatic Chronic 2 (H411), Repr. 2 (H361d) Warning	0 - < 0.5 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:**

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 but breathing normally, 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.

**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.



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#### Following 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 but breathing normally, place in recovery position and seek medical advice. Harmful if swallowed. May cause damage to kidneys through prolonged or repeated exposure if swallowed.

#### 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 (CO<sub>2</sub>)  
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 (NO<sub>x</sub>) Carbon monoxide Carbon dioxide (CO<sub>2</sub>)

#### 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 (sand, diatomaceous earth, acid- or universal binding agents).



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**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 (TRGS 510, Germany): 10 - 13 - Other combustible and non-combustible substances**

**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 from 1 Jan 2022	<b>1,2-Ethanediol</b> CAS No.: 107-21-1 EC No.: 203-473-3	① 10 ppm (26 mg/m <sup>3</sup> ) ② 20 ppm (52 mg/m <sup>3</sup> ) ⑤ (Dampf und Aerosol; kann über die Haut aufgenommen werden) H SSC; Tox: OAW Auge
BE	<b>1,2-Ethanediol</b> CAS No.: 107-21-1 EC No.: 203-473-3	① 20 ppm (52 mg/m <sup>3</sup> ) ③ 40 ppm (104 mg/m <sup>3</sup> ) ⑤ (Aérosol, peut être absorbé par la peau) D, M



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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
CZ from 1 Mar 2020	<b>1,2-Ethanediol</b> CAS No.: 107-21-1 EC No.: 203-473-3	① 19.4 ppm (50 mg/m <sup>3</sup> ) ② 38.8 ppm (100 mg/m <sup>3</sup> ) ⑤ (může pronikat pokožkou) D
PL	<b>1,2-Ethanediol</b> CAS No.: 107-21-1 EC No.: 203-473-3	① 15 mg/m <sup>3</sup> ② 50 mg/m <sup>3</sup> ⑤ (może przenikać przez skórę do organizmu) skóra
NO from 1 Jul 2021	<b>1,2-Ethanediol</b> CAS No.: 107-21-1 EC No.: 203-473-3	① 20 ppm (52 mg/m <sup>3</sup> ) ② 40 ppm (104 mg/m <sup>3</sup> ) ⑤ (damp og Aerosol, kan absorberes gjennom huden) HE5S
TRGS 900 (DE)	<b>1,2-Ethanediol</b> CAS No.: 107-21-1 EC No.: 203-473-3	① 10 ppm (26 mg/m <sup>3</sup> ) ② 20 ppm (52 mg/m <sup>3</sup> ) ⑤ (Aerosol und Dampf, kann über die Haut aufgenommen werden) DFG, EU, H, Y, 11
IE from 17 Jan 2020	<b>1,2-Ethanediol</b> CAS No.: 107-21-1 EC No.: 203-473-3	① 20 ppm (52 mg/m <sup>3</sup> ) ② 40 ppm (104 mg/m <sup>3</sup> ) ⑤ (may be absorbed through the skin) Sk, IOELV
MY from 1 Jan 2000	<b>1,2-Ethanediol</b> CAS No.: 107-21-1 EC No.: 203-473-3	③ 39.4 ppm (100 mg/m <sup>3</sup> )
HTP (FI)	<b>1,2-Ethanediol</b> CAS No.: 107-21-1 EC No.: 203-473-3	① 20 ppm (50 mg/m <sup>3</sup> ) ② 40 ppm (100 mg/m <sup>3</sup> ) ⑤ (voivat imeytyä ihon läpi) iho
LT from 15 Oct 2007	<b>1,2-Ethanediol</b> CAS No.: 107-21-1 EC No.: 203-473-3	① 10 ppm (25 mg/m <sup>3</sup> ) ② 20 ppm (50 mg/m <sup>3</sup> ) ⑤ (garų ir Aerosolis) (tikėtinas įsisavinimas per odą) Šis RD taikomas bendrai garų ir aerosolio koncentracijai. O
SE from 1 Jun 2016	<b>1,2-Ethanediol</b> CAS No.: 107-21-1 EC No.: 203-473-3	① 10 ppm (25 mg/m <sup>3</sup> ) ② 40 ppm (104 mg/m <sup>3</sup> ) ⑤ (kan absorberas genom huden)
NPEL (SK) from 23 Nov 2011	<b>1,2-Ethanediol</b> CAS No.: 107-21-1 EC No.: 203-473-3	① 20 ppm (52 mg/m <sup>3</sup> ) ② 40 ppm (104 mg/m <sup>3</sup> ) ⑤ (rátajte so vstrebávaním cez pokožku) K
MAK (AT)	<b>1,2-Ethanediol</b> CAS No.: 107-21-1 EC No.: 203-473-3	① 10 ppm (26 mg/m <sup>3</sup> ) ⑤ (kann über die Haut aufgenommen werden) H
DK	<b>1,2-Ethanediol</b> CAS No.: 107-21-1 EC No.: 203-473-3	① 10 mg/m <sup>3</sup> ② 20 mg/m <sup>3</sup> ⑤ (forstøvet)
DK from 28 Jun 2022	<b>1,2-Ethanediol</b> CAS No.: 107-21-1 EC No.: 203-473-3	① 10 ppm (26 mg/m <sup>3</sup> ) ② 40 ppm (104 mg/m <sup>3</sup> ) ⑤ (kan optages gennem huden) EH
MAK (AT)	<b>1,2-Ethanediol</b> CAS No.: 107-21-1 EC No.: 203-473-3	② 20 ppm (52 mg/m <sup>3</sup> ) ⑤ (max. 8x5 min./Schicht, Momentanwert, kann über die Haut aufgenommen werden) H
BG from 6 Jan 2012	<b>1,2-Ethanediol</b> CAS No.: 107-21-1 EC No.: 203-473-3	① 20 ppm (52 mg/m <sup>3</sup> ) ② 40 ppm (104 mg/m <sup>3</sup> ) ⑤ (трябва да се очаква абсорбиране през кожата)



