



Revision date: 28 Mar 2025 Version: 2 Print date: 28 Mar 2025

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 DCT-LV Fluid

Article No.:

1212107

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 4)	H413: May cause long lasting harmful effects to aquatic life.	Calculation method.

* 2.2. Label elements

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

Hazard components for labelling:

Reaction product of alkylthioalcohol and substituted phosphorus compound

Hazard statements for environmental hazards	
H413	May cause long lasting harmful effects to aquatic life.
Supplemental hazard information	
EUH208	Contains 4,4'-thiodiethylene hydrogen -2-octadecenylsuccinate. May produce an allergic reaction.
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.



Revision date: 28 Mar 2025 Version: 2 Print date: 28 Mar 2025

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 CLP Reference No: 02-0000000000-04-2024 REACH No.: 01-2119493069-28	Dec-1-ene, dimers, hydrogenated Acute Tox. 4 (H332), Asp. Tox. 1 (H304) Danger Acute Toxicity Estimate ATE (oral) > 5,000 mg/kg ATE (dermal) > 3,000 mg/kg ATE (inhalation, dust/mist) > 1.81 mg/L	20 - < 35 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 Acute Toxicity Estimate ATE (oral) > 5,000 mg/kg ATE (dermal) > 2,000 mg/kg ATE (inhalation, dust/mist) > 5 mg/L	15 - < 30 weight-%
EC No.: 701-204-9 REACH No.: 01-2119960832-33	Reaction products of fatty acids, C14-C18 (branched and linear) and C18 (unsaturated) with tetraethylenepentamine (linear, branched, cyclic) Eye Irrit. 2 (H319), Skin Irrit. 2 (H315) Warning	1 - < 2 weight-%
CAS No.: 72623-87-1 EC No.: 276-738-4 REACH No.: 01-2119474889-13	Lubricating oils (petroleum), C20-50, hydrotreated neutral oil 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	0 - < 1 weight-%
EC No.: 424-820-7 REACH No.: 01-0000017126-75	Reaction product of alkythioalcohol and substituted phosphorus compound Acute Tox. 4 (H312), Aquatic Acute 1 (H400), Aquatic Chronic 1 (H410), Skin Corr. 1B (H314) Danger M-factor (acute): 10 M-factor (chronic): 10 Acute Toxicity Estimate ATE (dermal) 1,100 mg/kg	0 - < 0.5 weight-%
CAS No.: 93882-40-7 EC No.: 299-434-3 REACH No.: 01-2120735527-50	4,4'-thiodiethylene hydrogen -2-octadecenylsuccinate Aquatic Chronic 2 (H411), Eye Irrit. 2 (H319), Skin Sens. 1 (H317) Warning	0 - < 0.25 weight-%

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

SECTION 4: First aid measures

* 4.1. Description of first aid measures

General information:

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.



Revision date: 28 Mar 2025 Version: 2 Print date: 28 Mar 2025

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**

Contains 4,4'-thiodiethylene hydrogen -2-octadecenylsuccinate. May produce an allergic reaction.

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).

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).



Revision date: 28 Mar 2025 Version: 2 Print date: 28 Mar 2025

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
TRGS 900 (DE) from 1 Dec 2011	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) Y, DFG
SI from 4 Dec 2018	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) Y



