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 Racing Brake Fluid R 340+

Article No.:
1350616

UFI:
TGK3-RXTG-1CNQ-PVQA

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

Use of the substance/mixture:
Bremsflüssigkeit

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: +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
Serious eye damage/eye irritation *(Eye Dam. 1)*	H318: Causes serious eye damage.	Calculation method.
Reproductive toxicity *(Repr. 2)*	H361fd: Suspected of damaging fertility. Suspected of damaging the unborn child.	Calculation method.

2.2. Label elements

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

Hazard pictograms:

GHS05
Corrosion

GHS08
Health hazard

Signal word: Danger

Hazard components for labelling:
tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate; n-Octylamine, ethoxylated

Hazard statements for health hazards	
H318	Causes serious eye damage.
H361fd	Suspected of damaging fertility. Suspected of damaging the unborn child.

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	
P201	Obtain special instructions before use.
P280	Wear protective gloves and eye protection/face protection.

Precautionary statements Response	
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308	IF exposed or concerned:
P310	Immediately call a POISON CENTER/doctor/Emergency telephone number.

Precautionary statements Storage	
P405	Store locked up.

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.: 30989-05-0 EC No.: 250-418-4 REACH No.: 01-2119462824-33	**tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate** Repr. 2 (H361fd) Warning **Acute Toxicity Estimate** ATE (oral) > 2,000 mg/kg ATE (dermal) > 2,000 mg/kg	90 – < 100 weight-%
CAS No.: 31727-16-9 EC No.: 875-678-1	**n-Octylamine, ethoxylated** Acute Tox. 4 (H302), Eye Dam. 1 (H318), Skin Irrit. 2 (H315) Danger **Acute Toxicity Estimate** ATE (oral) > 300 – 2,000 mg/kg	3 – < 5 weight-%
CAS No.: 6674-22-2 EC No.: 229-713-7 REACH No.: 01-2119977097-24-XXXX	**1,8-diazabicyclo[5.4.0]undec-7-ene** Acute Tox. 3 (H301), Eye Dam. 1 (H318), Skin Corr. 1B (H314) Danger **Acute Toxicity Estimate** ATE (oral) > 215 – < 681 mg/kg	0.1 – < 1 weight-%
CAS No.: 128-37-0 EC No.: 204-881-4 REACH No.: 01-2119565113-46-XXXX	**2,6-di-tert-butyl-p-cresol** Aquatic Acute 1 (H400), Aquatic Chronic 1 (H410) Warning **Acute Toxicity Estimate** ATE (oral) > 2,930 mg/kg ATE (dermal) > 2,000 mg/kg	0.1 – < 0.25 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:
Take off immediately all contaminated clothing.

Following inhalation:
In case of respiratory tract irritation, consult a physician. Provide fresh air.

In case of skin contact:
After contact with skin, wash immediately with plenty of water and soap.
Frequently or prolonged contact with skin may cause dermal irritation.

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.
Causes serious eye damage.

Following ingestion:
Seek medical advice immediately.

Self-protection of the first aider:
First aider: Pay attention to self-protection!

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

Suspected of damaging fertility. Suspected of damaging the unborn child.
Causes serious eye damage.

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

No information available.

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.

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

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

5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus. Wear eye protection/face protection.

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:
Special danger of slipping by leaking/spilling product.
Avoid contact with skin, eyes and clothes.

Protective equipment:
Wear personal protection equipment (refer to section 8).

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

6.1.2. For emergency responders

Personal protection equipment:
Wear personal protection equipment (refer to section 8).

6.2. Environmental precautions
Avoid release to the environment.
Clear spills immediately.
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 (sand, diatomaceous earth, acid- or universal binding agents).
For cleaning up:
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.

SECTION 7: Handling and storage

7.1. Precautions for safe handling
Protective measures
Advices on safe handling:
Provide adequate ventilation.
Avoid contact with skin, eyes and clothes. Do not breathe mist/vapours/spray.
Wear personal protection equipment (refer to 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.
Measures to prevent aerosol and dust generation:
Use only in well-ventilated areas. If local exhaust ventilation is not possible or not sufficient, the entire working area should be ventilated by technical means.
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.

