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 EFE Extra Fuel Economy SAE 0W-16

Article No.:
1111103

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

Use of the substance/mixture:
Lubricant

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
Hazardous to the aquatic environment *(Aquatic Chronic 3)*	H412: Harmful to aquatic life with long lasting effects.	Calculation method.

* ### 2.2. Label elements

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

Hazard components for labelling:
Phenol, dodecyl-, branched; diphenylamine

Hazard statements for environmental hazards	
H412	Harmful to aquatic life with long lasting effects.

Supplemental hazard information: none

Precautionary statements Prevention	
P273	Avoid release to the environment.

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.: 68037-01-4 EC No.: 500-183-1 REACH No.: 01-2119486452-34	**1-decene, homopolymer, hydrogenated** Asp. Tox. 1 (H304) Danger **Acute Toxicity Estimate** ATE (oral) > 5,000 mg/kg ATE (dermal) > 2,000 mg/kg ATE (inhalation, dust/mist) > 5 mg/L	50 – < 60 weight-%
CAS No.: 4259-15-8 EC No.: 224-235-5 REACH No.: 01-2119493635-27	**zinc bis[O,O-bis(2-ethylhexyl)] bis(dithiophosphate)** Aquatic Chronic 2 (H411), Eye Dam. 1 (H318) Danger **Acute Toxicity Estimate** ATE (oral) 3,100 mg/kg ATE (dermal) > 5,000 mg/kg	0 – < 0.9 weight-%
CAS No.: 122-39-4 EC No.: 204-539-4 Index No.: 612-026-00-5 REACH No.: 01-2119488966-13	**diphenylamine** Acute Tox. 3 (H331, H311, H301), Aquatic Acute 1 (H400), Aquatic Chronic 1 (H410), STOT RE 2 (H373**) Danger **Acute Toxicity Estimate** ATE (oral) 1,120 mg/kg ATE (dermal) 300 mg/kg ATE (inhalation, vapour) 3 mg/L ATE (inhalation, dust/mist) 0.5 mg/L	0 – < 0.09 weight-%
CAS No.: 121158-58-5 EC No.: 310-154-3 Index No.: 604-092-00-9 REACH No.: 01-2119513207-49	**Phenol, dodecyl-, branched** *Candidate List of Substances of Very High Concern for Authorisation!* Aquatic Acute 1 (H400), Aquatic Chronic 1 (H410), Eye Dam. 1 (H318), Repr. 1B (H360F), Skin Corr. 1C (H314) Danger M-factor (acute): 10 M-factor (chronic): 10 **Acute Toxicity Estimate** ATE (oral) 2,100 – 2,200 mg/kg **Additional information:** This substance has endocrine disrupting properties with respect to humans. This substance has endocrine disrupting properties with respect to non-target organisms.	0 – < 0.03 weight-%
CAS No.: 91-20-3 EC No.: 202-049-5 Index No.: 601-052-00-2	**naphthalene** Acute Tox. 4 (H302), Aquatic Acute 1 (H400), Aquatic Chronic 1 (H410), Carc. 2 (H351) Warning **Acute Toxicity Estimate** ATE (oral) > 2,000 mg/kg ATE (dermal) > 2,500 mg/kg ATE (inhalation, vapour) > 0.34 mg/L ATE (inhalation, dust/mist) > 0.4 mg/L	0 – < 0.001 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:
Provide fresh air. Consult a doctor immediately.

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

After eye contact:
In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.

Following ingestion:
Rinse mouth thoroughly with water. Do NOT induce vomiting. Consult a doctor immediately.

Self-protection of the first aider:
Use personal protection equipment. No direct artificial respiration to be given by first aider.

4.2. Most important symptoms and effects, both acute and delayed
No known symptoms to date.

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

SECTION 5: Firefighting measures

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

Unsuitable extinguishing media:
Full water jet

5.2. Special hazards arising from the substance or mixture
During heating or in case of fire, toxic gases is possible.
The formation of combustible vapours is possible at temperatures above: Flash point

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

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

5.4. Additional information
Do not inhale explosion and combustion gases. Move undamaged containers from immediate hazard area if it can be done safely. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures
6.1.1. For non-emergency personnel
Personal precautions:
Use personal protection equipment. Special danger of slipping by leaking/spilling product.

