



Revision date: 9 Mar 2022 Version: 1 Print date: 12 Apr 2022

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 MTF-4 SAE 70W

Article No.:

1221113

UFI:

JPKR-P644-VNE7-0N0H

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: +49 700 24 112 112 (Contract ID: RAV) / +1 872 5888271
(Contract ID: RAV)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Hazard classes and hazard categories	Hazard statements	Classification procedure
Acute toxicity (inhalative) (Acute Tox. 4)	H332: Harmful if inhaled.	Calculation method.

2.2. Label elements

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

Hazard pictograms:



GHS07

Exclamation mark

Signal word: Warning



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Hazard components for labelling:

Dec-1-ene, dimers, hydrogenated

Hazard statements for health hazards

H332	Harmful if inhaled.
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Supplemental hazard information

EUH208	Contains Reaction products of 2,5-dimercapto-1,3,4-thiadiazole, sodium salt, with 1-octanethiol and hydrogen peroxide. May produce an allergic reaction.
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Precautionary statements Prevention

P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P271	Use only outdoors or in a well-ventilated area.

Precautionary statements Response

P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312	Call a POISON CENTER/doctor/Emergency telephone number if you feel unwell.

Precautionary statements Disposal

P501	Dispose of contents/container to an appropriate recycling or disposal facility.
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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.: 68649-11-6 EC No.: 500-228-5	Dec-1-ene, dimers, hydrogenated Acute Tox. 4 (H332), Asp. Tox. 1 (H304) Danger	30 - < 45 weight-%
CAS No.: 68037-01-4 EC No.: 500-183-1 REACH No.: 01-2119486452-34	1-decene, homopolymer, hydrogenated Asp. Tox. 1 (H304) Danger	4 - < 8 weight-%
EC No.: 700-990-0 REACH No.: 01-2119519251-50-0002	Reaction mass of p-t-butylphenyl diphenyl phosphate and bis (p-t-butylphenyl) phenyl phosphate and triphenyl phosphate [TPP = 2.5 <25%] Aquatic Chronic 2 (H411) 	1 - < 2.4 weight-%
EC No.: 948-020-7	Reaction products of 2,5-dimercapto-1,3,4-thiadiazole, sodium salt, with 1-octanethiol and hydrogen peroxide Acute Tox. 4 (H332), Aquatic Chronic 4 (H413), Skin Irrit. 2 (H315), Skin Sens. 1 (H317) Warning	0 - < 0.2 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. Harmful if inhaled.

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.



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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

Harmful if inhaled.

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

When hot, product develops flammable vapours.

Hazardous combustion products:

Carbon monoxide, Carbon dioxide (CO₂), Nitrogen oxides (NO_x), Gases/vapours, toxic

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).



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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.



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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
TRGS 900 (DE)	Dec-1-ene, dimers, hydrogenated CAS No.: 68649-11-6 EC No.: 500-228-5	① 5 mg/m ³ ② 20 mg/m ³ ⑤ (alveolengängige Fraktion)
SI	Dec-1-ene, dimers, hydrogenated CAS No.: 68649-11-6 EC No.: 500-228-5	① 5 mg/m ³ ② 20 mg/m ³ ⑤ (alveolarna frakcija)

