



Revision date: 9 Jan 2020 Version: 2 Print date: 3 Feb 2020

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 Diesel Quality Stabilisator

Article No.:

1390244

UFI:

1CMF-VJ63-SN5V-DDAT

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

Use of the substance/mixture:

Fuel additive

* **1.3. Details of the supplier of the safety data sheet**

Supplier (manufacturer/importer/only representative/downstream user/distributor):

Ravensberger Schmierstoffvertrieb GmbH

Jöllenbecker Str. 2

33824 Werther

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Telephone: +49 5203 9719 0

Telefax: +49 5203 9719 40

E-mail: kontakt@ravenol.de

Website: www.ravenol.de

E-mail (competent person): technik@ravenol.de

* **1.4. Emergency telephone number**

Abt. Technik (Produktsicherheit), 24h: +49 700 24 112 112 (Contract ID: RAV) , +49 5203 9719 0 (Mo-Do 7.30 Uhr - 16.30 Uhr, Fr 7.30 Uhr - 13.15 Uhr) (Only available during office hours.)

SECTION 2: Hazards identification

* **2.1. Classification of the substance or mixture**

Classification according to Regulation (EC) No 1272/2008 [CLP]:

Hazard classes and hazard categories	Hazard statements	Classification procedure
Aspiration hazard (<i>Asp. Tox. 1</i>)	H304: May be fatal if swallowed and enters airways.	
Skin corrosion/irritation (<i>Skin Irrit. 2</i>)	H315: Causes skin irritation.	
Serious eye damage/eye irritation (<i>Eye Irrit. 2</i>)	H319: Causes serious eye irritation.	
Acute toxicity (inhalative) (<i>Acute Tox. 4</i>)	H332: Harmful if inhaled.	
STOT-single exposure (<i>STOT SE 3</i>)	H335: May cause respiratory irritation.	
Hazardous to the aquatic environment (<i>Aquatic Chronic 2</i>)	H411: Toxic to aquatic life with long lasting effects.	

* **2.2. Label elements**

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

Hazard pictograms:



GHS07

Exclamation mark



GHS08

Health hazard



GHS09

Environment

Signal word: Danger



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Hazard components for labelling:

2-ethylhexyl nitrate; 2-ethylhexan-1-ol; Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2 % aromatics

hazard statements for health hazards

H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.

Hazard statements for environmental hazards

H411	Toxic to aquatic life with long lasting effects.
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Supplemental hazard information: -

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

P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.

Precautionary Statements Response

P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor/Emergency telephone number.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312	Call a POISON CENTER/doctor/Emergency telephone number if you feel unwell.
P331	Do NOT induce vomiting.
P332 + P313	If skin irritation occurs: Get medical advice/attention.

Precautionary Statements Disposal

P501	Dispose of contents/container to an appropriate recycling or disposal facility.
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2.3. Other hazards

No data available

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.: 64742-48-9 EC No.: 918-481-9 REACH No.: 01-2119457273-39	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2 % aromatics Asp. Tox. 1 H304-EUH066	50 - < 100 Wt %
CAS No.: 27247-96-7 EC No.: 248-363-6 REACH No.: 01-2119539586-27	2-ethylhexyl nitrate Acute Tox. 4, Aquatic Chronic 2 H302 + H312 + H332-H411-EUH044	20 - < 25 Wt %
CAS No.: 104-76-7 EC No.: 203-234-3 REACH No.: 01-0211948789-20	2-ethylhexan-1-ol Acute Tox. 4, Eye Irrit. 2, STOT SE 3, Skin Irrit. 2 Warning H315-H319-H332-H335	20 - < 25 Wt %



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product identifiers	Substance name Classification according to Regulation (EC) No 1272/2008 [CLP]	Concentration
CAS No.: 128-37-0 EC No.: 204-881-4 REACH No.: 01-2119480433-40	2,6-di-tert-butyl-4-cresol Aquatic Chronic 1 H410	5 - < 10 Wt %

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

SECTION 4: First aid measures

* 4.1. Description of first aid measures

General information:

Never give anything by mouth to an unconscious person or a person with cramps. Remove contaminated, saturated clothing immediately. Remove persons to safety.

Following inhalation:

Remove person to fresh air and keep comfortable for breathing. When in doubt or if symptoms are observed, get medical advice.

In case of skin contact:

Wash with plenty of soap and water.

Take off immediately all contaminated clothing and wash it before reuse. When in doubt or if symptoms are observed, get medical advice.

After eye contact:

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Consult a doctor immediately. Consult an ophthalmologist.