Protective equipment:
Personal protection equipment: see section 8

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 personal protection equipment.

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

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

For cleaning up:
Remove from the water surface (e.g. skimming, sucking). Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

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

6.4. Reference to other sections
Safe handling: see section 7
Disposal: see section 13
Personal protection equipment: see section 8

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

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Protective measures

Advices on safe handling:
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.

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

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

7.2. Conditions for safe storage, including any incompatibilities

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

Requirements for storage rooms and vessels:
Suitable container/equipment material: Floors should be impervious, resistant to liquids and easy to clean. Shafts and sewers must be protected from entry of the product.
Keep/Store only in original container.

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:
Store in a cool dry place. Keep away from heat.

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
DFG (DE) from 10 Oct 2023	**zinc bis[O,O-bis(2-ethylhexyl)] bis(dithiophosphate)** CAS No.: 4259-15-8 EC No.: 224-235-5	① 0.1 mg/m³ ② 0.4 mg/m³ ⑤ (Verbindungen, anorganisch; alveolengängige Fraktion)
DFG (DE) from 10 Oct 2023	**zinc bis[O,O-bis(2-ethylhexyl)] bis(dithiophosphate)** CAS No.: 4259-15-8 EC No.: 224-235-5	① 2 mg/m³ ② 4 mg/m³ ⑤ (Verbindungen, anorganisch; einatembare Fraktion)
CH from 1 Jan 2024	**diphenylamine** CAS No.: 122-39-4 EC No.: 204-539-4	① 10 mg/m³ ⑤ (einatembare Fraktion; Dampf und Aerosol; kann über die Haut aufgenommen werden) H SSC; Messmeth: NIOSH OSHA
BE	**diphenylamine** CAS No.: 122-39-4 EC No.: 204-539-4	① 10 mg/m³
CZ from 1 Mar 2020	**diphenylamine** CAS No.: 122-39-4 EC No.: 204-539-4	① 10 mg/m³ ② 20 mg/m³ ⑤ (může pronikat pokožkou) D
NO	**diphenylamine** CAS No.: 122-39-4 EC No.: 204-539-4	① 5 mg/m³
IE	**diphenylamine** CAS No.: 122-39-4 EC No.: 204-539-4	① 10 mg/m³ ② 20 mg/m³
MY from 1 Jan 2000	**diphenylamine** CAS No.: 122-39-4 EC No.: 204-539-4	① 10 mg/m³
HTP (FI)	**diphenylamine** CAS No.: 122-39-4 EC No.: 204-539-4	① 5 mg/m³ ② 10 mg/m³
LT	**diphenylamine** CAS No.: 122-39-4 EC No.: 204-539-4	① 4 mg/m³ ② 12 mg/m³ ⑤
SE	**diphenylamine** CAS No.: 122-39-4 EC No.: 204-539-4	① 4 mg/m³ ③ 12 mg/m³
MAK (AT)	**diphenylamine** CAS No.: 122-39-4 EC No.: 204-539-4	① 0.7 ppm (5 mg/m³) ⑤ (einatembare Fraktion, kann über die Haut aufgenommen werden) H
MAK (AT)	**diphenylamine** CAS No.: 122-39-4 EC No.: 204-539-4	② 1.4 ppm (10 mg/m³) ⑤ (einatembare Fraktion, max. 4x15 min./Schicht, kann über die Haut aufgenommen werden) H
DK	**diphenylamine** CAS No.: 122-39-4 EC No.: 204-539-4	① 5 mg/m³ ② 10 mg/m³
BG	**diphenylamine** CAS No.: 122-39-4 EC No.: 204-539-4	① 10 mg/m³
HR	**diphenylamine** CAS No.: 122-39-4 EC No.: 204-539-4	① 10 mg/m³ ② 20 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
RO	**diphenylamine** CAS No.: 122-39-4 EC No.: 204-539-4	① 4 mg/m³ ② 6 mg/m³
EE	**diphenylamine** CAS No.: 122-39-4 EC No.: 204-539-4	① 10 mg/m³