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HR	<b>1,2-Ethanediol</b> CAS No.: 107-21-1 EC No.: 203-473-3	① 20 ppm (52 mg/m <sup>3</sup> ) ② 40 ppm (104 mg/m <sup>3</sup> ) ⑤ (mora se uzeti u obzir prodiranje kroz kožu) koža
ES	<b>1,2-Ethanediol</b> CAS No.: 107-21-1 EC No.: 203-473-3	① 20 ppm (52 mg/m <sup>3</sup> ) ② 40 ppm (104 mg/m <sup>3</sup> ) ⑤ (puede ser absorbido a través dérmica) vía dérmica, VLI
RO from 21 Aug 2018	<b>1,2-Ethanediol</b> CAS No.: 107-21-1 EC No.: 203-473-3	① 20 ppm (52 mg/m <sup>3</sup> ) ② 40 ppm (104 mg/m <sup>3</sup> ) ⑤ (e de așteptat asimilarea prin piele) P
EE from 17 Jan 2020	<b>1,2-Ethanediol</b> CAS No.: 107-21-1 EC No.: 203-473-3	① 20 ppm (52 mg/m <sup>3</sup> ) ② 40 ppm (104 mg/m <sup>3</sup> ) ⑤ (naha kaudu kergesti absorbeeruvad ained, aur ja Aerosool) A, 18
LV	<b>1,2-Ethanediol</b> CAS No.: 107-21-1 EC No.: 203-473-3	① 20 ppm (52 mg/m <sup>3</sup> ) ② 40 ppm (104 mg/m <sup>3</sup> ) ⑤ (var absorbēt caur ādu) Āda
Alberta (CA)	<b>1,2-Ethanediol</b> CAS No.: 107-21-1 EC No.: 203-473-3	③ 100 mg/m <sup>3</sup> ⑤ 3
BC (CA) from 1 Mar 2022	<b>1,2-Ethanediol</b> CAS No.: 107-21-1 EC No.: 203-473-3	① 10 mg/m <sup>3</sup> ② 20 mg/m <sup>3</sup> ③ 100 mg/m <sup>3</sup> ⑤ (Aerosol)
BC (CA) from 1 Mar 2022	<b>1,2-Ethanediol</b> CAS No.: 107-21-1 EC No.: 203-473-3	③ 50 ppm ⑤ (vapor)
IOELV (EU)	<b>1,2-Ethanediol</b> CAS No.: 107-21-1 EC No.: 203-473-3	① 20 ppm (52 mg/m <sup>3</sup> ) ② 40 ppm (104 mg/m <sup>3</sup> ) ⑤ (may be absorbed through the skin)
VRI (FR)	<b>1,2-Ethanediol</b> CAS No.: 107-21-1 EC No.: 203-473-3	① 20 ppm (52 mg/m <sup>3</sup> ) ② 40 ppm (104 mg/m <sup>3</sup> ) ⑤ (peut être absorbé par la peau)
WEL (GB)	<b>1,2-Ethanediol</b> CAS No.: 107-21-1 EC No.: 203-473-3	① 20 ppm (52 mg/m <sup>3</sup> ) ② 40 ppm (104 mg/m <sup>3</sup> ) ⑤ (vapour, may be absorbed through the skin)
SI	<b>1,2-Ethanediol</b> CAS No.: 107-21-1 EC No.: 203-473-3	① 20 ppm (52 mg/m <sup>3</sup> ) ② 40 ppm (104 mg/m <sup>3</sup> ) ⑤ (računati je treba z možnostjo prodiranja skozi kožo) K, Y, EU1
TW	<b>1,2-Ethanediol</b> CAS No.: 107-21-1 EC No.: 203-473-3	① 10 mg/m <sup>3</sup> ⑤ (##)
TW	<b>1,2-Ethanediol</b> CAS No.: 107-21-1 EC No.: 203-473-3	③ 50 ppm (127 mg/m <sup>3</sup> ) ⑤ (#)
WEL (GB)	<b>1,2-Ethanediol</b> CAS No.: 107-21-1 EC No.: 203-473-3	① 10 mg/m <sup>3</sup> ⑤ (may be absorbed through the skin)
KR	<b>1,2-Ethanediol</b> CAS No.: 107-21-1 EC No.: 203-473-3	③ 40 ppm (100 mg/m <sup>3</sup> ) ⑤ (## #(#) ##)