After ingestion:

Do NOT induce vomiting. Observe risk of aspiration if vomiting occurs. Call a physician in any case!

Self-protection of the first aider:

Use personal protection equipment.

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

Headache, Nausea, Dizziness, fatigue, skin irritation

Frequently or prolonged contact with skin may cause dermal irritation.

May cause skin and eye irritation.

Harmful: may cause lung damage if swallowed.

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

Treat symptomatically. Call a POISON CENTER.

Symptoms can occur only after several hours.

Aspiration hazard

SECTION 5: Firefighting measures

* 5.1. Extinguishing media

Suitable extinguishing media:

Carbon dioxide (CO₂), Extinguishing powder, Water mist, alcohol resistant foam.

Co-ordinate fire-fighting measures to the fire surroundings.

Unsuitable extinguishing media:

Full water jet

5.2. Special hazards arising from the substance or mixture

Flammable. Do not inhale explosion and combustion gases. Danger of suffocation in case of accumulation in lowlying or closed rooms.

Hazardous combustion products:

Nitrogen oxides (NO_x) Carbon monoxide Carbon dioxide (CO₂)

In case of fire: Gases/vapours, toxic

5.3. Advice for firefighters

Do not inhale explosion and combustion gases. Move undamaged containers from immediate hazard area if it can be done safely. In case of fire: Wear self-contained breathing apparatus.



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5.4. Additional information

Use water spray jet to protect personnel and to cool endangered containers.
Suppress gases/vapours/mists with water spray jet.
Fire class: B
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.
Do not breathe dust/fume/gas/mist/vapours/spray.
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Avoid contact with eyes and skin.

Protective equipment:

Wear protective gloves/protective clothing/eye protection/face protection.

Emergency procedures:

Remove all sources of ignition. Remove persons to safety. Provide adequate ventilation.

6.1.2. For emergency responders

Personal protection equipment:

Use appropriate respiratory protection. Personal protection equipment: see section 8

* 6.2. Environmental precautions

Do not allow uncontrolled discharge of product into the environment. Danger of explosion. Prevent spread over a wide area (e.g. by containment or oil barriers). Do not allow to enter into surface water or drains.

* 6.3. Methods and material for containment and cleaning up

For containment:

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

For cleaning up:

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents).
Treat the recovered material as prescribed in the section on waste disposal.

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. Use appropriate container to avoid environmental contamination.

SECTION 7: Handling and storage

* 7.1. Precautions for safe handling

Protective measures

Advices on safe handling:

Use only in well-ventilated areas.
Do not breathe gas/fumes/vapour/spray.
Avoid contact with skin, eyes and clothes.

Fire prevent measures:

Keep away from sources of ignition - No smoking. Take precautionary measures against static discharge.

Measures to prevent aerosol and dust generation:

See protective measures under point 7 and 8.

Environmental precautions:

SECTION 6: Accidental release measures

Advices on general occupational hygiene

Minimum standard for preventive measures while handling with working materials are specified in the TRGS 500. Wash hands before breaks and after work. When using do not eat, drink, smoke, sniff.
Remove contaminated, saturated clothing immediately. Avoid contact with eyes and skin.



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* **7.2. Conditions for safe storage, including any incompatibilities**

Technical measures and storage conditions:

Keep container tightly closed. Keep locked up and out of reach of children. Keep only in original container. Keep in a cool, well-ventilated place. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Packaging materials:

Keep/Store only in original container.

Requirements for storage rooms and vessels:

Shafts and sewers must be protected from entry of the product.
 Keep only in the original container in a cool, well-ventilated place.
 Do not store at temperatures above 50°C.
 Take precautionary measures against static discharge.

Hints on storage assembly:

TRGS 510

Do not store together with: Oxidising agent, Pyrophoric or self-heating substances, Food and feedingstuffs

Storage class: 10 - Combustible liquids that cannot be assigned to any of the above storage classes

Further information on storage conditions:

Observe technical data sheet. Store in a cool dry place.