Alberta (CA)	**diphenylamine** CAS No.: 122-39-4 EC No.: 204-539-4	① 10 mg/m³
ES	**diphenylamine** CAS No.: 122-39-4 EC No.: 204-539-4	① 10 mg/m³ ⑤ s
BC (CA)	**diphenylamine** CAS No.: 122-39-4 EC No.: 204-539-4	① 10 mg/m³ ⑤ 2B; S(D)
VLA (FR)	**diphenylamine** CAS No.: 122-39-4 EC No.: 204-539-4	① 10 mg/m³
WEL (GB)	**diphenylamine** CAS No.: 122-39-4 EC No.: 204-539-4	① 10 mg/m³ ② 20 mg/m³
SI from 4 Dec 2018	**diphenylamine** CAS No.: 122-39-4 EC No.: 204-539-4	① 5 mg/m³ ② 10 mg/m³ ⑤ (frakcija ki jo je mogoče vdihniti, računati je treba z možnostjo prodiranja skozi kožo) K, Y
TW	**diphenylamine** CAS No.: 122-39-4 EC No.: 204-539-4	① 10 mg/m³
KR	**diphenylamine** CAS No.: 122-39-4 EC No.: 204-539-4	① 10 mg/m³
IS	**diphenylamine** CAS No.: 122-39-4 EC No.: 204-539-4	① 5 mg/m³
CN from 1 Jan 2007	**diphenylamine** CAS No.: 122-39-4 EC No.: 204-539-4	① 10 mg/m³
GR from 1 Oct 2016	**diphenylamine** CAS No.: 122-39-4 EC No.: 204-539-4	① 10 mg/m³ ② 20 mg/m³
TRGS 900 (DE) from 29 Mar 2019	**diphenylamine** CAS No.: 122-39-4 EC No.: 204-539-4	① 5 mg/m³ ② 10 mg/m³ ⑤ (kann über die Haut aufgenommen werden) DFG, Y, H
PL from 12 Jun 2018	**diphenylamine** CAS No.: 122-39-4 EC No.: 204-539-4	① 8 mg/m³ ⑤ (wdychalna frakcja)
CSV (JP) from 1 Apr 2024	**diphenylamine** CAS No.: 122-39-4 EC No.: 204-539-4	① 5 mg/m³
NIOSH (US)	**diphenylamine** CAS No.: 122-39-4 EC No.: 204-539-4	① 10 mg/m³
ACGIH (US)	**diphenylamine** CAS No.: 122-39-4 EC No.: 204-539-4	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
Québec (CA)	**diphenylamine** CAS No.: 122-39-4 EC No.: 204-539-4	① 10 mg/m³
CH from 1 Jan 2025	**naphthalene** CAS No.: 91-20-3 EC No.: 202-049-5	① 10 ppm (50 mg/m³) ⑤ (Dampf und Aerosol; kann über die Haut aufgenommen werden; krebserzeugend) H C2; Messmeth: NIOSH OSHA
BE	**naphthalene** CAS No.: 91-20-3 EC No.: 202-049-5	① 10 ppm (53 mg/m³) ② 15 ppm (80 mg/m³) ⑤ (peut être absorbé par la peau) D
CZ from 1 Mar 2020	**naphthalene** CAS No.: 91-20-3 EC No.: 202-049-5	① 9.4 ppm (50 mg/m³) ② 18.8 ppm (100 mg/m³)
PL from 12 Jun 2018	**naphthalene** CAS No.: 91-20-3 EC No.: 202-049-5	① 20 mg/m³ ② 50 mg/m³ ⑤ (może przenikać przez skórę do organizmu) skóra
NO	**naphthalene** CAS No.: 91-20-3 EC No.: 202-049-5	① 10 ppm (50 mg/m³) ⑤ E
IE from 17 Jan 2020	**naphthalene** CAS No.: 91-20-3 EC No.: 202-049-5	① 10 ppm (50 mg/m³) ⑤ IOELV
HTP (FI)	**naphthalene** CAS No.: 91-20-3 EC No.: 202-049-5	① 1 ppm (5 mg/m³) ② 2 ppm (10 mg/m³)
LT	**naphthalene** CAS No.: 91-20-3 EC No.: 202-049-5	① 10 ppm (50 mg/m³) ⑤ (kancerogeninis) K
SE	**naphthalene** CAS No.: 91-20-3 EC No.: 202-049-5	① 10 ppm (50 mg/m³) ③ 15 ppm (80 mg/m³)
NPEL (SK) from 1 Jun 2024	**naphthalene** CAS No.: 91-20-3 EC No.: 202-049-5	① 10 ppm (50 mg/m³) ② 15 ppm (80 mg/m³) ⑤ (rátajte so vstrebávaním cez pokožku) K
TRGS 900 (DE) from 23 Jun 2022	**naphthalene** CAS No.: 91-20-3 EC No.: 202-049-5	① 0.4 ppm (2 mg/m³) ② 1.6 ppm (8 mg/m³) ⑤ (Aerosol und Dampf, kann über die Haut aufgenommen werden) AGS, H, Y, EU, 11, 27
DK	**naphthalene** CAS No.: 91-20-3 EC No.: 202-049-5	① 10 ppm (50 mg/m³) ② 20 ppm (100 mg/m³) ⑤ EK
BG	**naphthalene** CAS No.: 91-20-3 EC No.: 202-049-5	① 50 mg/m³ ② 75 mg/m³
HR	**naphthalene** CAS No.: 91-20-3 EC No.: 202-049-5	① 10 ppm (50 mg/m³)
ES	**naphthalene** CAS No.: 91-20-3 EC No.: 202-049-5	① 10 ppm (53 mg/m³) ② 15 ppm (80 mg/m³) ⑤ (puede ser absorbido a través dérmica) vía dérmica, VLI
RO from 21 Aug 2018	**naphthalene** CAS No.: 91-20-3 EC No.: 202-049-5	① 10 ppm (50 mg/m³) ⑤ C2