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
Reaction mass of p-t-butylphenyl diphenyl phosphate and bis (p-t-butylphenyl) phenyl phosphate and triphenyl phosphate [TPP = 2.5 <25%] EC No.: 700-990-0	7.58 mg/m ³	① DNEL worker ② Long-term - inhalation, systemic effects
Reaction mass of p-t-butylphenyl diphenyl phosphate and bis (p-t-butylphenyl) phenyl phosphate and triphenyl phosphate [TPP = 2.5 <25%] EC No.: 700-990-0	1.87 mg/m ³	① DNEL Consumer ② Long-term - inhalation, systemic effects
Reaction mass of p-t-butylphenyl diphenyl phosphate and bis (p-t-butylphenyl) phenyl phosphate and triphenyl phosphate [TPP = 2.5 <25%] EC No.: 700-990-0	10.75 mg/kg bw/day	① DNEL worker ② Long-term - dermal, systemic effects
Reaction mass of p-t-butylphenyl diphenyl phosphate and bis (p-t-butylphenyl) phenyl phosphate and triphenyl phosphate [TPP = 2.5 <25%] EC No.: 700-990-0	5.375 mg/kg bw/day	① DNEL Consumer ② Long-term - dermal, systemic effects
Reaction mass of p-t-butylphenyl diphenyl phosphate and bis (p-t-butylphenyl) phenyl phosphate and triphenyl phosphate [TPP = 2.5 <25%] EC No.: 700-990-0	5.375 mg/kg bw/day	① DNEL Consumer ② Long-term - oral, systemic effects
Reaction products of 2,5-dimercapto-1,3,4-thiadiazole, sodium salt, with 1-octanethiol and hydrogen peroxide EC No.: 948-020-7	5.43 mg/m ³	① DNEL worker ② Long-term - inhalation, systemic effects



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Substance name	DNEL value	① DNEL type ② Exposure route
Reaction products of 2,5-dimercapto-1,3,4-thiadiazole, sodium salt, with 1-octanethiol and hydrogen peroxide EC No.: 948-020-7	1.54 mg/kg bw/day	① DNEL worker ② Long-term - dermal, systemic effects

Substance name	PNEC Value	① PNEC type
Reaction mass of p-t-butylphenyl diphenyl phosphate and bis (p-t-butylphenyl) phenyl phosphate and triphenyl phosphate [TPP = 2.5 <25%] EC No.: 700-990-0	3.99 µg/L	① PNEC aquatic, freshwater
Reaction mass of p-t-butylphenyl diphenyl phosphate and bis (p-t-butylphenyl) phenyl phosphate and triphenyl phosphate [TPP = 2.5 <25%] EC No.: 700-990-0	0.798 µg/L	① PNEC aquatic, freshwater
Reaction mass of p-t-butylphenyl diphenyl phosphate and bis (p-t-butylphenyl) phenyl phosphate and triphenyl phosphate [TPP = 2.5 <25%] EC No.: 700-990-0	399 µg/L	① PNEC aquatic, marine water
Reaction mass of p-t-butylphenyl diphenyl phosphate and bis (p-t-butylphenyl) phenyl phosphate and triphenyl phosphate [TPP = 2.5 <25%] EC No.: 700-990-0	0.08 µg/L	① PNEC aquatic, marine water
Reaction mass of p-t-butylphenyl diphenyl phosphate and bis (p-t-butylphenyl) phenyl phosphate and triphenyl phosphate [TPP = 2.5 <25%] EC No.: 700-990-0	3.12 mg/kg bw/day	① PNEC sediment, freshwater
Reaction mass of p-t-butylphenyl diphenyl phosphate and bis (p-t-butylphenyl) phenyl phosphate and triphenyl phosphate [TPP = 2.5 <25%] EC No.: 700-990-0	0.96 mg/kg	① PNEC sediment, freshwater
Reaction mass of p-t-butylphenyl diphenyl phosphate and bis (p-t-butylphenyl) phenyl phosphate and triphenyl phosphate [TPP = 2.5 <25%] EC No.: 700-990-0	0.312 mg/kg bw/day	① PNEC sediment, marine water
Reaction mass of p-t-butylphenyl diphenyl phosphate and bis (p-t-butylphenyl) phenyl phosphate and triphenyl phosphate [TPP = 2.5 <25%] EC No.: 700-990-0	0.09 mg/kg	① PNEC sediment, marine water
Reaction mass of p-t-butylphenyl diphenyl phosphate and bis (p-t-butylphenyl) phenyl phosphate and triphenyl phosphate [TPP = 2.5 <25%] EC No.: 700-990-0	0.252 mg/kg	① PNEC soil
Reaction mass of p-t-butylphenyl diphenyl phosphate and bis (p-t-butylphenyl) phenyl phosphate and triphenyl phosphate [TPP = 2.5 <25%] EC No.: 700-990-0	2.02 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





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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: yellow