7.2. Conditions for safe storage, including any incompatibilities
Technical measures and storage conditions:
Keep/Store only in original container. Keep container tightly closed. Protect from moisture.
Requirements for storage rooms and vessels:
Keep/Store only in original container. Keep container tightly closed. Protect from moisture. Store in a well-ventilated place.
Hints on storage assembly:
not required
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 container tightly closed.

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)	**2,6-di-tert-butyl-p-cresol** CAS No.: 128-37-0 EC No.: 204-881-4	① 10 mg/m³
WEL (GB)	**2,6-di-tert-butyl-p-cresol** CAS No.: 128-37-0 EC No.: 204-881-4	① 10 mg/m³
BE from 21 Jan 2020	**2,6-di-tert-butyl-p-cresol** CAS No.: 128-37-0 EC No.: 204-881-4	① 2 mg/m³ ⑤ (vapeur et Aérosol)
IE from 21 Aug 2018	**2,6-di-tert-butyl-p-cresol** CAS No.: 128-37-0 EC No.: 204-881-4	① 2 mg/m³
MY from 1 Jan 2000	**2,6-di-tert-butyl-p-cresol** CAS No.: 128-37-0 EC No.: 204-881-4	① 10 mg/m³
HTP (FI)	**2,6-di-tert-butyl-p-cresol** CAS No.: 128-37-0 EC No.: 204-881-4	① 10 mg/m³ ② 20 mg/m³
MAK (AT)	**2,6-di-tert-butyl-p-cresol** CAS No.: 128-37-0 EC No.: 204-881-4	① 10 mg/m³
CH from 1 Jan 2025	**2,6-di-tert-butyl-p-cresol** CAS No.: 128-37-0 EC No.: 204-881-4	① 10 mg/m³ ② 40 mg/m³ ⑤ (einatembare Fraktion; Dampf und Aerosol; krebserzeugend) C1#B SSC
BG	**2,6-di-tert-butyl-p-cresol** CAS No.: 128-37-0 EC No.: 204-881-4	① 10 mg/m³ ② 50 mg/m³
HR	**2,6-di-tert-butyl-p-cresol** CAS No.: 128-37-0 EC No.: 204-881-4	① 10 mg/m³
DK from 13 Feb 2021	**2,6-di-tert-butyl-p-cresol** CAS No.: 128-37-0 EC No.: 204-881-4	① 10 mg/m³ ② 20 mg/m³
Alberta (CA)	**2,6-di-tert-butyl-p-cresol** CAS No.: 128-37-0 EC No.: 204-881-4	① 10 mg/m³ ⑤ 3
TRGS 900 (DE) from 1 Jul 2012	**2,6-di-tert-butyl-p-cresol** CAS No.: 128-37-0 EC No.: 204-881-4	① 10 mg/m³ ② 40 mg/m³ ⑤ (Aerosol und Dampf, einatembare Fraktion) DFG, Y, 11
BC (CA)	**2,6-di-tert-butyl-p-cresol** CAS No.: 128-37-0 EC No.: 204-881-4	① 2 mg/m³ ⑤ (inhalable fraction and vapor) V
SI from 4 Dec 2018	**2,6-di-tert-butyl-p-cresol** CAS No.: 128-37-0 EC No.: 204-881-4	① 10 mg/m³ ② 40 mg/m³ ⑤ (frakcija ki jo je mogoče vdihniti) Y
KR	**2,6-di-tert-butyl-p-cresol** CAS No.: 128-37-0 EC No.: 204-881-4	① 2 mg/m³
IS	**2,6-di-tert-butyl-p-cresol** CAS No.: 128-37-0 EC No.: 204-881-4	① 10 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 from 1 Oct 2016	**2,6-di-tert-butyl-p-cresol** CAS No.: 128-37-0 EC No.: 204-881-4	① 10 mg/m³
ES	**2,6-di-tert-butyl-p-cresol** CAS No.: 128-37-0 EC No.: 204-881-4	① 10 mg/m³
CSV (JP) from 1 Apr 2024	**2,6-di-tert-butyl-p-cresol** CAS No.: 128-37-0 EC No.: 204-881-4	① 10 mg/m³
PL from 5 Apr 2025	**2,6-di-tert-butyl-p-cresol** CAS No.: 128-37-0 EC No.: 204-881-4	① 10 mg/m³
NIOSH (US)	**2,6-di-tert-butyl-p-cresol** CAS No.: 128-37-0 EC No.: 204-881-4	① 10 mg/m³
ACGIH (US)	**2,6-di-tert-butyl-p-cresol** CAS No.: 128-37-0 EC No.: 204-881-4	① 2 mg/m³ ⑤ (inhalable fraction and vapor)
Québec (CA) from 1 Apr 2022	**2,6-di-tert-butyl-p-cresol** CAS No.: 128-37-0 EC No.: 204-881-4	① 2 mg/m³ ⑤ (inhalable fraction and vapor)