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IS	<b>1,2-Ethanediol</b> CAS No.: 107-21-1 EC No.: 203-473-3	① 10 ppm (26 mg/m <sup>3</sup> ) ② 40 ppm (104 mg/m <sup>3</sup> ) ⑤ (efnið getur auðveldlega borist inn í líkamann gegnum húð) H
IS	<b>1,2-Ethanediol</b> CAS No.: 107-21-1 EC No.: 203-473-3	① 10 ppm (26 mg/m <sup>3</sup> ) ⑤ (úðaefni, efnið getur auðveldlega borist inn í líkamann gegnum húð)
CN from 1 Jan 2007	<b>1,2-Ethanediol</b> CAS No.: 107-21-1 EC No.: 203-473-3	① 20 mg/m <sup>3</sup> ② 40 mg/m <sup>3</sup>
HU	<b>1,2-Ethanediol</b> CAS No.: 107-21-1 EC No.: 203-473-3	① 52 mg/m <sup>3</sup> ② 104 mg/m <sup>3</sup> ⑤ (felvehető a bőrön keresztül) b, i, N
RU	<b>1,2-Ethanediol</b> CAS No.: 107-21-1 EC No.: 203-473-3	① 5 mg/m <sup>3</sup> ③ 10 mg/m <sup>3</sup>
GR from 1 Oct 2016	<b>1,2-Ethanediol</b> CAS No.: 107-21-1 EC No.: 203-473-3	① 50 ppm (125 mg/m <sup>3</sup> ) ② 50 ppm (125 mg/m <sup>3</sup> )
NL from 1 Jan 2023	<b>1,2-Ethanediol</b> CAS No.: 107-21-1 EC No.: 203-473-3	① 20 ppm (52 mg/m <sup>3</sup> ) ② 40 ppm (104 mg/m <sup>3</sup> ) ⑤ (damp, kan door de huid in het lichaam worden opgenomen) H
ACGIH (US) from 1 Jan 2017	<b>1,2-Ethanediol</b> CAS No.: 107-21-1 EC No.: 203-473-3	② 10 mg/m <sup>3</sup> ⑤ (inhalable fraction Aerosol)
NL	<b>1,2-Ethanediol</b> CAS No.: 107-21-1 EC No.: 203-473-3	① 10 mg/m <sup>3</sup> ⑤ (deeltjes)
TR	<b>1,2-Ethanediol</b> CAS No.: 107-21-1 EC No.: 203-473-3	① 20 ppm (52 mg/m <sup>3</sup> ) ② 40 ppm (104 mg/m <sup>3</sup> ) ⑤ (cilt yoluyla alınabilir) Deri
ACGIH (US) from 1 Jan 2017	<b>1,2-Ethanediol</b> CAS No.: 107-21-1 EC No.: 203-473-3	① 25 ppm ② 50 ppm ⑤ (vapor)
Québec (CA)	<b>1,2-Ethanediol</b> CAS No.: 107-21-1 EC No.: 203-473-3	③ 50 ppm (127 mg/m <sup>3</sup> )