Revision date: 28 Mar 2025 Version: 2 Print date: 28 Mar 2025

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 from 12 Jun 2018	Lubricating oils (petroleum), C20-50, hydrotreated neutral oil CAS No.: 72623-87-1 EC No.: 276-738-4	① 5 mg/m ³ ⑤ (Mgła olejowa mineralny)
MAK (AT)	Lubricating oils (petroleum), C20-50, hydrotreated neutral oil CAS No.: 72623-87-1 EC No.: 276-738-4	① 5 mg/m ³ ⑤ (Ölnebel, mineralisch einatembare Fraktion)
BE	Lubricating oils (petroleum), C20-50, hydrotreated neutral oil CAS No.: 72623-87-1 EC No.: 276-738-4	① 5 mg/m ³ ⑤ (Brouillard d'huile minéral)
Québec (CA)	Lubricating oils (petroleum), C20-50, hydrotreated neutral oil CAS No.: 72623-87-1 EC No.: 276-738-4	① 5 mg/m ³ ② 10 mg/m ³ ⑤ (Oil mist mineral)
HU from 28 May 2022	Lubricating oils (petroleum), C20-50, hydrotreated neutral oil CAS No.: 72623-87-1 EC No.: 276-738-4	① 5 mg/m ³ ⑤ (Olajköd ásványi) T
SE	Lubricating oils (petroleum), C20-50, hydrotreated neutral oil CAS No.: 72623-87-1 EC No.: 276-738-4	① 1 mg/m ³ ② 3 mg/m ³ ⑤ (Oljeånga eller rök)
ES	Lubricating oils (petroleum), C20-50, hydrotreated neutral oil CAS No.: 72623-87-1 EC No.: 276-738-4	① 5 mg/m ³ ② 10 mg/m ³ ⑤ (Niebla de aceite mineral) am
NL	Lubricating oils (petroleum), C20-50, hydrotreated neutral oil CAS No.: 72623-87-1 EC No.: 276-738-4	① 5 mg/m ³ ⑤ (Olienevel mineraal)
OSHA (US)	Lubricating oils (petroleum), C20-50, hydrotreated neutral oil CAS No.: 72623-87-1 EC No.: 276-738-4	① 5 mg/m ³ ⑤ (Oil mist mineral)
NIOSH (US)	Lubricating oils (petroleum), C20-50, hydrotreated neutral oil CAS No.: 72623-87-1 EC No.: 276-738-4	① 5 mg/m ³ ② 10 mg/m ³ ⑤ (Oil mist mineral)
ACGIH (US) from 1 Jan 2010	Lubricating oils (petroleum), C20-50, hydrotreated neutral oil CAS No.: 72623-87-1 EC No.: 276-738-4	① 5 mg/m ³ ⑤ (Oil mist mineral, inhalable fraction)
CZ	Lubricating oils (petroleum), C20-50, hydrotreated neutral oil CAS No.: 72623-87-1 EC No.: 276-738-4	① 5 mg/m ³ ② 10 mg/m ³ ⑤ (Rozprášený olej (olejová mlhovina) minerální)
NO	Lubricating oils (petroleum), C20-50, hydrotreated neutral oil CAS No.: 72623-87-1 EC No.: 276-738-4	① 1 mg/m ³ ⑤ (Oljetåke mineralsk)
NPEL (SK) from 23 Nov 2011	Lubricating oils (petroleum), C20-50, hydrotreated neutral oil CAS No.: 72623-87-1 EC No.: 276-738-4	① 5 ppm (1 mg/m ³) ② 15 ppm (3 mg/m ³) ⑤ (Olejová hmlovina minerálny)
Alberta (CA)	Lubricating oils (petroleum), C20-50, hydrotreated neutral oil CAS No.: 72623-87-1 EC No.: 276-738-4	① 5 mg/m ³ ② 10 mg/m ³ ⑤ (Oil mist mineral)



