



Revision date: 30-Sep-2019 Version: 2 Print date: 30-Sep-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 Elektro-Hydraulik E-PSF Fluid

Article No.:

1181002

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
Aspiration hazard (<i>Asp. Tox. 1</i>)	H304: May be fatal if swallowed and enters airways.	
Acute toxicity (inhalative) (<i>Acute Tox. 4</i>)	H332: Harmful if inhaled.	

*

2.2. Label elements

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

Hazard pictograms:



GHS07

Exclamation mark



GHS08

Health hazard

Signal word: Danger

Hazard components for labelling:

Dec-1-ene, dimers, hydrogenated

hazard statements for health hazards	
H304	May be fatal if swallowed and enters airways.
H332	Harmful if inhaled.

Supplemental Hazard information (EU): -



Revision date: 30-Sep-2019 Version: 2 Print date: 30-Sep-2019

Precautionary statements Prevention

P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P264	Wash hands thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.

Precautionary statements Response

P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor/Emergency telephone number.
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.
P331	Do NOT induce vomiting.

Precautionary statements Storage

P405	Store locked up.
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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.: 68649-11-6 EC No.: 500-228-5	Dec-1-ene, dimers, hydrogenated Acute Tox. 4, Asp. Tox. 1 H304	40 - < 80 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

May be harmful if swallowed and enters airways. Harmful if inhaled.

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

Treat symptomatically. Observe risk of aspiration if vomiting occurs.



Revision date: 30-Sep-2019 Version: 2 Print date: 30-Sep-2019

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. Remove persons to safety.
Protective equipment:
Wear protective gloves/protective clothing/eye protection/face protection.
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 (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



Revision date: 30-Sep-2019 Version: 2 Print date: 30-Sep-2019

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: 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)	Dec-1-ene, dimers, hydrogenated CAS No.: 68649-11-6	① 5 mg/m ³ ② 20 mg/m ³ ⑤ (alveolengängige Fraktion)
VLA (FR)	Distillates (petroleum), hydro treated light CAS No.: 64742-47-8	① 1,000 mg/m ³ ② 1,500 mg/m ³ ⑤ (hydrocarbures C9-C12)
NO	Distillates (petroleum), hydro treated light CAS No.: 64742-47-8	① 50 ppm (275 mg/m ³) ⑤ (White Spirit (aromatinnhold < 22 %))
DFG (DE)	Distillates (petroleum), hydro treated light CAS No.: 64742-47-8	① 5 mg/m ³ ② 20 mg/m ³ ⑤ (Aerosol, alveolengängige Fraktion)



Revision date: 30-Sep-2019 **Version:** 2 **Print date:** 30-Sep-2019

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
BC (CA)	Distillates (petroleum), hydro treated light CAS No.: 64742-47-8	① 200 mg/m ³ ⑤ (may be absorbed through the skin)
MAK (AT)	Distillates (petroleum), hydro treated light CAS No.: 64742-47-8	① 200 mL/m ³ ② 400 mL/m ³ ⑤ (für Kohlenwasserstoffgemische mit einem Gehalt an aromatischen Kohlenwasserstoffen von weniger als 1 %, an n-Hexan von weniger als 5 % und an Cyclo-/Isohexanen von weniger als 25 %)
MAK (AT)	Distillates (petroleum), hydro treated light CAS No.: 64742-47-8	① 170 mL/m ³ ② 340 mL/m ³ ⑤ (für Kohlenwasserstoffgemische mit einem Gehalt an aromatischen Kohlenwasserstoffen von weniger als 1 %, an n-Hexan von weniger als 5 % und an Cyclo-/Isohexanen von 25 % oder mehr)
WEL (GB)	Distillates (petroleum), hydro treated light CAS No.: 64742-47-8	① 1,200 mg/m ³ ⑤ (> or = C7, Normal and branched chain alkanes)
WEL (GB)	Distillates (petroleum), hydro treated light CAS No.: 64742-47-8	① 800 mg/m ³ ⑤ (> or = C7, Cycloalkanes)
DFG (DE)	Distillates (petroleum), hydro treated light CAS No.: 64742-47-8	① 50 ppm (350 mg/m ³) ② 100 ppm (700 mg/m ³) ⑤ Dampf
RU	Distillates (petroleum), hydro treated light CAS No.: 64742-47-8	① 100 mg/m ³ ③ 300 mg/m ³
CH	Distillates (petroleum), hydro treated light CAS No.: 64742-47-8	① 350 mg/m ³ ② 700 mg/m ³