* **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
PL	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2 % aromatics CAS No.: 64742-48-9	① 300 mg/m ³ ② 900 mg/m ³
VLA (FR)	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2 % aromatics CAS No.: 64742-48-9	① 1,000 mg/m ³ ② 1,500 mg/m ³ ⑤ (hydrocarbures C9-C12)
DFG (DE)	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2 % aromatics CAS No.: 64742-48-9	① 50 ppm (300 mg/m ³) ② 100 ppm (600 mg/m ³)
NO	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2 % aromatics CAS No.: 64742-48-9	① 50 ppm (275 mg/m ³) ⑤ (White Spirit (aromatinnhold < 22 %))
CH	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2 % aromatics CAS No.: 64742-48-9	① 50 ppm (300 mg/m ³) ② 100 ppm (600 mg/m ³) ⑤ (Naphtha, mit Wasserstoff behandelte, schwere)
MAK (AT)	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2 % aromatics CAS No.: 64742-48-9	① 200 mL/m ³ ② 400 mL/m ³ ⑤ (für Kohlenwasserstoffgemische mit einem Gehalt an aromatischen Kohlenwasserstoffen von weniger als 1 %, an n-Hexan von weniger als 5 % und an Cyclo-/Isohexanen von weniger als 25 %)



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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
MAK (AT)	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2 % aromatics CAS No.: 64742-48-9	① 170 mL/m ³ ② 340 mL/m ³ ⑤ (für Kohlenwasserstoffgemische mit einem Gehalt an aromatischen Kohlenwasserstoffen von weniger als 1 %, an n-Hexan von weniger als 5 % und an Cyclo-/Isohexanen von 25 % oder mehr)
WEL (GB)	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2 % aromatics CAS No.: 64742-48-9	① 1,200 mg/m ³ ⑤ (> or = C7, Normal and branched chain alkanes)
WEL (GB)	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2 % aromatics CAS No.: 64742-48-9	① 800 mg/m ³ ⑤ (> or = C7, Cycloalkanes)
SI	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2 % aromatics CAS No.: 64742-48-9	① 700 mg/m ³
PL	2-ethylhexyl nitrate CAS No.: 27247-96-7	① 3.5 mg/m ³ ② 7 mg/m ³
TRGS 900 (DE)	2-ethylhexan-1-ol CAS No.: 104-76-7	① 10 ppm (54 mg/m ³) ② 10 ppm (54 mg/m ³) ⑤ (Aerosol und Dampf)
PL	2-ethylhexan-1-ol CAS No.: 104-76-7	① 5.4 mg/m ³ ② 10.8 mg/m ³
MAK (AT)	2-ethylhexan-1-ol CAS No.: 104-76-7	① 1 ppm (5.4 mg/m ³)
MAK (AT)	2-ethylhexan-1-ol CAS No.: 104-76-7	② 2 ppm (10.8 mg/m ³) ⑤ (max. 8x5 min./Schicht, kann über die Haut aufgenommen werden, Momentanwert)
RU	2-ethylhexan-1-ol CAS No.: 104-76-7	③ 10 mg/m ³
JP	2-ethylhexan-1-ol CAS No.: 104-76-7	① 1 ppm (5.3 mg/m ³)
IOELV (EU)	2-ethylhexan-1-ol CAS No.: 104-76-7	① 1 ppm (5.4 mg/m ³)
ES	2-ethylhexan-1-ol CAS No.: 104-76-7	① 1 ppm (5.4 mg/m ³)
SE	2-ethylhexan-1-ol CAS No.: 104-76-7	① 1 ppm (5.4 mg/m ³)
SK	2-ethylhexan-1-ol CAS No.: 104-76-7	① 1 ppm (5.4 mg/m ³)
LV	2-ethylhexan-1-ol CAS No.: 104-76-7	① 1 ppm (5.4 mg/m ³)
WEL (GB)	2-ethylhexan-1-ol CAS No.: 104-76-7	① 1 ppm (5.4 mg/m ³)
IE	2-ethylhexan-1-ol CAS No.: 104-76-7	① 1 ppm (5.4 mg/m ³)
NL	2-ethylhexan-1-ol CAS No.: 104-76-7	① 5.4 mg/m ³
BG	2-ethylhexan-1-ol CAS No.: 104-76-7	① 1 ppm (5.4 mg/m ³)
DK	2-ethylhexan-1-ol CAS No.: 104-76-7	① 1 ppm (5.4 mg/m ³)
IS	2-ethylhexan-1-ol CAS No.: 104-76-7	① 1 ppm (5.4 mg/m ³)