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
EE	**naphthalene** CAS No.: 91-20-3 EC No.: 202-049-5	① 10 ppm (50 mg/m³)
LV	**naphthalene** CAS No.: 91-20-3 EC No.: 202-049-5	① 10 ppm (50 mg/m³)
Alberta (CA) from 1 Dec 2021	**naphthalene** CAS No.: 91-20-3 EC No.: 202-049-5	① 10 ppm (52 mg/m³) ② 15 ppm (79 mg/m³) ⑤ (may be absorbed through the skin) 1
BC (CA) from 1 Jun 2018	**naphthalene** CAS No.: 91-20-3 EC No.: 202-049-5	① 10 ppm ⑤ (may be absorbed through the skin) Skin; 2B
MY from 1 Jan 2000	**naphthalene** CAS No.: 91-20-3 EC No.: 202-049-5	① 10 ppm (52 mg/m³)
IOELV (EU)	**naphthalene** CAS No.: 91-20-3 EC No.: 202-049-5	① 10 ppm (50 mg/m³)
VLA (FR)	**naphthalene** CAS No.: 91-20-3 EC No.: 202-049-5	① 10 ppm (50 mg/m³)
SI from 4 Dec 2018	**naphthalene** CAS No.: 91-20-3 EC No.: 202-049-5	① 50 mg/m³ ② 50 mg/m³ ⑤ (frakcija ki jo je mogoče vdihniti računati je treba z možnostjo prodiranja skozi kožo) K, Y, EU0
TW	**naphthalene** CAS No.: 91-20-3 EC No.: 202-049-5	① 10 ppm (52 mg/m³)
KR	**naphthalene** CAS No.: 91-20-3 EC No.: 202-049-5	① 10 ppm (50 mg/m³) ② 15 ppm (75 mg/m³)
IS	**naphthalene** CAS No.: 91-20-3 EC No.: 202-049-5	① 10 ppm (50 mg/m³)
CN from 1 Apr 2020	**naphthalene** CAS No.: 91-20-3 EC No.: 202-049-5	① 50 mg/m³ ② 75 mg/m³ ⑤ (###############)
RU	**naphthalene** CAS No.: 91-20-3 EC No.: 202-049-5	③ 20 mg/m³ ⑤ п
HU from 1 Apr 2024	**naphthalene** CAS No.: 91-20-3 EC No.: 202-049-5	① 10 ppm (50 mg/m³) ⑤ i, N
GR from 1 Oct 2016	**naphthalene** CAS No.: 91-20-3 EC No.: 202-049-5	① 10 ppm (50 mg/m³)
NL	**naphthalene** CAS No.: 91-20-3 EC No.: 202-049-5	① 50 mg/m³ ② 80 mg/m³
NL from 1 Jan 2023	**naphthalene** CAS No.: 91-20-3 EC No.: 202-049-5	① 10 ppm (50 mg/m³) ② 16 ppm (80 mg/m³)
MAK (AT)	**naphthalene** CAS No.: 91-20-3 EC No.: 202-049-5	① 10 ppm (50 mg/m³) ⑤ (kann über die Haut aufgenommen werden) III B, H