### 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
<b>1,2-Ethanediol</b> CAS No.: 107-21-1 EC No.: 203-473-3	35 mg/m <sup>3</sup>	① DNEL worker ② Long-term - inhalation, local effects
<b>1,2-Ethanediol</b> CAS No.: 107-21-1 EC No.: 203-473-3	106 mg/kg bw/day	① DNEL worker ② Long-term - dermal, systemic effects
<b>methyl-1H-benzotriazole</b> CAS No.: 29385-43-1 EC No.: 249-596-6	8.8 mg/m <sup>3</sup>	① DNEL worker ② Long-term - inhalation, systemic effects



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Substance name	DNEL value	① DNEL type ② Exposure route
<b>methyl-1H-benzotriazole</b> CAS No.: 29385-43-1 EC No.: 249-596-6	4.4 mg/m <sup>3</sup>	① DNEL Consumer ② Long-term - inhalation, systemic effects
<b>methyl-1H-benzotriazole</b> CAS No.: 29385-43-1 EC No.: 249-596-6	0.5 mg/kg bw/ day	① DNEL worker ② Long-term - dermal, systemic effects
<b>methyl-1H-benzotriazole</b> CAS No.: 29385-43-1 EC No.: 249-596-6	0.25 mg/kg bw/day	① DNEL Consumer ② Long-term - dermal, systemic effects
<b>methyl-1H-benzotriazole</b> CAS No.: 29385-43-1 EC No.: 249-596-6	0.25 mg/kg bw/day	① DNEL Consumer ② Long-term - oral, systemic effects
<b>methyl-1H-benzotriazole</b> CAS No.: 29385-43-1 EC No.: 249-596-6	0.25 mg/kg bw/day	① DNEL Consumer ② Acute - oral, systemic effects

Substance name	PNEC Value	① PNEC type
<b>1,2-Ethanediol</b> CAS No.: 107-21-1 EC No.: 203-473-3	10 mg/L	① PNEC aquatic, freshwater
<b>1,2-Ethanediol</b> CAS No.: 107-21-1 EC No.: 203-473-3	1 mg/L	① PNEC aquatic, marine water
<b>1,2-Ethanediol</b> CAS No.: 107-21-1 EC No.: 203-473-3	37 mg/kg	① PNEC sediment, freshwater
<b>1,2-Ethanediol</b> CAS No.: 107-21-1 EC No.: 203-473-3	3.7 mg/kg	① PNEC sediment, marine water
<b>1,2-Ethanediol</b> CAS No.: 107-21-1 EC No.: 203-473-3	1.53 mg/kg	① PNEC soil
<b>1,2-Ethanediol</b> CAS No.: 107-21-1 EC No.: 203-473-3	10 mg/L	① PNEC aquatic, intermittent release
<b>methyl-1H-benzotriazole</b> CAS No.: 29385-43-1 EC No.: 249-596-6	0.01 mg/L	① PNEC aquatic, freshwater
<b>methyl-1H-benzotriazole</b> CAS No.: 29385-43-1 EC No.: 249-596-6	39.4 mg/L	① PNEC sewage treatment plant
<b>methyl-1H-benzotriazole</b> CAS No.: 29385-43-1 EC No.: 249-596-6	0 mg/kg	① PNEC sediment, freshwater
<b>methyl-1H-benzotriazole</b> CAS No.: 29385-43-1 EC No.: 249-596-6	0 mg/kg	① PNEC sediment, marine water
<b>methyl-1H-benzotriazole</b> CAS No.: 29385-43-1 EC No.: 249-596-6	0 mg/kg	① PNEC soil
<b>methyl-1H-benzotriazole</b> CAS No.: 29385-43-1 EC No.: 249-596-6	0.01 mg/L	① PNEC soil, marine water

## 8.2. Exposure controls

### 8.2.1. Appropriate engineering controls

See section 7. No additional measures necessary.