Odour: characteristic

Safety relevant basis data

Parameter	Value	at °C	① Method ② Remark
pH	<i>not applicable</i>		
Melting point	<i>not determined</i>		
Freezing point	<i>not determined</i>		
Initial boiling point and boiling range	<i>not determined</i>		
Decomposition temperature	<i>not determined</i>		
Flash point	176 °C		
Evaporation rate	<i>not determined</i>		
Auto-ignition temperature	<i>not determined</i>		
Upper/lower flammability or explosive limits	<i>not determined</i>		
Vapour pressure	<i>not determined</i>		
Vapour density	<i>not determined</i>		
Density	846 kg/m ³	15 °C	
Relative density	<i>not applicable</i>		
Bulk density	<i>not applicable</i>		
Water solubility	practically insoluble		
Partition coefficient: n-octanol/water	<i>not applicable</i>		
Dynamic viscosity	<i>not determined</i>		
Kinematic viscosity	30 mm ² /s	40 °C	

9.2. Other information

Not applicable.

SECTION 10: Stability and reactivity

10.1. Reactivity

No known hazardous reactions. Risk of explosion if heated under confinement.

10.2. Chemical stability

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



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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, Oxidizing agent, Reducing agent

10.6. Hazardous decomposition products

Hazardous combustion products: Carbon monoxide, Carbon dioxide (CO₂), Nitrogen oxides (NO_x),
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
LD₅₀ oral: >5,000 mg/kg (Rat)
LD₅₀ dermal: >2,000 mg/kg (Rabbit)
LC₅₀ Acute inhalation toxicity (dust/mist): >5 mg/L 4 h (Rat)
Reaction mass of p-t-butylphenyl diphenyl phosphate and bis (p-t-butylphenyl) phenyl phosphate and triphenyl phosphate [TPP = 2.5 <25%] EC No.: 700-990-0
LD₅₀ oral: 5,000 mg/kg (Rat)
LD₅₀ dermal: 2,000 mg/kg (Rabbit)
LC₅₀ Acute inhalation toxicity (vapour): 0.4 mg/L 6 h (Rat)
Reaction products of 2,5-dimercapto-1,3,4-thiadiazole, sodium salt, with 1-octanethiol and hydrogen peroxide EC No.: 948-020-7
LD₅₀ oral: 5,000 mg/kg (Rat)
LD₅₀ dermal: 2,000 mg/kg (Rabbit)
LC₅₀ Acute inhalation toxicity (vapour): 3.08 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.

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:

Contains Reaction products of 2,5-dimercapto-1,3,4-thiadiazole, sodium salt, with 1-octanethiol and hydrogen peroxide. May produce an allergic reaction.

Germ cell mutagenicity:

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

Carcinogenicity:

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

Reproductive toxicity:

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

STOT-single exposure:

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

STOT-repeated exposure:

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

Aspiration hazard:

Observe risk of aspiration if vomiting occurs.

For viscosity data, see section 9.

Additional information:

Frequently or prolonged contact with skin may cause dermal irritation.



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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.

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)
Reaction mass of p-t-butylphenyl diphenyl phosphate and bis (p-t-butylphenyl) phenyl phosphate and triphenyl phosphate [TPP = 2.5 <25%] EC No.: 700-990-0
LC ₅₀ : 0.8 mg/L 4 d (fish)
NOEC: 0.093 mg/L 56 d (fish)
EC ₅₀ : 0.202 mg/L 2 d (crustaceans)
NOEC: 0.05 mg/L 3 d (Algae/water plant)
EC ₅₀ : 1.4 mg/L 3 d (Algae/water plant)
LC ₅₀ : 0.202 mg/L 2 d (crustaceans)
NOEC: 0.036 mg/L 28 d (crustaceans)
LOEC: 0.1 mg/L 21 d (crustaceans)
LC ₅₀ : 42.3 mg/L 4 d (fish, Pimephales promelas (fathead minnow))
LC ₅₀ : 3.4 mg/L 4 d (fish, Oncorhynchus mykiss (Rainbow trout))
EC ₅₀ : 3.9 mg/L 2 d (crustaceans, Daphnia magna (Big water flea))
Reaction products of 2,5-dimercapto-1,3,4-thiadiazole, sodium salt, with 1-octanethiol and hydrogen peroxide EC No.: 948-020-7
LC ₅₀ : 100 mg/L 4 d (fish)
LC ₅₀ : 45 mg/L 2 d (crustaceans)
NOEC: 100 mg/L 3 d (Algae/water plant)

Assessment/classification:

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

Additional ecotoxicological information:

Do not allow uncontrolled discharge of product into the environment.