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
SI from 4 Dec 2018	**naphthalene** CAS No.: 91-20-3 EC No.: 202-049-5	① 10 ppm ② 10 ppm ⑤ (računati je treba z možnostjo prodiranja skozi kožo) K, Y, EU0
TR	**naphthalene** CAS No.: 91-20-3 EC No.: 202-049-5	① 10 ppm (50 mg/m³)
IDLH (US) from 1 Jan 1994	**naphthalene** CAS No.: 91-20-3 EC No.: 202-049-5	① 250 ppm
Québec (CA) from 1 Apr 2022	**naphthalene** CAS No.: 91-20-3 EC No.: 202-049-5	① 10 ppm ⑤ (may be absorbed through the skin)
OSHA (US)	**naphthalene** CAS No.: 91-20-3 EC No.: 202-049-5	① 10 ppm (50 mg/m³)
NIOSH (US)	**naphthalene** CAS No.: 91-20-3 EC No.: 202-049-5	① 10 ppm (50 mg/m³) ② 15 ppm (75 mg/m³)
ACGIH (US)	**naphthalene** CAS No.: 91-20-3 EC No.: 202-049-5	① 10 ppm (52 mg/m³) ② 15 ppm (79 mg/m³) ⑤ (may be absorbed through the skin)

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
Phenol, dodecyl-, branched CAS No.: 121158-58-5 EC No.: 310-154-3	44.18 mg/m³	① DNEL worker ② Acute - inhalation, systemic effects
Phenol, dodecyl-, branched CAS No.: 121158-58-5 EC No.: 310-154-3	0.25 mg/kg	① DNEL worker ② Long-term - dermal, systemic effects
Phenol, dodecyl-, branched CAS No.: 121158-58-5 EC No.: 310-154-3	166 mg/kg	① DNEL worker ② Acute – dermal, systemic effects
naphthalene CAS No.: 91-20-3 EC No.: 202-049-5	25 mg/m³	① DNEL worker ② Long-term – inhalation, systemic effects
naphthalene CAS No.: 91-20-3 EC No.: 202-049-5	25 mg/m³	① DNEL worker ② Acute - inhalation, local effects

Substance name	PNEC Value	① PNEC type
Phenol, dodecyl-, branched CAS No.: 121158-58-5 EC No.: 310-154-3	0.074 µg/L	① PNEC aquatic, freshwater
Phenol, dodecyl-, branched CAS No.: 121158-58-5 EC No.: 310-154-3	0.0074 µg/L	① PNEC aquatic, marine water
Phenol, dodecyl-, branched CAS No.: 121158-58-5 EC No.: 310-154-3	100 mg/L	① PNEC sewage treatment plant
Phenol, dodecyl-, branched CAS No.: 121158-58-5 EC No.: 310-154-3	0.226 mg/kg	① PNEC sediment, freshwater

Substance name	PNEC Value	① PNEC type
Phenol, dodecyl-, branched CAS No.: 121158-58-5 EC No.: 310-154-3	0.0266 mg/kg	① PNEC sediment, marine water
Phenol, dodecyl-, branched CAS No.: 121158-58-5 EC No.: 310-154-3	0.37 µg/L	① PNEC aquatic, intermittent release

8.2. Exposure controls

8.2.1. Appropriate engineering controls

See section 7. No additional measures necessary.

8.2.2. Personal protection equipment



Eye/face protection:

During transfer: Eye glasses with side protection
Wear eye/face protection. EN 166

Skin protection:

Hand protection
Suitable material: NBR (Nitrile rubber), PVC (polyvinyl chloride), CR (polychloroprene, chloroprene rubber)
Thickness of the glove material: ≥ 0,4 mm
Breakthrough time: 480 min
Breakthrough times and swelling properties of the material must be taken into consideration.
The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances.
For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.
Tested protective gloves must be worn: EN ISO 374
Suitable protective clothing: Protective clothing

Respiratory protection:

Usually no personal respirative protection necessary.