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Limit value type (country of origin)	Substance name	① long-term occupational exposure limit value ② short-term occupational exposure limit value ③ Instantaneous value ④ Monitoring and observation processes ⑤ Remark
SI	2-ethylhexan-1-ol CAS No.: 104-76-7	① 1 ppm (5.4 mg/m ³) ② 1 ppm (5.4 mg/m ³)
NO	2-ethylhexan-1-ol CAS No.: 104-76-7	① 1 ppm (5.4 mg/m ³) ② 10 ppm (54 mg/m ³)
BE	2-ethylhexan-1-ol CAS No.: 104-76-7	① 1 ppm (5.4 mg/m ³)
LT	2-ethylhexan-1-ol CAS No.: 104-76-7	① 1 ppm (5.4 mg/m ³)
HR	2-ethylhexan-1-ol CAS No.: 104-76-7	① 1 ppm (5.4 mg/m ³)
HU	2-ethylhexan-1-ol CAS No.: 104-76-7	① 5.4 mg/m ³
FI	2-ethylhexan-1-ol CAS No.: 104-76-7	① 1 ppm (5.4 mg/m ³)
CH	2-ethylhexan-1-ol CAS No.: 104-76-7	① 20 ppm (110 mg/m ³) ② 20 ppm (110 mg/m ³)
VLA (FR)	2,6-di-tert-butyl-4-cresol CAS No.: 128-37-0	① 10 mg/m ³
WEL (GB)	2,6-di-tert-butyl-4-cresol CAS No.: 128-37-0	① 10 mg/m ³
BE	2,6-di-tert-butyl-4-cresol CAS No.: 128-37-0	① 2 mg/m ³
IE	2,6-di-tert-butyl-4-cresol CAS No.: 128-37-0	① 2 mg/m ³
MY	2,6-di-tert-butyl-4-cresol CAS No.: 128-37-0	① 10 mg/m ³
FI	2,6-di-tert-butyl-4-cresol CAS No.: 128-37-0	① 10 mg/m ³ ② 20 mg/m ³
MAK (AT)	2,6-di-tert-butyl-4-cresol CAS No.: 128-37-0	① 10 mg/m ³
CH	2,6-di-tert-butyl-4-cresol CAS No.: 128-37-0	① 10 mg/m ³ ② 40 mg/m ³ ⑤ (einatembare Fraktion)
BG	2,6-di-tert-butyl-4-cresol CAS No.: 128-37-0	① 10 mg/m ³ ② 50 mg/m ³
HR	2,6-di-tert-butyl-4-cresol CAS No.: 128-37-0	① 10 mg/m ³
DK	2,6-di-tert-butyl-4-cresol CAS No.: 128-37-0	① 10 mg/m ³
Alberta (CA)	2,6-di-tert-butyl-4-cresol CAS No.: 128-37-0	① 10 mg/m ³
TRGS 900 (DE)	2,6-di-tert-butyl-4-cresol CAS No.: 128-37-0	① 10 mg/m ³ ② 40 mg/m ³ ⑤ (Aerosol und Dampf, einatembare Fraktion)
BC (CA)	2,6-di-tert-butyl-4-cresol CAS No.: 128-37-0	① 2 mg/m ³ ⑤ (inhalable fraction and vapor)
SI	2,6-di-tert-butyl-4-cresol CAS No.: 128-37-0	① 10 mg/m ³ ② 40 mg/m ³ ⑤ (frakcija ki jo je mogoče vdihniti)
KR	2,6-di-tert-butyl-4-cresol CAS No.: 128-37-0	① 2 mg/m ³
IS	2,6-di-tert-butyl-4-cresol CAS No.: 128-37-0	① 10 mg/m ³



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Limit value type (country of origin)	Substance name	① long-term occupational exposure limit value ② short-term occupational exposure limit value ③ Instantaneous value ④ Monitoring and observation processes ⑤ Remark
GR	2,6-di-tert-butyl-4-cresol CAS No.: 128-37-0	① 10 mg/m ³
ES	2,6-di-tert-butyl-4-cresol CAS No.: 128-37-0	① 10 mg/m ³
NIOSH (US)	2,6-di-tert-butyl-4-cresol CAS No.: 128-37-0	① 10 mg/m ³
ACGIH (US)	2,6-di-tert-butyl-4-cresol CAS No.: 128-37-0	① 2 mg/m ³ ⑤ (inhalable fraction and vapor)
Québec (CA)	2,6-di-tert-butyl-4-cresol CAS No.: 128-37-0	① 10 mg/m ³

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
2-ethylhexyl nitrate CAS No.: 27247-96-7	0.35 mg/m ³	① DNEL worker ② inhalative, long-term, systemic
2-ethylhexyl nitrate CAS No.: 27247-96-7	1 mg/kg bw/day	① DNEL worker ② dermal, long-term, systemic
2-ethylhexyl nitrate CAS No.: 27247-96-7	0.52 mg/kg bw/day	① DNEL Consumer ② dermal, long-term, systemic
2-ethylhexyl nitrate CAS No.: 27247-96-7	0.025 mg/kg bw/day	① DNEL Consumer ② oral, long-term, systemic
2-ethylhexan-1-ol CAS No.: 104-76-7	12.8 mg/m ³	① DNEL worker ② inhalative, long-term, systemic