8.1.2. Biological limit values

No data available

8.1.3. DNEL-/PNEC-values

Substance name	DNEL value	① DNEL type ② Exposure route
Phosphorodithioic acid, mixed O,O-bis(iso-Bu and pentyl) esters, zinc salts CAS No.: 68457-79-4	8.13 mg/m ³	① DNEL worker ② inhalative, long-term, systemic
Substance name	PNEC Value	① PNEC type
Distillates (petroleum), hydrotreated middle; Gas oil - unspecified CAS No.: 64742-46-7	17 mg/kg	① PNEC secondary poisoning

* 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



Revision date: 30-Sep-2019 **Version:** 2 **Print date:** 30-Sep-2019

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 respiratory 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: colourless

Odour: characteristic

Safety relevant basis data

parameter		at °C	Method	Remark
pH	not determined			
Melting point	not determined			
Freezing point	not determined			
Initial boiling point and boiling range	not determined			
Decomposition temperature	not determined			
Flash point	154 °C			
Evaporation rate	not determined			
Auto-ignition temperature	not determined			
Upper/lower flammability or explosive limits	not determined			
Vapour pressure	not determined			
Vapour density	not determined			
Density	821 kg/m ³	20 °C		
Bulk density	not determined			
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	not determined			
Dynamic viscosity	not determined			
Kinematic viscosity	19 mm ² /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.



Revision date: 30-Sep-2019 Version: 2 Print date: 30-Sep-2019

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 dioxide Carbon monoxide Nitrogen oxides (NOx)

Further information

No information available.

SECTION 11: Toxicological information

* 11.1. Information on toxicological effects

Acute oral toxicity:

May be fatal if swallowed and enters airways.

Acute dermal toxicity:

No information available.

Acute inhalation toxicity:

Toxic if inhaled.

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:

No sensitizing effects known.

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:

Pamatojoties uz pieejamajiem datiem, klasifikācijas kritēriji nav izpildīti.

STOT-repeated exposure:

Pamatojoties uz pieejamajiem datiem, klasifikācijas kritēriji nav izpildīti.

Aspiration hazard:

Observe risk of aspiration if vomiting occurs.

SECTION 12: Ecological information

12.1. Toxicity

Aquatic toxicity:

No information available.

12.2. Persistence and degradability

CAS No.	Substance name	Biodegradation	Remark
68649-11-6	Dec-1-ene, dimers, hydrogenated	Yes, rapidly	

Abiotic degradation:

No information available.

12.3. Bioaccumulative potential

Accumulation / Evaluation:

No information available.

12.4. Mobility in soil

No information available.



Revision date: 30-Sep-2019 Version: 2 Print date: 30-Sep-2019

12.5. Results of PBT and vPvB assessment

CAS No.	Substance name	Results of PBT and vPvB assessment
68649-11-6	Dec-1-ene, dimers, hydrogenated	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.

12.6. Other adverse effects

No information 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. 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)	
14.1. UN-No.			
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.	
14.3. Transport hazard class(es)			
not relevant			
14.4. Packing group			
not relevant			
14.5. Environmental hazards			
not relevant			
14.6. Special precautions for user			
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]: This product is not assigned to a hazard category.

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:

This product is not assigned to a hazard category.

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)



Revision date: 30-Sep-2019 Version: 2 Print date: 30-Sep-2019

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

2.2.	Label elements
3.2.	Mixtures
4.1.	Description of first aid measures
5.1.	Extinguishing media
5.2.	Special hazards arising from the substance or mixture
6.1.	Personal precautions, protective equipment and emergency procedures
6.2.	Environmental precautions
6.3.	Methods and material for containment and cleaning up
7.1.	Precautions for safe handling
8.1.	Control parameters
8.2.	Exposure controls
8.3.	Additional information
9.1.	Information on basic physical and chemical properties
10.1.	Reactivity
10.5.	Incompatible materials
10.6.	Hazardous decomposition products
11.1.	Information on toxicological effects
13.1.	Waste treatment methods
13.2.	Additional information
15.1.	Safety, health and environmental regulations/legislation specific for the substance or mixture
16.1.	Indication of changes
16.5.	Relevant R-, H- and EUH-phrases (Number and full text)

16.2. Abbreviations and acronyms

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]

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

Hazard classes and hazard categories	Hazard statements	Classification procedure
Aspiration hazard (<i>Asp. Tox. 1</i>)	H304: May be fatal if swallowed and enters airways.	
Acute toxicity (inhalative) (<i>Acute Tox. 4</i>)	H332: Harmful if inhaled.	

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

Hazard statements	
H304	May be fatal if swallowed and enters airways.



Revision date: 30-Sep-2019 **Version:** 2 **Print date:** 30-Sep-2019

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