8.2.3. Environmental exposure controls

See section 7. No additional measures necessary.

SECTION 9: Physical and chemical properties

* 9.1. Information on basic physical and chemical properties

Appearance

Physical state: Liquid
Colour: green
flammability: Yes
Form: Liquid
Odour: characteristic

Safety relevant basis data

Parameter	Value	at °C	① Method ② Remark
pH	*not applicable*		
Melting point	*No data available*		
Freezing point	*No data available*		
Initial boiling point and boiling range	*No data available*		
Decomposition temperature	*not applicable*		
Flash point	240 °C		
Evaporation rate	*No data available*		
Auto-ignition temperature	*No data available*		
Upper/lower flammability or explosive limits	*No data available*		
Vapour pressure	*No data available*		
Vapour density	*not applicable*		
Density	842 kg/m³	15 °C	

Parameter	Value	at °C	① Method ② Remark
Relative density	*not applicable*		
Bulk density	*not applicable*		
Water solubility	practically insoluble		
Partition coefficient: n-octanol/water	*not applicable*		
Dynamic viscosity	*No data available*		
Kinematic viscosity	37 mm²/s	40 °C	

9.2. Other information
Not applicable

SECTION 10: Stability and reactivity

10.1. Reactivity
No known hazardous reactions.

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

10.3. Possibility of hazardous reactions
No hazardous reaction when handled and stored according to provisions.

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

10.5. Incompatible materials
Materials to avoid: Acid, Oxidising agent, Reducing agent

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

Further information
No information available.

SECTION 11: Toxicological information

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

1-decene, homopolymer, hydrogenated CAS No.: 68037-01-4 EC No.: 500-183-1
LD_{50} oral: >5,000 mg/kg (Rat)
LD_{50} dermal: >2,000 mg/kg (Rabbit)
LC_{50} Acute inhalation toxicity (dust/mist): >5 mg/L 4 h (Rat)
zinc bis[O,O-bis(2-ethylhexyl)] bis(dithiophosphate) CAS No.: 4259-15-8 EC No.: 224-235-5
LD_{50} oral: 3,100 mg/kg (rats)
LD_{50} dermal: >5,000 mg/kg (rabbits)
diphenylamine CAS No.: 122-39-4 EC No.: 204-539-4
LD_{50} oral: 1,120 mg/kg
Phenol, dodecyl-, branched CAS No.: 121158-58-5 EC No.: 310-154-3
LD_{50} oral: 2,100 – 2,200 mg/kg (rat)
LD_{50} dermal: 15,000 mg/kg (rabbit)
naphthalene CAS No.: 91-20-3 EC No.: 202-049-5
LD_{50} oral: >2,000 mg/kg (rat) OECD Guideline 401 (Acute Oral Toxicity)
LD_{50} dermal: >2,500 mg/kg (rat)
LC_{50} Acute inhalation toxicity (vapour): >0.34 mg/L (Rat)
LC_{50} Acute inhalation toxicity (dust/mist): >0.4 mg/L

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

Aspiration hazard:
For viscosity data, see section 9.
Observe risk of aspiration if vomiting occurs.

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

11.2. Information on other hazards

Endocrine disrupting properties:
This product contains a substance that has endocrine disrupting properties with respect to humans.

Other information:
No data available.