Substance name	PNEC Value	① PNEC type
2-ethylhexyl nitrate CAS No.: 27247-96-7	0.0008 mg/l	① PNEC aquatic, freshwater
2-ethylhexyl nitrate CAS No.: 27247-96-7	0.00008 mg/l	① PNEC aquatic, marine water
2-ethylhexyl nitrate CAS No.: 27247-96-7	10 mg/l	① PNEC sewage treatment plant
2-ethylhexyl nitrate CAS No.: 27247-96-7	0.00074 mg/kg	① PNEC sediment, freshwater
2-ethylhexyl nitrate CAS No.: 27247-96-7	0.00074 mg/kg	① PNEC sediment, marine water
2-ethylhexyl nitrate CAS No.: 27247-96-7	0.000191 mg/kg	① PNEC soil

* 8.2. Exposure controls

8.2.1. Appropriate engineering controls

Avoid exposure. Do not breathe gas/fumes/vapour/spray.

8.2.2. Personal protection equipment



Eye/face protection:

During transfer: Eye glasses with side protection
 DIN-/EN-Norms: DIN EN 166



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Skin protection:

Hand protection
 Suitable material: NBR (Nitrile rubber), PVC (polyvinyl chloride), Butyl caoutchouc (butyl rubber)
 Thickness of the glove material: >= 0,45 mm
 Breakthrough time (maximum wearing time) >480 min
 Breakthrough times and swelling properties of the material must be taken into consideration.
 The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances.
 Tested protective gloves must be worn: EN ISO 374
 Suitable protective clothing: Protective clothing

Respiratory protection:

Usually no personal respirative protection necessary.
 If technical exhaust or ventilation measures are not possible or insufficient, respiratory protection must be worn. Filtering device with filter or ventilator filtering device of type: AX

Other protection measures:

Wear suitable protective clothing. Take off immediately all contaminated clothing and wash it before reuse.

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:** yellow
Odour: not determined

Safety relevant basis data

parameter		at °C	Method	Remark
pH	<i>not determined</i>			
Melting point	<i>not determined</i>			
Freezing point	<i>not determined</i>			
Initial boiling point and boiling range	100 °C			
Decomposition temperature	<i>not determined</i>			
Flash point	61 °C			
Evaporation rate	<i>not determined</i>			
Auto-ignition temperature	<i>not determined</i>			
Upper/lower flammability or explosive limits	0.79 - 12.7 Vol-%			
Vapour pressure	<i>not determined</i>			
Vapour density	<i>No data available</i>			
Density	850 kg/m ³	20 °C		
Bulk density	<i>not applicable</i>			
Water solubility	The study does not need to be conducted because the substance is known to be insoluble in water.			
Partition coefficient: n-octanol/ water	<i>not determined</i>			
Dynamic viscosity	<i>not determined</i>			
Kinematic viscosity	7 mm ² /s	40 °C		

9.2. Other information

No data available



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SECTION 10: Stability and reactivity

- * **10.1. Reactivity**
The product is chemically stable under recommended conditions of storage, use and temperature.
 - 10.2. Chemical stability**
The product is stable under storage at normal ambient temperatures.
 - * **10.3. Possibility of hazardous reactions**
No hazardous reaction when handled and stored according to provisions.
 - * **10.4. Conditions to avoid**
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharge.
 - * **10.5. Incompatible materials**
Oxidizing agent, Pyrophoric or self-heating substances
 - * **10.6. Hazardous decomposition products**
Gases/vapours, toxic, Carbon monoxide (CO), Carbon dioxide (CO₂)
Do not inhale explosion and combustion gases. Danger of suffocation in case of accumulation in lowlying or closed rooms.
- Further information**
Do not mix with other chemicals.

SECTION 11: Toxicological information

* 11.1. Information on toxicological effects

CAS No.	Substance name	Toxicological information
64742-48-9	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2 % aromatics	LD₅₀ oral: >8,000 mg/kg (Rat) LD₅₀ dermal: >3,160 mg/kg (Rabbit) LC₅₀ Acute inhalation toxicity (vapour): 4,951 mg/l 4 h (Rat)
27247-96-7	2-ethylhexyl nitrate	LD₅₀ oral: >9,640 mg/kg (Rat) LD₅₀ dermal: >4,820 mg/kg (Rabbit) LC₅₀ Acute inhalation toxicity (vapour): 11 mg/l (Rat) ATE inhalativ Dämpfe: 1.5 mg/l
104-76-7	2-ethylhexan-1-ol	LD₅₀ oral: 2,047 mg/kg (Rat) LD₅₀ dermal: >3,000 mg/kg (Rat) LC₅₀ Acute inhalation toxicity (vapour): 11 mg/l 4 h (Rat)

Acute oral toxicity:

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

Acute dermal toxicity:

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

Acute inhalation toxicity:

Harmful if inhaled. ATEmix calculated: Aerosol 3,520 mg/L

Skin corrosion/irritation:

Causes skin irritation.