### 8.2.2. Personal protection equipment





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**Eye/face protection:**

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

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

**Appearance**

**Physical state:** Liquid

**Colour:** pink

**Odour:** characteristic

**Safety relevant basis data**

Parameter	Value	at °C	① Method ② Remark
pH	8.7	20 °C	
Melting point	No data available		
Freezing point	No data available		
Initial boiling point and boiling range	197.4 °C		② Data apply to the main component. 1,2-Ethanediol
Flash point	111 °C		② Data apply to the main component. 1,2-Ethanediol
Evaporation rate	No data available		
Auto-ignition temperature	not applicable		
Upper/lower flammability or explosive limits	No data available		
Vapour pressure	No data available		
Vapour density	No data available		
Density	1,124.8 kg/m³	20 °C	
Bulk density	not applicable		
Water solubility	completely miscible		
Dynamic viscosity	No data available		
Kinematic viscosity	No data available		

**9.2. Other information**

Not applicable



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## 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

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

<b>1,2-Ethanediol</b> CAS No.: 107-21-1 EC No.: 203-473-3
<b>ATE (oral):</b> ≥536 mg/kg
<b>LD<sub>50</sub> oral:</b> ≥7,712 mg/kg (Rat)
<b>LD<sub>50</sub> dermal:</b> ≥3,500 mg/kg (Mouse)
<b>LC<sub>50</sub> Acute inhalation toxicity (vapour):</b> >2.5 mg/L 6 h (Rat)
<b>LC<sub>50</sub> Acute inhalation toxicity (dust/mist):</b> ≥2.5 mg/L 6 h (Rat)
<b>disodium sebacate</b> CAS No.: 17265-14-4 EC No.: 241-300-3
<b>LD<sub>50</sub> oral:</b> >5,000 mg/kg (rat) OECD Guideline 401 (Acute Oral Toxicity)
<b>LD<sub>50</sub> dermal:</b> >2,000 mg/kg (rat) OECD Guideline 402 (Acute Dermal Toxicity)
<b>methyl-1H-benzotriazole</b> CAS No.: 29385-43-1 EC No.: 249-596-6
<b>LD<sub>50</sub> oral:</b> >2,000 mg/kg (Rabbit)
<b>LD<sub>50</sub> dermal:</b> 720 mg/kg

#### Acute oral toxicity:

Harmful if swallowed.

#### 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:

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

#### 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:

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

#### Aspiration hazard:

Observe risk of aspiration if vomiting occurs.

For viscosity data, see section 9.



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**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.

**Other information:**

No data available.

**SECTION 12: Ecological information**

**12.1. Toxicity**

<b>1,2-Ethandiol</b> CAS No.: 107-21-1 EC No.: 203-473-3
<b>LC<sub>50</sub>:</b> ≥72,860 mg/L 4 d (fish)
<b>LC<sub>50</sub>:</b> 72,860 mg/L 4 d (Pimephales promelas)
<b>EC<sub>50</sub>:</b> ≥100 mg/L 2 d (crustaceans)
<b>EC<sub>50</sub>:</b> ≥3,536 - ≤13,000 mg/L 4 d (Algae/water plant)
<b>EC<sub>50</sub>:</b> >1,995 mg/L
<b>NOEC:</b> ≥15,380 - ≤32,000 mg/L 12 d (fish)
<b>NOEC:</b> ≥7,500 - ≤15,000 mg/L 21 d (crustaceans)
<b>NOEC:</b> ≥100 mg/L 3 d (Algae/water plant)
<b>disodium sebacate</b> CAS No.: 17265-14-4 EC No.: 241-300-3
<b>LC<sub>50</sub>:</b> >18 mg/L 4 d (fish, <i>Scophthalmus maximus</i> ) Paris Commission Guideline (PRACOM 2006): Protocols on Methods for the Testing of Chemicals Used in the Offshore Oil Industry. Part B: Protocol for a Fish Acute Toxicity Test.
<b>LC<sub>50</sub>:</b> 18 mg/L 2 d (crustaceans, <i>Acartia tonsa</i> ) ISO 14669-1999: Water quality - Determination of acute lethal toxicity to marine copepods (Copepoda, Crustacea)
<b>LC<sub>50</sub>:</b> >100 mg/L 4 d (fish, <i>Danio rerio</i> ) OECD 203
<b>EC<sub>50</sub>:</b> >100 mg/L 2 d (crustaceans, <i>Daphnia magna</i> ) OECD Guideline 202 ( <i>Daphnia</i> sp. Acute Immobilisation Test)
<b>EC<sub>50</sub>:</b> >100 mg/L 2 d (crustaceans, <i>Daphnia magna</i> ) OECD 202
<b>NOEC:</b> 10 mg/L 2 d (crustaceans, <i>Acartia tonsa</i> ) ISO 14669-1999: Water quality - Determination of acute lethal toxicity to marine copepods (Copepoda, Crustacea)
<b>NOEC:</b> 3 mg/L 3 d (Algae/water plant, <i>Skeletonema costatum</i> ) ISO 10253 (Water quality - Marine Algal Growth Inhibition Test with <i>Skeletonema costatum</i> and <i>Phaeodactylum tricornutum</i> )
<b>NOEC:</b> 3 mg/L 3 d (Algae/water plant, <i>Skeletonema costatum</i> )