SECTION 12: Ecological information

*

12.1. Toxicity

1-decene, homopolymer, hydrogenated CAS No.: 68037-01-4 EC No.: 500-183-1
LC_{50}: >750 mg/L 4 d (fish)
EC_{50}: 190 mg/L 2 d (crustaceans, Daphnia pulex (water flea))
EC_{50}: >1,000 mg/L 3 d (Algae/water plant)
zinc bis[O,O-bis(2-ethylhexyl)] bis(dithiophosphate) CAS No.: 4259-15-8 EC No.: 224-235-5
LC_{50}: 4.4 mg/L 4 d (fish, rainbow trout) OECD 203
LC_{50}: 75 mg/L 2 d (crustaceans, Daphnia magna) OECD 202
NOEC: 32 mg/L 2 d (crustaceans, Daphnia magna) OECD 202
NOEC: 220 mg/L 3 d (Algae/water plant, Scenedesmus subspicatus) OECD 201
ErC_{50}: 410 mg/L 3 d (Algae/water plant, Scenedesmus subspicatus) OECD 201
diphenylamine CAS No.: 122-39-4 EC No.: 204-539-4
LC_{50}: 3.79 mg/L 4 d (fish)
LC_{50}: 2.2 mg/L 2 d (fish)
EC_{50}: 1.16 mg/L 2 d (crustaceans)
EC_{50}: 2.17 mg/L 3 d (Algae/water plant)
EC_{50}: 0.31 mg/L 2 d (crustaceans, Wasserfloh)
EC_{50}: 1.51 mg/L 3 d (Algae/water plant, Grünalgen)
EC_{50}: 2.17 mg/L 3 d (Algae/water plant, Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)) OECD Guideline 201 (Alga, Growth Inhibition Test)
EC_{50}: 1.2 mg/L 2 d (crustaceans, other:) ISO 6341 (Water quality - Determination of the Inhibition of the Mobility of Daphnia magna Straus (Cladocera, Crustacea))
NOEC: 0.37 mg/L 3 d (Algae/water plant, Raphidocelis subcapitata (previous names: Pseudokirchneriella subcapitata, Selenastrum capricornutum)) OECD Guideline 201 (Alga, Growth Inhibition Test)

Phenol, dodecyl-, branched CAS No.: 121158-58-5 EC No.: 310-154-3
LC_{50}: ≥40 mg/L 2 d (fish)
LC_{50}: ≥0.58 – 0.58 mg/L 4 d (crustaceans)
NOEC: ≥0.07 mg/L 3 d (Algae/water plant)
naphthalene CAS No.: 91-20-3 EC No.: 202-049-5
LC_{50}: 6.08 mg/L 3 d (fish, Pimephales promelas)
LC_{50}: 1.2 mg/L 4 d (fish, Oncorhynchus gorbuscha)
LC_{50}: 6.35 mg/L 2 d (fish, Pimephales promelas)
EC_{50}: 2.16 mg/L 2 d (crustaceans, Daphnia magna) OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
NOEC: 0.12 mg/L 40 d (fish, Oncorhynchus gorbuscha)
LOEC: 0.38 mg/L 40 d (fish, Oncorhynchus gorbuscha)
EC_{50}: 1.96 mg/L 2 d (crustaceans, Daphnia magna)

Aquatic toxicity:
Harmful to aquatic life with long lasting effects.

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

12.2. Persistence and degradability

Biodegradation:
Not readily biodegradable (according to OECD criteria)

* 12.3. Bioaccumulative potential

1-decene, homopolymer, hydrogenated CAS No.: 68037-01-4 EC No.: 500-183-1
Log K_{OW}: > 6.5
Bioconcentration factor (BCF): ≤ 425.65 L/kg
diphenylamine CAS No.: 122-39-4 EC No.: 204-539-4
Log K_{OW}: 3.4
Phenol, dodecyl-, branched CAS No.: 121158-58-5 EC No.: 310-154-3
Log K_{OW}: 7.14
naphthalene CAS No.: 91-20-3 EC No.: 202-049-5
Log K_{OW}: 3.45
Bioconcentration factor (BCF): 168

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

1-decene, homopolymer, hydrogenated CAS No.: 68037-01-4 EC No.: 500-183-1
Results of PBT and vPvB assessment: —
zinc bis[O,O-bis(2-ethylhexyl)] bis(dithiophosphate) CAS No.: 4259-15-8 EC No.: 224-235-5
Results of PBT and vPvB assessment: This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.
diphenylamine CAS No.: 122-39-4 EC No.: 204-539-4
Results of PBT and vPvB assessment: —
Phenol, dodecyl-, branched CAS No.: 121158-58-5 EC No.: 310-154-3
Results of PBT and vPvB assessment: This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.
naphthalene CAS No.: 91-20-3 EC No.: 202-049-5
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 contains a substance that has endocrine disrupting properties with respect to non-target organisms.

12.7. 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.