Serious eye damage/irritation:

Causes serious eye irritation.

Respiratory or skin sensitisation:

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



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Germ cell mutagenicity:

No indications of human germ cell mutagenicity exist.

Carcinogenicity:

No indication of human carcinogenicity.

Reproductive toxicity:

No indications of human reproductive toxicity exist.

STOT-single exposure:

May cause respiratory irritation. (2-ethylhexan-1-ol)

Aspiration hazard:

May be fatal if swallowed and enters airways.

SECTION 12: Ecological information

* **12.1. Toxicity**

CAS No.	Substance name	Toxicological information
64742-48-9	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2 % aromatics	LC₅₀ : >1,000 mg/l 4 d (fish, Oncorhynchus mykiss (Rainbow trout)) EC₅₀ : >1,000 mg/l 2 d (crustaceans, Daphnia magna (Big water flea)) ErC₅₀ : >1,000 mg/l 4 d (Algae/water plant, Pseudokirchneriella subcapitata)
27247-96-7	2-ethylhexyl nitrate	LC₅₀ : 2 mg/l 4 d (fish, Brachydanio rerio (zebrafish)) Study Report (2010) ErC₅₀ : >12.6 mg/l 3 d (Algae/water plant, Pseudokirchneriella subcapitata) Study Report (1998) EC₅₀ : >12.6 mg/l 2 d (crustaceans, Daphnia magna (Big water flea)) Study Report (1998)
104-76-7	2-ethylhexan-1-ol	LC₅₀ : 17.1 mg/l 4 d (fish, Leuciscus idus (golden orfe)) ErC₅₀ : 11.5 mg/l 3 d (Algae/water plant, Scenedesmus subspicatus) EC₅₀ : 39 mg/l 2 d (crustaceans, Daphnia magna (Big water flea))

Aquatic toxicity:

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

* **12.2. Persistence and degradability**

Additional information:

No information available.

* **12.3. Bioaccumulative potential**

CAS No.	Substance name	Log K _{OW}	Bioconcentration factor (BCF)
27247-96-7	2-ethylhexyl nitrate	5.24	
104-76-7	2-ethylhexan-1-ol	2.9	

Bioconcentration factor (BCF):

The product has not been tested.

12.4. Mobility in soil

No information available.

12.5. Results of PBT and vPvB assessment

CAS No.	Substance name	Results of PBT and vPvB assessment
64742-48-9	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, < 2 % aromatics	The substance in the mixture does not meet the PBT/vPvB criteria according to REACH, annex XIII.
27247-96-7	2-ethylhexyl nitrate	The substance in the mixture does not meet the PBT/vPvB criteria according to REACH, annex XIII.
104-76-7	2-ethylhexan-1-ol	The substance in the mixture does not meet the PBT/vPvB criteria according to REACH, annex XIII.
128-37-0	2,6-di-tert-butyl-4-cresol	The substance in the mixture does not meet the PBT/vPvB criteria according to REACH, annex XIII.

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



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12.6. Other adverse effects

No information available.

SECTION 13: Disposal considerations

* 13.1. Waste treatment methods

Do not allow to enter into surface water or drains. Do not allow to enter into soil/subsoil. 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)
14.1. UN-No.			
UN 3082	UN 3082	UN 3082	UN 3082
14.2. UN proper shipping name			
ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (2-ethylhexyl nitrate, 2,6-di-tert-butyl-4-cresol)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (2-ethylhexyl nitrate, 2,6-di-tert-butyl-4-cresol)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (2-ethylhexyl nitrate, 2,6-di-tert-butyl-4-cresol)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (2-ethylhexyl nitrate, 2,6-di-tert-butyl-4-cresol)
14.3. Transport hazard class(es)			
 9	 9	 9	 9
14.4. Packing group			
III	III	III	III
14.5. Environmental hazards			
		 MARINE POLLUTANT	



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Land transport (ADR/RID)	Inland waterway craft (ADN)	Sea transport (IMDG)	Air transport (ICAO-TI / IATA-DGR)
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14.6. Special precautions for user