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
tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate CAS No.: 30989-05-0 EC No.: 250-418-4	29.1 mg/m³	① DNEL worker ② Long-term – inhalation, systemic effects
tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate CAS No.: 30989-05-0 EC No.: 250-418-4	7.2 mg/m³	① DNEL Consumer ② Long-term – inhalation, systemic effects
tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate CAS No.: 30989-05-0 EC No.: 250-418-4	8.3 mg/kg bw/day	① DNEL worker ② Long-term - dermal, systemic effects
tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate CAS No.: 30989-05-0 EC No.: 250-418-4	4.1 mg/kg bw/day	① DNEL Consumer ② Long-term - dermal, systemic effects

Substance name	PNEC Value	① PNEC type
tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate CAS No.: 30989-05-0 EC No.: 250-418-4	211.2 µg/L	① PNEC aquatic, freshwater
tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate CAS No.: 30989-05-0 EC No.: 250-418-4	21.12 µg/L	① PNEC aquatic, marine water

Substance name	PNEC Value	① PNEC type
tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate CAS No.: 30989-05-0 EC No.: 250-418-4	100 mg/L	① PNEC sewage treatment plant
tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate CAS No.: 30989-05-0 EC No.: 250-418-4	0.76 mg/kg bw/day	① PNEC sediment, freshwater
tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate CAS No.: 30989-05-0 EC No.: 250-418-4	0.076 mg/kg bw/day	① PNEC sediment, marine water

8.2. Exposure controls

8.2.1. Appropriate engineering controls

If local exhaust ventilation is not possible or not sufficient, the entire working area should be ventilated by technical means.

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)
Thickness of the glove material: ≥ 0,4 mm
Breakthrough time: 30 min

Suitable material: Butyl caoutchouc (butyl rubber)
Thickness of the glove material: ≥ 0,7 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:

Avoid breathing dust/fume/gas/mist/vapours/spray. Provide adequate ventilation.
If technical exhaust or ventilation measures are not possible or insufficient, respiratory protection must be worn.
Combination filtering device EN 14387

Other protection measures:

Do not put any product-impregnated cleaning rags into your trouser pockets.
Wear personal protection equipment (refer to section 8).
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 **Form:** Liquid

Colour: light yellow **Odour:** characteristic
flammability: Yes

Safety relevant basis data

Parameter	Value	at °C	① Method ② Remark
pH	7 – 8	25 °C	② 50 %
Melting point	*No data available*		
Freezing point	< -70 °C		
Initial boiling point and boiling range	333 °C		① ASTM D1120
Decomposition temperature	357 °C		① DSC/DTA
Flash point	153 °C		
Evaporation rate	*No data available*		
Auto-ignition temperature	*No data available*		
Upper/lower flammability or explosive limits	*No data available*		
Vapour pressure	< 10 hPa	20 °C	
Vapour density	*No data available*		
Density	1.08 g/cm³	20 °C	
Bulk density	*not applicable*		
Water solubility	miscible		
Partition coefficient: n-octanol/water	*not applicable*		
Dynamic viscosity	*No data available*		
Kinematic viscosity	20.9 mm²/s	20 °C	
Kinematic viscosity	2.8 mm²/s	100 °C	