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<b>methyl-1H-benzotriazole</b> CAS No.: 29385-43-1 EC No.: 249-596-6
<b>LC<sub>50</sub></b> : 25.5 mg/L 4 d (fish, Pimephales promelas (fathead minnow))
<b>LC<sub>50</sub></b> : 65 mg/L 4 d (fish, Zebrafisch)
<b>LC<sub>50</sub></b> : 55 mg/L 4 d (fish)
<b>LC<sub>50</sub></b> : >25.5 mg/L 4 d (fish)
<b>LC<sub>50</sub></b> : <25 mg/L 4 d (fish, Pimephales promelas (fathead minnow))
<b>LC<sub>50</sub></b> : 55 mg/L 4 d (fish, Cyprinodon variegatus) The test procedure is based on test guideline PARCOM 1995 Part B Protocol for a Fish Acute Toxicity Test (modified OECD 203 Fish Acute Toxicity Test)
<b>LC<sub>50</sub></b> : 55 mg/L 2 d (crustaceans, Acartia tonsa) ISO/CD 14669: "Determination of Acute Lethal Toxicity to Marine Copepads" and PARCOM Ring Test Protocol: "Acute Toxicity to the Marine Copepod Acartia tonsa."
<b>EC<sub>50</sub></b> : 87.4 mg/L 2 d (crustaceans, Wasserfloh)
<b>EC<sub>50</sub></b> : 62 mg/L 3 d (Algae/water plant, Grünalgen)
<b>EC<sub>50</sub></b> : 53 mg/L 3 d (Algae/water plant, Skeletonema costatum) ISO 10253 (Water quality - Marine Algal Growth Inhibition Test with Skeletonema costatum and Phaeodactylum tricornutum)
<b>NOEC</b> : 18.4 mg/L 21 d (crustaceans, Wasserfloh)
<b>NOEC</b> : 30 mg/L 3 d (Algae/water plant, Skeletonema costatum) ISO 10253 (Water quality - Marine Algal Growth Inhibition Test with Skeletonema costatum and Phaeodactylum tricornutum)
<b>NOEC</b> : 30 mg/L 4 d (fish, Cyprinodon variegatus) The test procedure is based on test guideline PARCOM 1995 Part B Protocol for a Fish Acute Toxicity Test (modified OECD 203 Fish Acute Toxicity Test)
<b>NOEC</b> : 30 mg/L 2 d (crustaceans, Acartia tonsa) ISO/CD 14669: "Determination of Acute Lethal Toxicity to Marine Copepads" and PARCOM Ring Test Protocol: "Acute Toxicity to the Marine Copepod Acartia tonsa."
<b>NOEC</b> : 18.4 mg/L 21 d (crustaceans, Daphnia magna) "Daphnia Reproduction Test" of OECD Guideline 202, Part II (Draft 7/1993)
<b>LOEC</b> : 37.6 mg/L 21 d (crustaceans, Daphnia magna) "Daphnia Reproduction Test" of OECD Guideline 202, Part II (Draft 7/1993)

**Assessment/classification:**

The substance/mixture does not fulfill the criteria of the acute aquatic toxicity according to Regulation (EC) No 1272/2008 [CLP], Annex I.

**Additional ecotoxicological information:**

Do not allow uncontrolled discharge of product into the environment.