12.2. Persistence and degradability

Reaction mass of p-t-butylphenyl diphenyl phosphate and bis (p-t-butylphenyl) phenyl phosphate and triphenyl phosphate [TPP = 2.5 <25%] EC No.: 700-990-0
Biodegradation: Yes, rapidly
Reaction products of 2,5-dimercapto-1,3,4-thiadiazole, sodium salt, with 1-octanethiol and hydrogen peroxide EC No.: 948-020-7
Biodegradation: Yes, slowly

Biodegradation:

Not readily biodegradable (according to OECD criteria)

12.3. Bioaccumulative potential

Reaction mass of p-t-butylphenyl diphenyl phosphate and bis (p-t-butylphenyl) phenyl phosphate and triphenyl phosphate [TPP = 2.5 <25%] EC No.: 700-990-0
Log K_{OW}: 4.68

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.



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12.5. Results of PBT and vPvB assessment

Dec-1-ene, dimers, hydrogenated CAS No.: 68649-11-6 EC No.: 500-228-5
Results of PBT and vPvB assessment: This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.
1-decene, homopolymer, hydrogenated CAS No.: 68037-01-4 EC No.: 500-183-1
Results of PBT and vPvB assessment: This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.
Reaction mass of p-t-butylphenyl diphenyl phosphate and bis (p-t-butylphenyl) phenyl phosphate and triphenyl phosphate [TPP = 2.5 <25%] EC No.: 700-990-0
Results of PBT and vPvB assessment: This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.
Reaction products of 2,5-dimercapto-1,3,4-thiadiazole, sodium salt, with 1-octanethiol and hydrogen peroxide EC No.: 948-020-7
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

Waste code packaging

Remark:

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



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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], Hazard categories:

- E2 Hazardous to the Aquatic Environment in Category Chronic 2

Safety data sheet available on request.

15.1.2. National regulations

[DE] National regulations

Restrictions of occupation

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

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:

2 - deutlich wassergefährdend

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 (AltöIV)

[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 være kræftfremkaldende

[FR] National regulations

Other regulations, restrictions and prohibition regulations

Frankreich: Tableaux de maladies professionnelles

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 vankankerverwekkende, 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



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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)

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

No data available

16.2. Abbreviations and acronyms

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

67/548/EEC - Dangerous Substances Directive
 1999/45/EEC - Dangerous Preparations Directive
 EC 1907/2006 - REACH Regulation
 1272/2008 EC - Regulation on classification, labeling and packaging of substances and mixtures, and amending Directives 67/548/EEC and 1999/45/EC and Regulation (EC) No 1907/2006
 Regulation (EC) No 1907/2006 (REACH), Annex II
 European Chemicals Agency (ECHA), C & L classification and labeling inventory
 European Chemicals Agency (ECHA), ECHA CHEM Registered substances
 OECD The Global Portal to Information on Chemical Substances (ChemPortal)
 Institute for Occupational Safety and Health of the German Social Accident Insurance (IFA): GESTIS substance database and International limit values for chemical substances
 Federal Environment Agency, Section IV 2.4: Documentation and Information Centre substances hazardous to water Rigoletto (catalog substances hazardous to water)

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

Hazard classes and hazard categories	Hazard statements	Classification procedure
Acute toxicity (inhalative) (Acute Tox. 4)	H332: Harmful if inhaled.	Calculation method.

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

Hazard statements	
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H332	Harmful if inhaled.
H411	Toxic to aquatic life with long lasting effects.
H413	May cause long lasting harmful effects to aquatic life.

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



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case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.