9.2. Other information
Not applicable

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 data available

10.4. Conditions to avoid
No special measures are necessary.
To avoid thermal decomposition do not overheat.

10.5. Incompatible materials
Materials to avoid: Oxidising agent, strong

10.6. Hazardous decomposition products
Hazardous combustion products: Carbon dioxide, Carbon monoxide, Nitrogen oxides (NOx)

SECTION 11: Toxicological information

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

Toxicological information

Acute Toxicity Estimate for Mixtures
ATE (oral): >2,000 mg/kg Rechenmethode
tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate CAS No.: 30989-05-0 EC No.: 250-418-4
LD_{50} oral: >2,000 mg/kg (Rat)
LD_{50} dermal: >2,000 mg/kg (Rat)
n-Octylamine, ethoxylated CAS No.: 31727-16-9 EC No.: 875-678-1
LD_{50} oral: >300 – 2,000 mg/kg (Ratte) OECD Prüfrichtlinie 401

1,8-diazabicyclo[5.4.0]undec-7-ene	CAS No.: 6674-22-2 EC No.: 229-713-7
LD_{50} oral: >215 – <681 mg/kg (rat) OECD Guideline 401 (Acute Oral Toxicity)	
2,6-di-tert-butyl-p-cresol	CAS No.: 128-37-0 EC No.: 204-881-4
LD_{50} oral: >2,930 mg/kg (rat) OECD Guideline 401 (Acute Oral Toxicity)	
LD_{50} dermal: >2,000 mg/kg (rat) OECD Guideline 402 (Acute Dermal Toxicity)	

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:
Causes serious eye damage.

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:
Suspected of damaging fertility. Suspected of damaging the unborn child.

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

Additional information:
No data available

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

tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate	CAS No.: 30989-05-0 EC No.: 250-418-4
LC_{50}: >222.2 mg/L 4 d (fish, Oncorhynchus mykiss (previous name: Salmo gairdneri))	
EC_{50}: >224.4 mg/L 3 d (Algae/water plant, Raphidocelis subcapitata (new name: Pseudokirchneriella subcapitata))	
EC_{50}: >211.2 mg/L 2 d (crustaceans, Daphnia magna) OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)	
NOEC: 224.4 mg/L 3 d (Algae/water plant, Raphidocelis subcapitata (new name: Pseudokirchneriella subcapitata))	
NOEC: <211.2 mg/L 1 d (crustaceans, Daphnia magna) OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)	
NOEC: <211.2 mg/L 2 d (crustaceans, Daphnia magna) OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)	
n-Octylamine, ethoxylated	CAS No.: 31727-16-9 EC No.: 875-678-1
LC_{50}: 22 – 50 mg/L 4 d (fish, Danio rerio (Zebrabärbling)) OECD Prüfrichtlinie 203	
EC_{50}: 328 mg/L (Algae/water plant, Mikroorganismen) OECD- Prüfrichtlinie 209	