**12.2. Persistence and degradability**

<b>1,2-Ethandiol</b> CAS No.: 107-21-1 EC No.: 203-473-3
<b>Biodegradation:</b> Yes, rapidly
<b>disodium sebacate</b> CAS No.: 17265-14-4 EC No.: 241-300-3
<b>Biodegradation:</b> Yes, rapidly

**Biodegradation:**

Readily biodegradable. The information about ecology refers to the main components.

**12.3. Bioaccumulative potential**

<b>1,2-Ethandiol</b> CAS No.: 107-21-1 EC No.: 203-473-3
<b>Log K<sub>ow</sub></b> : = -1.36
<b>disodium sebacate</b> CAS No.: 17265-14-4 EC No.: 241-300-3
<b>Log K<sub>ow</sub></b> : -4.9
<b>methyl-1H-benzotriazole</b> CAS No.: 29385-43-1 EC No.: 249-596-6
<b>Log K<sub>ow</sub></b> : ≤ 1.71

**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**

<b>1,2-Ethandiol</b> CAS No.: 107-21-1 EC No.: 203-473-3
<b>Results of PBT and vPvB assessment:</b> This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.
<b>disodium sebacate</b> CAS No.: 17265-14-4 EC No.: 241-300-3
<b>Results of PBT and vPvB assessment:</b> This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.



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**methyl-1H-benzotriazole** CAS No.: 29385-43-1 EC No.: 249-596-6

**Results of PBT and vPvB assessment:** 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**

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**

Land transport (ADR/RID)	Inland waterway craft (ADN)	Sea transport (IMDG)	Air transport (ICAO-TI / IATA-DGR)
<b>14.1. UN number or ID number</b>			
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.
<b>14.2. UN proper shipping name</b>			
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.
<b>14.3. Transport hazard class(es)</b>			
not relevant	not relevant	not relevant	not relevant
<b>14.4. Packing group</b>			
not relevant	not relevant	not relevant	not relevant
<b>14.5. Environmental hazards</b>			
not relevant	not relevant	not relevant	not relevant
<b>14.6. Special precautions for user</b>			
not relevant	not relevant	not relevant	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):**

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 juveniles according to the 'juvenile work protection guideline' (94/33/EC).



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Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

**Störfallverordnung (12. BlmschV)**

**for substances contained in the product:**

This product is not assigned to a hazard category.

**Water hazard class**

**WGK:**

1 - slightly hazardous to water

**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 (DGUV-Vorschriften)**

Berufsgenossenschaftliche Informationen (DGUV-Informationen) 868  
 Berufsgenossenschaftliche Regeln (DGUV-Regeln) 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**

**16.1. Indication of changes**

Not applicable

**16.2. Abbreviations and acronyms**

See overview table at [www.euphrac.eu](http://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**

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)

Substance name	Type	source of supply
<b>1,2-Ethanediol</b> CAS No.: 107-21-1 EC No.: 203-473-3	Classification of the substance or mixture	Source: European Chemicals Agency, <a href="http://echa.europa.eu/">http://echa.europa.eu/</a>
<b>disodium sebacate</b> CAS No.: 17265-14-4 EC No.: 241-300-3	LD <sub>50</sub> oral; LD <sub>50</sub> dermal; LC <sub>50</sub> ; EC <sub>50</sub> ; NOEC	Source: European Chemicals Agency, <a href="http://echa.europa.eu/">http://echa.europa.eu/</a>
<b>methyl-1H-benzotriazole</b> CAS No.: 29385-43-1 EC No.: 249-596-6	LC <sub>50</sub> ; EC <sub>50</sub> ; NOEC; LOEC	Source: European Chemicals Agency, <a href="http://echa.europa.eu/">http://echa.europa.eu/</a>

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

Hazard classes and hazard categories	Hazard statements	Classification procedure
Acute toxicity (oral) ( <i>Acute Tox. 4</i> )	H302: Harmful if swallowed.	Calculation method.
STOT-repeated exposure ( <i>STOT RE 2</i> )	H373: May cause damage to organs through prolonged or repeated exposure.	Calculation method.



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### 16.5. List of relevant hazard statements and/or precautionary statements from sections 2 to 15

Hazard statements	
H302	Harmful if swallowed.
H319	Causes serious eye irritation.
H361d	Suspected of damaging the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.
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.