Appropriate disposal / Package:

Non-contaminated packages may be recycled.

Other disposal recommendations:

Consult the appropriate local waste disposal expert about waste disposal.

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

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU legislation

Other regulations (EU):

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

15.1.2. National regulations

[DE] National regulations

Störfallverordnung (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:

2 - obviously hazardous to water

Source:
Self-classification (mixture; calculation rule).
Identification number 436

Technische Regeln für Gefahrstoffe
TRGS 510
TRGS 500

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

Other regulations, restrictions and prohibition regulations
Altöl-Verordnung (AltölV)

[DK] National regulations

Other regulations, restrictions and prohibition regulations
Dänemark: Bekendtgørelse af lov om arbejdsmiljø: Beskæftigelsesministeriets lovbekendtgørelse nr. 1072 af 7. september 2010
Lister over stoffer og processer, der anses for at vaere kraeftfremkaldende

[FR] National regulations

Other regulations, restrictions and prohibition regulations
Frankreich: Tableaux de maladies professionelles
Nomenclature des installations classées pour la protection de l'environnement
Articles L. 4523-1 à L. 4523-17, L. 4611-1 à L. 4614-16, R. 4523-1 à R. 4523-17 et R. 4612-1 à R. 4615-21 du Code du travail

[NL] National regulations

Other regulations, restrictions and prohibition regulations
Niederlande: Lijst vank kankerverwekkende, mutagene en voor de voortplanting giftige stoffen (SZW)
Algemeene beoordelingsmethodiek Water (ABM)
Nederlandse emissierichtlijn (NeR)
NIET-Limitatieve lijst an voor de voortplanting giftige stoffen - Borstvoeding
NIET-Limitatieve lijst an voor de voortplanting giftige stoffen - Vruchtbaarheid
NIET-Limitatieve lijst an voor de voortplanting giftige stoffen - Ontwikkeling
SZW-lijst van kankerverwekkende stoffen
SZW-lijst van mutagene stoffen
Wet van 18 maart 1999, houdende bepalingen ter verbetering van de arbeidsomstandigheden (Arbeidsomstandighedenwet)
Wet op de ondernemingsraden 1971

[CH] National regulations

Other regulations, restrictions and prohibition regulations
Mengenschwelle (Schweiz - StFV)
Gefahrencode
Brandverhütung, BVD (Schweiz)

[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
No data available.

SECTION 16: Other information

* **16.1. Indication of changes**

1.4.	Emergency telephone number
2.2.	Label elements
3.2.	Mixtures
8.1.	Control parameters
9.1.	Information on basic physical and chemical properties
11.1.	Information on hazard classes as defined in Regulation (EC) No 1272/2008
12.1.	Toxicity
12.3.	Bioaccumulative potential
12.5.	Results of PBT and vPvB assessment
14.3.	Transport hazard class(es)
15.1.	Safety, health and environmental regulations/legislation specific for the substance or mixture
16.1.	Indication of changes
16.2.	Abbreviations and acronyms
16.3.	Key literature references and sources for data
16.5.	List of relevant hazard statements and/or precautionary statements from sections 2 to 15

* **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
ATE	Acute Toxicity Estimate
BCF	Bioconcentration Factor
CAS	Chemical Abstracts Service
CLP	Classification, Labelling and Packaging
DNEL	derived no-effect level
EC_{50}	Effective Concentration 50%
EG	European Community
ES	Exposure scenario
EU	European Union
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods
IMO	International Maritime Organization
ISO	International Standards Organisation
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
OSHA	Occupational Safety & Health Administration
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
Tox.	Toxicity
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
naphthalene CAS No.: 91-20-3 EC No.: 202-049-5	LD_{50} oral; LD_{50} dermal; LC_{50}; EC_{50}; NOEC; LOEC	Source: European Chemicals Agency, http://echa.europa.eu/
diphenylamine CAS No.: 122-39-4 EC No.: 204-539-4	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
Hazardous to the aquatic environment *(Aquatic Chronic 3)*	H412: Harmful to aquatic life with long lasting effects.	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.
H304	May be fatal if swallowed and enters airways.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H331	Toxic if inhaled.
H351	Suspected of causing cancer.
H360F	May damage fertility.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
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.