Revision date: 28 Mar 2025 Version: 2 Print date: 28 Mar 2025

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
HTP (FI)	Lubricating oils (petroleum), C20-50, hydrotreated neutral oil CAS No.: 72623-87-1 EC No.: 276-738-4	① 5 mg/m ³ ⑤ (Öljysumu)
LT	Lubricating oils (petroleum), C20-50, hydrotreated neutral oil CAS No.: 72623-87-1 EC No.: 276-738-4	① 1 mg/m ³ ② 3 mg/m ³ ⑤ (Tepalo rūkas arba dūmai)
BC (CA) from 1 Jan 2007	Lubricating oils (petroleum), C20-50, hydrotreated neutral oil CAS No.: 72623-87-1 EC No.: 276-738-4	① 0.2 mg/m ³ ⑤ (Oil mist mineral) 1
MY from 1 Jan 2000	Lubricating oils (petroleum), C20-50, hydrotreated neutral oil CAS No.: 72623-87-1 EC No.: 276-738-4	① 5 mg/m ³ ⑤ (Kabus minyak mineral)
BC (CA) from 1 Jan 2007	Lubricating oils (petroleum), C20-50, hydrotreated neutral oil CAS No.: 72623-87-1 EC No.: 276-738-4	① 1 mg/m ³ ⑤ (Oil mist mineral, highly refined)
TW	Lubricating oils (petroleum), C20-50, hydrotreated neutral oil CAS No.: 72623-87-1 EC No.: 276-738-4	① 5 mg/m ³ ⑤ (## ##)
GR from 1 Oct 2016	Lubricating oils (petroleum), C20-50, hydrotreated neutral oil CAS No.: 72623-87-1 EC No.: 276-738-4	① 5 mg/m ³ ⑤ (Εκκνέφωμα λαδιού, ορυκτό)
MY from 1 Jan 2000	Lubricating oils (petroleum), C20-50, hydrotreated neutral oil CAS No.: 72623-87-1 EC No.: 276-738-4	① 10 mg/m ³ ⑤ (Kabus minyak, vegetal)
RO from 21 Aug 2018	Lubricating oils (petroleum), C20-50, hydrotreated neutral oil CAS No.: 72623-87-1 EC No.: 276-738-4	① 5 mg/m ³ ② 10 mg/m ³ ⑤ (Ceata uleioasa mineral)
CH from 1 Jan 2024	Lubricating oils (petroleum), C20-50, hydrotreated neutral oil CAS No.: 72623-87-1 EC No.: 276-738-4	① 5 mg/m ³ ⑤ (einatembare Fraktion) C2; Messmeth: NIOSH DFG
LV from 12 Jul 2018	Lubricating oils (petroleum), C20-50, hydrotreated neutral oil CAS No.: 72623-87-1 EC No.: 276-738-4	① 5 mg/m ³ ⑤ (Eļļas migla)
JP	Lubricating oils (petroleum), C20-50, hydrotreated neutral oil CAS No.: 72623-87-1 EC No.: 276-738-4	① 3 mg/m ³ ⑤ (##### ##)
IDLH (US) from 1 Jan 1994	Lubricating oils (petroleum), C20-50, hydrotreated neutral oil CAS No.: 72623-87-1 EC No.: 276-738-4	① 2,500 mg/m ³
IE from 1 Apr 2016	Lubricating oils (petroleum), C20-50, hydrotreated neutral oil CAS No.: 72623-87-1 EC No.: 276-738-4	① 5 mg/m ³ ⑤ (Oil mist mineral, inhalable fraction)

8.1.2. Biological limit values

No data available



Revision date: 28 Mar 2025 Version: 2 Print date: 28 Mar 2025

8.1.3. DNEL-/PNEC-values

Substance name	DNEL value	① DNEL type ② Exposure route
Reaction products of fatty acids, C14-C18 (branched and linear) and C18 (unsaturated) with tetraethylenepentamine (linear, branched, cyclic) EC No.: 701-204-9	11.75 mg/cm ²	① DNEL worker ② Long-term - inhalation, systemic effects
Reaction products of fatty acids, C14-C18 (branched and linear) and C18 (unsaturated) with tetraethylenepentamine (linear, branched, cyclic) EC No.: 701-204-9	3.33 mg/kg bw/day	① DNEL worker ② Long-term - dermal, systemic effects
Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based CAS No.: 72623-86-0 EC No.: 276-737-9	2.73 mg/m ³	① DNEL worker ② Long-term - inhalation, systemic effects
Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based CAS No.: 72623-86-0 EC No.: 276-737-9	5.58	① DNEL worker ② Long-term - inhalation, local effects
Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based CAS No.: 72623-86-0 EC No.: 276-737-9	0.97 mg/kg	① DNEL worker ② Long-term - dermal, systemic effects
Reaction product of alkylthioalcohol and substituted phosphorus compound EC No.: 424-820-7	1.76 mg/m ³	① DNEL worker ② Long-term - inhalation, systemic effects
Reaction product of alkylthioalcohol and substituted phosphorus compound EC No.: 424-820-7	0.5 mg/kg bw/day	① DNEL worker ② Long-term - dermal, systemic effects
4,4'-thiodiethylene hydrogen -2-octadecenylsuccinate CAS No.: 93882-40-7 EC No.: 299-434-3	3.526 mg/m ³	① DNEL worker ② Long-term - inhalation, systemic effects
4,4'-thiodiethylene hydrogen -2-octadecenylsuccinate CAS No.: 93882-40-7 EC No.: 299-434-3	2 mg/kg bw/day	① DNEL worker ② Long-term - dermal, systemic effects