<p>Special provisions: Special provision 375: In the case of quantities of up to 5 L (UN 3082) or up to 5 kg (UN 3077) per inner or individual packaging, this hazardous material is subject to the general packing regulations 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8 ADR / RID / ADN not subject to transport regulations.</p> <p>2.10.2.7 IMDG Code: This dangerous goods is subject to compliance with regulations in quantities of up to 5 L (UN 3082) or up to 5 kg (UN 3077) per inner or individual packaging Of the general packing regulations 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8 ADR / RID / ADN do not comply with transport regulations.</p> <p>A917 IATA-DGR: not restricted as per special provision A197 (in quantities of up to 5 L (UN 3082) or up to 5 kg (UN 3077) per inner or individual packaging).</p> <p>Limited quantity (LQ): 5 L</p> <p>Excepted Quantities (EQ): E1</p> <p>Hazard identification number (Kemler No.): 90</p> <p>Classification code: M6</p> <p>tunnel restriction code: (E)</p> <p>Remark:</p>	<p>Special provisions: Special provision 375: In the case of quantities of up to 5 L (UN 3082) or up to 5 kg (UN 3077) per inner or individual packaging, this hazardous material is subject to the general packing regulations 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8 ADR / RID / ADN not subject to transport regulations.</p> <p>2.10.2.7 IMDG Code: This dangerous goods is subject to compliance with regulations in quantities of up to 5 L (UN 3082) or up to 5 kg (UN 3077) per inner or individual packaging Of the general packing regulations 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8 ADR / RID / ADN do not comply with transport regulations.</p> <p>A917 IATA-DGR: not restricted as per special provision A197 (in quantities of up to 5 L (UN 3082) or up to 5 kg (UN 3077) per inner or individual packaging).</p> <p>Limited quantity (LQ): 5 L</p> <p>Excepted Quantities (EQ): E1</p> <p>Classification code: M6</p> <p>Remark:</p>	<p>Special provisions: Special provision 375: In the case of quantities of up to 5 L (UN 3082) or up to 5 kg (UN 3077) per inner or individual packaging, this hazardous material is subject to the general packing regulations 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8 ADR / RID / ADN not subject to transport regulations.</p> <p>2.10.2.7 IMDG Code: This dangerous goods is subject to compliance with regulations in quantities of up to 5 L (UN 3082) or up to 5 kg (UN 3077) per inner or individual packaging Of the general packing regulations 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8 ADR / RID / ADN do not comply with transport regulations.</p> <p>A917 IATA-DGR: not restricted as per special provision A197 (in quantities of up to 5 L (UN 3082) or up to 5 kg (UN 3077) per inner or individual packaging).</p> <p>Limited quantity (LQ): 5 L</p> <p>Excepted Quantities (EQ): E1</p> <p>EmS-No.: F-A, S-F</p> <p>Remark:</p>	<p>Special provisions: Special provision 375: In the case of quantities of up to 5 L (UN 3082) or up to 5 kg (UN 3077) per inner or individual packaging, this hazardous material is subject to the general packing regulations 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8 ADR / RID / ADN not subject to transport regulations.</p> <p>2.10.2.7 IMDG Code: This dangerous goods is subject to compliance with regulations in quantities of up to 5 L (UN 3082) or up to 5 kg (UN 3077) per inner or individual packaging Of the general packing regulations 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8 ADR / RID / ADN do not comply with transport regulations.</p> <p>A917 IATA-DGR: not restricted as per special provision A197 (in quantities of up to 5 L (UN 3082) or up to 5 kg (UN 3077) per inner or individual packaging).</p> <p>Excepted Quantities (EQ):</p> <p>Remark:</p>
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* **14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**

No transport as bulk according to IBC Code.

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:

entry 28: Hydrocarbons, C10-C13, n-alkanes, iso-alkanes, cyclenes, aromatics <2%

Other regulations (EU):

Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances [Seveso-III-Directive], Hazard categories:

- E2 Hazardous to the Aquatic Environment in Category Chronic 2

Information according to 1999/13/EC about limitation of emissions of volatile organic compounds (VOC-guideline).

Volatile organic compounds (VOC) content in percent by weight: No information available.

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

Annex Chemikalien-Verbotsverordnung (ChemVerbotsV)

Not applicable.

Störfallverordnung

for substances contained in the product:

Hazard categories:

- E2 Hazardous to the Aquatic Environment in Category Chronic 2

Technische Anleitung Luft (TA-Luft)

Remark:

To follow: 5.2.5

Water hazard class (WGK)

WGK:

2 - deutlich wassergefährdend

Source:

Self-classification (mixture; calculation rule).

