



Revision date: 12-Jul-2019 Version: 6 Print date: 12-Jul-2019

**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 DW-1 Fluid**

Article No.:

1211125

**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**

Jöllenbecker Str. 2

33824 Werther

D

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

\* **2.2. Label elements**

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

According to EC directives or the corresponding national regulations the product does not have to be labelled.

Hazard components for labelling:

Reaction product of alkylthioalcohol and substituted phosphorus compound; Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based

**Hazard statements for environmental hazards**

H412	Harmful to aquatic life with long lasting effects.
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**Supplemental Hazard information (EU)**

EUH208	Contains 4,4'-thiodiethylene hydrogen-2-octadecenyl succinate. May produce an allergic reaction.
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EUH210	Safety data sheet available on request.
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**Precautionary statements Prevention**

P273	Avoid release to the environment.
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**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.: 72623-86-0 EC No.: 276-737-9 REACH No.: 01-2119474878-16	Lubricating oils (petroleum), C15-30, hydrotreated neutral oil-based Asp. Tox. 1 <b>Danger</b> H304	0 - < 2 Wt %
	Reaction product of alkylthioalcohol and substituted phosphorus compound Acute Tox. 4, Aquatic Acute 1, Aquatic Chronic 1, Skin Corr. 1B H312-H314-H400-H410	0 - < 0.5 Wt %
	<b>4,4'-thiodiethylene hydrogen-2-octadecenyl succinate</b> Aquatic Chronic 2, Eye Irrit. 2, Skin Sens. 1 H317-H319-H411	0 - < 0.5 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:

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 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.

#### After ingestion:

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

#### Self-protection of the first aider:

Use personal protection equipment. No direct artificial respiration to be given by first aider.

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

No known symptoms to date.

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

Treat symptomatically. Observe risk of aspiration if vomiting occurs.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

#### Suitable extinguishing media:

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

Carbon dioxide (CO<sub>2</sub>)

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



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**Hazardous combustion products:**

Carbon monoxide, Carbon dioxide (CO<sub>2</sub>), Nitrogen oxides (NO<sub>x</sub>),  
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. Remove persons to safety.

**Protective equipment:**

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

**Emergency procedures:**

Remove persons to safety.

**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 (e.g. 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:**

Personal protection equipment: see 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.



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### 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:** 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

No data available

### \* 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. DIN 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 (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.

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.

### 8.3. Additional information

Mineral oil mist limits:

OSHA PEL - value  $5 \text{ mg} / \text{m}^3$ , ACGIH STEL - value of  $10 \text{ mg} / \text{m}^3$



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## SECTION 9: Physical and chemical properties

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

#### Appearance

**Physical state:** Liquid

**Colour:** red

**Odour:** characteristic

#### 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	<i>not determined</i>			
Decomposition temperature	<i>not determined</i>			
Flash point	218 °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	838 kg/m <sup>3</sup>	20 °C		
Bulk density	<i>not determined</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	29.1 mm <sup>2</sup> /s	40 °C		

### 9.2. Other information

No data available

## 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, Oxidising agent, Reducing agent

### 10.6. Hazardous decomposition products

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

## SECTION 11: Toxicological information

### \* 11.1. Information on toxicological effects

#### Acute oral toxicity:

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



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**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:**

No irritant effect.

Frequently or prolonged contact with skin may cause dermal irritation.

**Serious eye damage/irritation:**

No irritant effect.

**Respiratory or skin sensitisation:**

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

**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:**

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

**STOT-repeated exposure:**

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

**Aspiration hazard:**

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

**SECTION 12: Ecological information**

\* **12.1. Toxicity**

CAS No.	Substance name	Toxicological information
36878-20-3	bis(nonylphenyl)amine	LC <sub>50</sub> : >100 mg/l 4 d EC <sub>50</sub> : >100 mg/l 2 d EC <sub>50</sub> : 600 mg/l 3 d

**Aquatic toxicity:**

Harmful to aquatic life with long lasting effects.

**Assessment/classification:**

The product has not been tested.

**Additional ecotoxicological information:**

Do not allow uncontrolled discharge of product into the environment.