Substance name	PNEC Value	① PNEC type
Reaction products of fatty acids, C14-C18 (branched and linear) and C18 (unsaturated) with tetraethylenepentamine (linear, branched, cyclic) EC No.: 701-204-9	460 µg/L	① PNEC aquatic, freshwater
Reaction products of fatty acids, C14-C18 (branched and linear) and C18 (unsaturated) with tetraethylenepentamine (linear, branched, cyclic) EC No.: 701-204-9	46 µg/L	① PNEC aquatic, marine water
Reaction products of fatty acids, C14-C18 (branched and linear) and C18 (unsaturated) with tetraethylenepentamine (linear, branched, cyclic) EC No.: 701-204-9	1,000 mg/L	① PNEC sewage treatment plant
Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based CAS No.: 72623-86-0 EC No.: 276-737-9	9.99 mg/kg	① PNEC secondary poisoning

Revision date: 28 Mar 2025 Version: 2 Print date: 28 Mar 2025

Substance name	PNEC Value	① PNEC type
Reaction product of alkylthioalcohol and substituted phosphorus compound EC No.: 424-820-7	0.9 µg/L	① PNEC aquatic, freshwater
Reaction product of alkylthioalcohol and substituted phosphorus compound EC No.: 424-820-7	0.09 µg/L	① PNEC aquatic, marine water
Reaction product of alkylthioalcohol and substituted phosphorus compound EC No.: 424-820-7	5 mg/L	① PNEC sewage treatment plant
Reaction product of alkylthioalcohol and substituted phosphorus compound EC No.: 424-820-7	0.159 mg/kg bw/day	① PNEC sediment, freshwater
Reaction product of alkylthioalcohol and substituted phosphorus compound EC No.: 424-820-7	0.0159 mg/kg bw/day	① PNEC sediment, marine water
4,4'-thiodiethylene hydrogen -2-octadecenylsuccinate CAS No.: 93882-40-7 EC No.: 299-434-3	9.5 µg/L	① PNEC aquatic, freshwater
4,4'-thiodiethylene hydrogen -2-octadecenylsuccinate CAS No.: 93882-40-7 EC No.: 299-434-3	0.95 µg/L	① PNEC aquatic, marine water
4,4'-thiodiethylene hydrogen -2-octadecenylsuccinate CAS No.: 93882-40-7 EC No.: 299-434-3	100 mg/L	① PNEC sewage treatment plant
4,4'-thiodiethylene hydrogen -2-octadecenylsuccinate CAS No.: 93882-40-7 EC No.: 299-434-3	95 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: $\geq 0,4$ 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 respiratory protection necessary.



Revision date: 28 Mar 2025 Version: 2 Print date: 28 Mar 2025

8.2.3. Environmental exposure controls

See section 7. No additional measures necessary.

SECTION 9: Physical and chemical properties

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

Appearance

Physical state: Liquid

Form: Liquid

Colour: yellow

Odour: characteristic

flammability: Yes

Safety relevant basis data

Parameter	Value	at °C	① Method ② Remark
pH	<i>not applicable</i>		
Melting point	<i>No data available</i>		
Freezing point	<i>No data available</i>		
Initial boiling point and boiling range	<i>No data available</i>		
Flash point	204 °C		
Evaporation rate	<i>No data available</i>		
Auto-ignition temperature	<i>No data available</i>		
Upper/lower flammability or explosive limits	<i>No data available</i>		
Vapour pressure	<i>No data available</i>		
Vapour density	<i>No data available</i>		
Density	835 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>No data available</i>		
Kinematic viscosity	23.8 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.

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.