1,8-diazabicyclo[5.4.0]undec-7-ene CAS No.: 6674-22-2 EC No.: 229-713-7
LC_{50}: >100 – <220 mg/L 4 d (fish, Leuciscus idus) other: German Industrial Standard DIN 38412, part 15
EC_{50}: >100 mg/L 3 d (Algae/water plant, Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)) other: EEC guideline 79/831/EEC, Annex V, Part C
EC_{50}: 50 mg/L 2 d (crustaceans, Daphnia magna) other: EC Directive 79/831/EEC, Annex V, Part C
NOEC: >100 mg/L 3 d (Algae/water plant, Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)) other: EEC guideline 79/831/EEC, Annex V, Part C
NOEC: 100 mg/L 4 d (fish, Leuciscus idus) other: German Industrial Standard DIN 38412, part 15
NOEC: ≥12 mg/L 21 d (crustaceans, Daphnia magna) OECD Guideline 211 (Daphnia magna Reproduction Test)
LOEC: >12 mg/L 21 d (crustaceans, Daphnia magna) OECD Guideline 211 (Daphnia magna Reproduction Test)
2,6-di-tert-butyl-p-cresol CAS No.: 128-37-0 EC No.: 204-881-4
LC_{50}: >0.57 mg/L 4 d (fish, Danio rerio (previous name: Brachydanio rerio)) EU Method C.1 (Acute Toxicity for Fish)
EC_{50}: >0.4 mg/L 3 d (Algae/water plant, Desmodesmus subspicatus (previous name: Scenedesmus subspicatus)) EU Method C.3 (Algal Inhibition test)
EC_{50}: 1.38 mg/L 4 d (fish, Danio rerio (previous name: Brachydanio rerio)) OECD Guideline 236 (Fish embryo acute toxicity (FET) test)
EC_{50}: 0.48 mg/L 2 d (crustaceans, Daphnia magna) OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
NOEC: 1 mg/L 3 d (Algae/water plant) OECD Guideline 201 (Alga, Growth Inhibition Test)
NOEC: 0.15 mg/L 2 d (crustaceans, Daphnia magna) OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
LOEC: 0.218 mg/L 21 d (crustaceans, Daphnia magna) OECD Guideline 211 (Daphnia magna Reproduction Test)

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

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

12.2. Persistence and degradability

tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate CAS No.: 30989-05-0 EC No.: 250-418-4
Biodegradation: Yes, rapidly

Additional information:
The product has not been tested.

12.3. Bioaccumulative potential

tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate CAS No.: 30989-05-0 EC No.: 250-418-4
Log K_{OW}: < 3
1,8-diazabicyclo[5.4.0]undec-7-ene CAS No.: 6674-22-2 EC No.: 229-713-7
Log K_{OW}: 2.7
Bioconcentration factor (BCF): ≤ 3.6
2,6-di-tert-butyl-p-cresol CAS No.: 128-37-0 EC No.: 204-881-4
Log K_{OW}: 6.2
Bioconcentration factor (BCF): 1,277 mL

Partition coefficient: n-octanol/water:
not applicable

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

tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate CAS No.: 30989-05-0 EC No.: 250-418-4
Results of PBT and vPvB assessment: This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.
n-Octylamine, ethoxylated CAS No.: 31727-16-9 EC No.: 875-678-1
Results of PBT and vPvB assessment: —
1,8-diazabicyclo[5.4.0]undec-7-ene CAS No.: 6674-22-2 EC No.: 229-713-7
Results of PBT and vPvB assessment: This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.
2,6-di-tert-butyl-p-cresol CAS No.: 128-37-0 EC No.: 204-881-4
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.

13.1.1. Product/Packaging disposal

Waste codes/waste designations according to EWC/AVV
Directive 2008/98/EC (Waste Framework Directive)

HP 10	Toxic for reproduction

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)
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	not relevant	not relevant	not relevant
14.4. Packing group			
not relevant	not relevant	not relevant	not relevant
14.5. Environmental hazards			
not relevant	not relevant	not relevant	not relevant
14.6. Special precautions for user			
not relevant	not relevant	not relevant	not relevant

14.7. Maritime transport in bulk according to IMO instruments
Transport in bulk according to Annex II of Marpol and the 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
Restrictions on use:
Use restriction according to REACH annex XVII, no.: 3, 75

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

15.1.2. National regulations

[DE] National regulations

Restrictions of occupation

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

Störfallverordnung (12. BImschV)

for substances contained in the product:

This product is not assigned to a hazard category.

Technische Anleitung zur Reinhaltung der Luft (TA-Luft)

Remark:

To follow: 5.2.5

Water hazard class

WGK:

1 - slightly hazardous to water

Source:

Self-classification (mixture; calculation rule).

Technische Regeln für Gefahrstoffe

TRGS 510

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

[SK] National regulations

Other regulations, restrictions and prohibition regulations

Zákon č. 67/2010 Z.z., o podmienkach uvedenia chemických látok a chemických zmesí na trh a o zmene a doplnení niektorých zákonov (chemický zákon).