Technische Regeln für Gefahrstoffe

Minimum protective measures according to TRGS 500

Berufsgenossenschaftliche Vorschriften (BGV)

To follow: Berufsgenossenschaftliche Informationen (BGI) 868

Berufsgenossenschaftliche Regeln (BGR) 189, 190, 192, 195

[CH] National regulations

Other regulations, restrictions and prohibition regulations

Mengenschwelle (Schweiz - StFV)

Gefahrencode

Brandverhütung, BVD (Schweiz)

Störfallverordnung (StFV)

15.2. Chemical Safety Assessment

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

15.3. Additional information

Tactile warning according to EN/ISO 11683. Child-resistant fastenings (EN/862/ISO 8317).



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SECTION 16: Other information

* 16.1. Indication of changes

1.2.	Relevant identified uses of the substance or mixture and uses advised against
1.3.	Details of the supplier of the safety data sheet
1.4.	Emergency telephone number
2.1.	Classification of the substance or mixture
2.2.	Label elements
3.2.	Mixtures
4.1.	Description of first aid measures
5.1.	Extinguishing media
6.1.	Personal precautions, protective equipment and emergency procedures
6.2.	Environmental precautions
6.3.	Methods and material for containment and cleaning up
6.5.	Additional information
7.1.	Precautions for safe handling
7.2.	Conditions for safe storage, including any incompatibilities
7.3.	Specific end use(s)
8.1.	Control parameters
8.2.	Exposure controls
9.1.	Information on basic physical and chemical properties
10.1.	Reactivity
10.3.	Possibility of hazardous reactions
10.4.	Conditions to avoid
10.5.	Incompatible materials
10.6.	Hazardous decomposition products
11.1.	Information on toxicological effects
12.1.	Toxicity
12.2.	Persistence and degradability
12.3.	Bioaccumulative potential
13.1.	Waste treatment methods
13.2.	Additional information
14.2.	UN proper shipping name
14.6.	Special precautions for user
14.7.	Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
15.1.	Safety, health and environmental regulations/legislation specific for the substance or mixture
16.1.	Indication of changes
16.5.	Relevant R-, H- and EUH-phrases (Number and full text)

16.2. Abbreviations and acronyms

For abbreviations and acronyms, see: ECHA Guidance on information requirements and chemical safety assessment, chapter R.20 (Table of terms and abbreviations).

See overview table at www.euphrac.eu

16.3. Key literature references and sources for data

67/548/EEC - Dangerous Substances Directive

1999/45/EEC - Dangerous Preparations Directive

EC 1907/2006 - REACH Regulation

1272/2008 EC - Regulation on classification, labeling and packaging of substances and mixtures, and amending Directives 67/548/EEC and 1999/45/EC and Regulation (EC) No 1907/2006

Regulation (EC) No 1907/2006 (REACH), Annex II

European Chemicals Agency (ECHA), C & L classification and labeling inventory

European Chemicals Agency (ECHA), ECHA CHEM Registered substances

OECD The Global Portal to Information on Chemical Substances (ChemPortal)

Institute for Occupational Safety and Health of the German Social Accident Insurance (IFA): GESTIS substance database and International limit values for chemical substances

Federal Environment Agency, Section IV 2.4: Documentation and Information Centre substances hazardous to water Rigoletto (catalog substances hazardous to water)



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

Classification according to Regulation (EC) No 1272/2008 [CLP]:

Hazard classes and hazard categories	Hazard statements	Classification procedure
Aspiration hazard (<i>Asp. Tox. 1</i>)	H304: May be fatal if swallowed and enters airways.	
Skin corrosion/irritation (<i>Skin Irrit. 2</i>)	H315: Causes skin irritation.	
Serious eye damage/eye irritation (<i>Eye Irrit. 2</i>)	H319: Causes serious eye irritation.	
Acute toxicity (inhalative) (<i>Acute Tox. 4</i>)	H332: Harmful if inhaled.	
STOT-single exposure (<i>STOT SE 3</i>)	H335: May cause respiratory irritation.	
Hazardous to the aquatic environment (<i>Aquatic Chronic 2</i>)	H411: Toxic to aquatic life with long lasting effects.	

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

Hazard statements	
H302 + H312 + H332	Harmful if swallowed, in contact with skin or if inhaled.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
Supplemental hazard information	
EUH044	Risk of explosion if heated under confinement.
EUH066	Repeated exposure may cause skin dryness or cracking.

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