Revision date: 28 Mar 2025 Version: 2 Print date: 28 Mar 2025

SECTION 11: Toxicological information

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

Acute Toxicity Estimate for Mixtures	
ATE (inhalation, dust/mist):	5.444 mg/L
Dec-1-ene, dimers, hydrogenated	CAS No.: 68649-11-6 EC No.: 500-228-5
LD₅₀ oral:	>5,000 mg/kg (Rat)
LD₅₀ dermal:	>3,000 mg/kg (Rabbit)
LC₅₀ Acute inhalation toxicity (dust/mist):	>1.81 mg/L (Rat)
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 products of fatty acids, C14-C18 (branched and linear) and C18 (unsaturated) with tetraethylenepentamine (linear, branched, cyclic)	EC No.: 701-204-9
LD₅₀ oral:	5,000 mg/kg (Rat)
LD₅₀ dermal:	2,000 mg/kg (Rabbit)
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil	CAS No.: 72623-87-1 EC No.: 276-738-4
LD₅₀ oral:	>5,000 mg/kg (Rat) OECD 401
LD₅₀ dermal:	>2,000 mg/kg (Rabbit) OECD 402
LC₅₀ Acute inhalation toxicity (dust/mist):	>5 mg/L
Reaction product of alkylthioalcohol and substituted phosphorus compound	EC No.: 424-820-7
LD₅₀ oral:	2,000 mg/kg (rat)
LD₅₀ dermal:	500 mg/kg (rabbit)
4,4'-thiodiethylene hydrogen -2-octadecenylsuccinate	CAS No.: 93882-40-7 EC No.: 299-434-3
LD₅₀ oral:	10,000 mg/kg (rat)
LD₅₀ dermal:	3,160 mg/kg (rabbit)

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:

Contains 4,4'-thiodiethylene hydrogen -2-octadecenylsuccinate. 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.



Revision date: 28 Mar 2025 Version: 2 Print date: 28 Mar 2025

11.2. Information on other hazards

Endocrine disrupting properties:

This product does not contain a substance that has endocrine disrupting properties with respect to humans as no components meets the criteria.

Other information:

No data available.

SECTION 12: Ecological information

* 12.1. Toxicity

Dec-1-ene, dimers, hydrogenated CAS No.: 68649-11-6 EC No.: 500-228-5
LC ₅₀ : >1,000 mg/L (fish)
EC ₅₀ : >1,000 mg/L (crustaceans)
EC ₅₀ : >1,000 mg/L (Algae/water plant)
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 products of fatty acids, C14-C18 (branched and linear) and C18 (unsaturated) with tetraethylenepentamine (linear, branched, cyclic) EC No.: 701-204-9
LC ₅₀ : 1,000 mg/L 4 d (fish)
EC ₅₀ : 1,000 mg/L 2 d (crustaceans)
NOEC: 32 mg/L 21 d (crustaceans)
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil CAS No.: 72623-87-1 EC No.: 276-738-4
EC ₅₀ : >100 mg/L 2 d (Algae/water plant, Pseudokirchneriella subcapitata) OECD 201
EC ₅₀ : >10,000 mg/L 2 d (crustaceans, Daphnia magna (Big water flea)) OECD 202
NOEC: 10 mg/L 21 d (crustaceans, Daphnia magna (Big water flea)) OECD 211
NOEC: >100 mg/L 3 d (Algae/water plant, Pseudokirchneriella subcapitata) OECD 201
NOEC: >100 mg/L 4 d (fish, Pimephales promelas (fathead minnow))
Reaction product of alkylthioalcohol and substituted phosphorus compound EC No.: 424-820-7
LC ₅₀ : 1.5 mg/L 4 d (fish)
EC ₅₀ : 0.09 mg/L 2 d (crustaceans)
EC ₅₀ : 0.31 mg/L 3 d (Algae/water plant)
4,4'-thiodiethylene hydrogen -2-octadecenylsuccinate CAS No.: 93882-40-7 EC No.: 299-434-3
LC ₅₀ : 100 mg/L 4 d (fish)
EC ₅₀ : 9.5 mg/L 2 d (crustaceans)
NOEC: 100 mg/L 3 d (Algae/water plant)

Aquatic toxicity:

Analogous classification: May cause long lasting harmful effects to aquatic life.

Additional ecotoxicological information:

Do not allow uncontrolled discharge of product into the environment.