Zákon č. 124/2006 Z. z. o bezpečnosti a ochrane zdravia pri práci a o zmene a doplnení niektorých zákonov.

Zákon NR SR č. 355/2007 Z.z., o ochrane, podpore a rozvoji verejného zdravia a o zmene a doplnení niektorých zákonov, v znení neskorších predpisov.

Nariadenie vlády SR 471/2011 Z.z., ktorým sa mení nariadenie vlády Slovenskej republiky č. 355/2006 Z. z. o ochrane zamestnancov pred rizikami súvisiacimi s expozíciou chemickým faktorom pri práci, Príloha č.1.

Zákon č. 79/2015 Z.z. o odpadoch v znení neskorších predpisov.

Vyhláška MV SR č. 96/2004 Z.z., ktorou sa ustanovujú zásady protipožiarnej bezpečnosti pri manipulácii a skladovaní horľavých kvapalín, ťažkých vykurovacích olejov a rastlinných a živočíšnych tukov a olejov.

Zákon NR SR č. 137/2010 Z.z. o ovzduší v znení neskorších predpisov.

Zákon č. 319/2013 Z.z. o pôsobnosti orgánov štátnej správy pre sprístupňovanie biocídnych výrobkov na trh a ich používanie a o zmene a doplnení niektorých zákonov (biocídny zákon).

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.

SECTION 16: Other information

16.1. Indication of changes

Not applicable

16.2. Abbreviations and acronyms

ACGIH	American Conference of Governmental Industrial Hygienists
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ASTM	American Society for Testing and Materials
BCF	Bioconcentration Factor
CAS	Chemical Abstracts Service
CLP	Classification, Labelling and Packaging
DIN	German Institute for Standardization / German Industrial Standard
DNEL	derived no-effect level

EC_{50}	Effective Concentration 50%
EN	European Standard
ES	Exposure scenario
EWC	European Waste Catalogue
IBC	Intermediate Bulk Container
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods
IMO	International Maritime Organization
ISO	International Standards Organisation
KG	body weight
LC_{50}	Lethal (fatal) Concentration 50%
LD_{50}	Lethal (fatal) Dose 50%
MAK	Maximum concentration in the workplace air (CH)
NFPA	National Fire Protection Association
NIOSH	National Institute for Occupational Safety & Health
NOEC	No Observed Effect Concentration
OECD	Organisation for Economic Cooperation and Development
PBT	persistent and bioaccumulative and toxic
PNEC	Predicted No Effect Concentration
REACH	Registration, Evaluation and Authorization of Chemicals
RID	Dangerous goods regulations for transport by rail
TRGS	Technische Regeln für Gefahrstoffe
UN	United Nations

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

16.3. Key literature references and sources for data

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
1,8-diazabicyclo[5.4.0]undec-7-ene CAS No.: 6674-22-2 EC No.: 229-713-7	LD_{50} oral; LC_{50}; EC_{50}; NOEC; LOEC	Source: European Chemicals Agency, http://echa.europa.eu/
2,6-di-tert-butyl-p-cresol CAS No.: 128-37-0 EC No.: 204-881-4	LD_{50} oral; LD_{50} dermal; LC_{50}; EC_{50}; NOEC; LOEC	Source: European Chemicals Agency, http://echa.europa.eu/
tris[2-[2-(2-methoxyethoxy)ethoxy]ethyl] orthoborate CAS No.: 30989-05-0 EC No.: 250-418-4	LC_{50}; EC_{50}; NOEC	Source: European Chemicals Agency, http://echa.europa.eu/

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
Serious eye damage/eye irritation *(Eye Dam. 1)*	H318: Causes serious eye damage.	Calculation method.
Reproductive toxicity *(Repr. 2)*	H361fd: Suspected of damaging fertility. Suspected of damaging the unborn child.	Calculation method.

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

Hazard statements	
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H361fd	Suspected of damaging fertility. Suspected of damaging the unborn child.
H400	Very toxic to aquatic life.
H410	Very 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.