\* **12.2. Persistence and degradability**

CAS No.	Substance name	Biodegradation	Remark
36878-20-3	bis(nonylphenyl)amine	No	

**Biodegradation:**

Not readily biodegradable (according to OECD criteria)

\* **12.3. Bioaccumulative potential**

CAS No.	Substance name	Log K <sub>OW</sub>	Bioconcentration factor (BCF)
36878-20-3	bis(nonylphenyl)amine	7.6	1,584.89

**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**

CAS No.	Substance name	Results of PBT and vPvB assessment
36878-20-3	bis(nonylphenyl)amine	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**

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**

No dangerous good in sense of these transport regulations.

Land transport (ADR/RID)	Inland waterway craft (ADN)	Sea transport (IMDG)	Air transport (ICAO-TI / IATA-DGR)
<b>14.1. UN-No.</b>			
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.
<b>14.2. UN proper shipping name</b>			
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.
<b>14.3. Transport hazard class(es)</b>			
not relevant			
<b>14.4. Packing group</b>			
not relevant			
<b>14.5. Environmental hazards</b>			
not relevant			
<b>14.6. Special precautions for user</b>			
not relevant			

**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**

**Other regulations (EU):**

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

- E1 Hazardous to the Aquatic Environment in Category Acute 1 or Chronic 1
- E2 Hazardous to the Aquatic Environment in Category Chronic 2



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### 15.1.2. National regulations

#### [DE] National regulations

##### Störfallverordnung

##### for substances contained in the product:

Hazard categories:

- E1 Hazardous to the Aquatic Environment in Category Acute 1 or Chronic 1
- 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).  
Identification number 436

##### Technische Regeln für Gefahrstoffe

TRGS 510

Minimum standard for preventive measures while handling with working materials are specified in the TRGS 500.

##### Berufsgenossenschaftliche Vorschriften (BGV)

Berufsgenossenschaftliche Informationen (BGI) 868  
Berufsgenossenschaftliche Regeln (BGR) 189, 190, 192, 195

##### Other regulations, restrictions and prohibition regulations

Altöl-Verordnung (AltöIV)

#### [DK] National regulations

##### Other regulations, restrictions and prohibition regulations

Lister over stoffer og processer, der anses for at være kræftfremkaldende

#### [FR] National regulations

##### Other regulations, restrictions and prohibition regulations

Tableaux de maladies professionnelles  
Nomenclature des installations classées pour la protection de l'environnement

#### [NL] National regulations

##### Other regulations, restrictions and prohibition regulations

Lijst van kankerverwekkende, mutagene, en voor de voortplanting giftige stoffen SZW  
Algemeene beoordelingsmethodiek Water (ABM)  
Nederlandse emissierichtlijn (NeR)

#### [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.

## SECTION 16: Other information

### \* 16.1. Indication of changes

1.4.	Emergency telephone number
2.1.	Classification of the substance or mixture
2.2.	Label elements
3.2.	Mixtures
5.2.	Special hazards arising from the substance or mixture
6.1.	Personal precautions, protective equipment and emergency procedures





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7.1.	Precautions for safe handling
8.1.	Control parameters
8.2.	Exposure controls
9.1.	Information on basic physical and chemical properties
10.5.	Incompatible materials
11.1.	Information on toxicological effects
12.1.	Toxicity
12.2.	Persistence and degradability
12.3.	Bioaccumulative potential
12.5.	Results of PBT and vPvB assessment
14.1.	UN number
14.2.	UN proper shipping name
15.1.	Safety, health and environmental regulations/legislation specific for the substance or mixture
16.1.	Indication of changes
16.4.	Classification for mixtures and used evaluation method according to regulation (EC) No 1272/2008 [CLP]
16.5.	Relevant R-, H- and EUH-phrases (Number and full text)

**16.2. Abbreviations and acronyms**

See overview table at [www.euphrac.eu](http://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]**

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

Hazard classes and hazard categories	Hazard statements	Classification procedure
Hazardous to the aquatic environment ( <i>Aquatic Chronic 3</i> )	H412: Harmful to aquatic life with long lasting effects.	

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

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.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.

**16.6. Training advice**

No data available



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### 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