* 12.2. Persistence and degradability

Dec-1-ene, dimers, hydrogenated CAS No.: 68649-11-6 EC No.: 500-228-5
Biodegradation: Yes, slowly
Lubricating oils (petroleum), C20-50, hydrotreated neutral oil CAS No.: 72623-87-1 EC No.: 276-738-4
Biodegradation: Yes, slowly

Biodegradation:

Not readily biodegradable (according to OECD criteria)

* 12.3. Bioaccumulative potential

Dec-1-ene, dimers, hydrogenated CAS No.: 68649-11-6 EC No.: 500-228-5
Log K _{ow} : > 6.5
1-decene, homopolymer, hydrogenated CAS No.: 68037-01-4 EC No.: 500-183-1
Log K _{ow} : > 6.5



Revision date: 28 Mar 2025 Version: 2 Print date: 28 Mar 2025

Lubricating oils (petroleum), C20-50, hydrotreated neutral oil CAS No.: 72623-87-1 EC No.: 276-738-4

Log K_{ow} : 6

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**

Dec-1-ene, dimers, hydrogenated CAS No.: 68649-11-6 EC No.: 500-228-5
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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 products of fatty acids, C14-C18 (branched and linear) and C18 (unsaturated) with tetraethylenepentamine (linear, branched, cyclic) EC No.: 701-204-9

Results of PBT and vPvB assessment: This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.

Lubricating oils (petroleum), C20-50, hydrotreated neutral oil CAS No.: 72623-87-1 EC No.: 276-738-4

Results of PBT and vPvB assessment: This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.

Reaction product of alkylthioalcohol and substituted phosphorus compound EC No.: 424-820-7

Results of PBT and vPvB assessment: This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.

4,4'-thiodiethylene hydrogen -2-octadecenylsuccinate CAS No.: 93882-40-7 EC No.: 299-434-3

Results of PBT and vPvB assessment: This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.

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

12.6. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

12.7. Other adverse effects

No data available.

SECTION 13: Disposal considerations* **13.1. Waste treatment methods**

Dispose of waste according to applicable legislation.

13.1.1. Product/Packaging disposal**Waste codes/waste designations according to EWC/AVV Directive 2008/98/EC (Waste Framework Directive)**

HP 14	Ecotoxic
-------	----------

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.



Revision date: 28 Mar 2025 Version: 2 Print date: 28 Mar 2025

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):

This product is not assigned to a hazard category.
Safety data sheet available on request.

Directive 2004/42/EC on the limitation of emissions of volatile organic compounds:

Volatile organic compounds (VOC) content in percent by weight: 34.3 weight-%

15.1.2. National regulations

[DE] National regulations

Restrictions of occupation

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

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 (AltöIV)



Revision date: 28 Mar 2025 Version: 2 Print date: 28 Mar 2025

[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

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

1.1.	Product identifier
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
4.2.	Most important symptoms and effects, both acute and delayed
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
12.2.	Persistence and degradability
12.3.	Bioaccumulative potential
12.5.	Results of PBT and vPvB assessment
13.1.	Waste treatment methods
15.1.	Safety, health and environmental regulations/legislation specific for the substance or mixture
16.1.	Indication of changes
16.2.	Abbreviations and acronyms
16.4.	Classification for mixtures and used evaluation method according to regulation (EC) No 1272/2008 [CLP]

* 16.2. Abbreviations and acronyms

ACGIH American Conference of Governmental Industrial Hygienists



Revision date: 28 Mar 2025 Version: 2 Print date: 28 Mar 2025

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
CAS	Chemical Abstracts Service
CLP	Classification, Labelling and Packaging
DNEL	derived no-effect level
EC ₅₀	Effective Concentration 50%
ES	Exposure scenario
EWC	European Waste Catalogue
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods
IMO	International Maritime Organization
KG	body weight
LC ₅₀	Lethal (fatal) Concentration 50%
LD ₅₀	Lethal (fatal) Dose 50%
MAK	Maximum concentration in the workplace air (CH)
NFPA	National Fire Protection Association
NIOSH	National Institute for Occupational Safety & Health
NOEC	No Observed Effect Concentration
OECD	Organisation for Economic Cooperation and Development
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
TRGS	Technische Regeln für Gefahrstoffe
UN	United Nations
VOC	Volatile organic compounds

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)

* 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 4)	H413: May cause long lasting harmful effects to aquatic life.	Calculation method.

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

Hazard statements	
H304	May be fatal if swallowed and enters airways.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H400	Very toxic to aquatic life.



Revision date: 28 Mar 2025 Version: 2 Print date: 28 Mar 2025

Hazard statements

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.