

Revision date: 25-Jan-2017 Version: 1 Print date: 02-Jul-2018



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 PDK Fluid

Article No.:

1211131

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 (Company ID: RAV) (outside USA/Canada)
011 49 700 24 112 112 (Company ID: RAV) (inside USA/Canada), +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
Acute toxicity (inhalative) (Acute Tox. 4)	H332: Harmful if inhaled.	
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]

Hazard pictograms:



GHS07

Exclamation mark

Signal word: Warning

Hazard components for labelling:

Dec-1-ene, dimers, hydrogenated; Dec-1-en, Trimere, hydrated

hazard statements for health hazards	
H332	Harmful if inhaled.



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Hazard statements for environmental hazards

H412 Harmful to aquatic life with long lasting effects.

Supplemental Hazard information (EU)

EUH208 Contains Ethanol, 2,2'-iminobis-, N-tallow alkyl derivs., 2-ethylhexyl methacrylate. May produce an allergic reaction.

Precautionary statements Prevention

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P271 Use only outdoors or in a well-ventilated area.

P273 Avoid release to the environment.

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 according to official regulations for disposal.

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 [CL P]	Concentration
CAS No.: 157707-86-3 EC No.: 500-393-3	Dec-1-en, Trimere, hydrated Asp. Tox. 1 H304	30 - 60 Wt %
CAS No.: 68649-11-6 EC No.: 500-228-5	Dec-1-ene, dimers, hydrogenated Acute Tox. 4, Asp. Tox. 1 H304	10 - 20 Wt %
CAS No.: 36878-20-3 EC No.: 253-249-4	bis(nonylphenyl)amine Aquatic Chronic 4 H413	0 - < 2 Wt %
CAS No.: 61791-44-4 EC No.: 263-177-5	Ethanol, 2,2'-iminobis-, N-tallow alkyl derivs. Skin Corr. 1B, Acute Tox. 4, Skin Sens. 1, Aquatic Chronic 3 H302-H314-H317-H412	0 - < 1 Wt %
CAS No.: 688-84-6 EC No.: 211-708-6	2-ethylhexyl methacrylate Skin Sens. 1B, STOT SE 3, Skin Irrit. 2, Eye Irrit. 2, Aquatic Chronic 3 H315-H317-H319-H335-H412	0 - < 1 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. Harmful by inhalation.

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.



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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 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

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.

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

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.



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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. Harmful to aquatic life with long lasting effects.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Protective measures

Advices on safe handling:

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:

See section 8.

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
DFG (DE)	Dec-1-ene, dimers, hydrogenated CAS No.: 68649-11-6	① 5 mg/m ³ ② 20 mg/m ³ ⑤ (alveolengängige Fraktion)
DFG (DE)	diphenylamine CAS No.: 122-39-4	① 5 mg/m ³ ② 10 mg/m ³ ⑤ (einatembare Fraktion, kann über die Haut aufgenommen werden)

8.1.2. Biological limit values

No data available



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8.1.3. DNEL-/PNEC-values

Substance name	DNEL value	① DNEL type ② Exposure route
Isooctadecanoic acid, reaction products with tetra ethylenepentamine CAS No.: 68784-17-8	11.75 mg/m ³	① DNEL worker ② DNEL long-term inhalative (systemic)
1,3,4-Thiadiazolidine-2,5-dithione, reaction products with hydrogen peroxide and tert-nonanethiol CAS No.: 91648-65-6	4.408 mg/m ³	① DNEL worker ② DNEL long-term inhalative (systemic)

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

Skin protection:

Hand protection

Suitable material: NBR (Nitrile rubber), PVC (Polyvinyl chloride)

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.

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.

8.3. Additional information

No data available

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		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 (°C):	not determined			
Flash point	200 °C			
Evaporation rate	not determined			
Ignition temperature in °C	not determined			
Upper/lower flammability or explosive limits	not determined			
Vapour pressure	not determined			
Vapour density	not determined			
Relative density	844 kg/m ³	20 °C		
Bulk density	not determined			



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parameter		at °C	Method	Remark
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	31.7 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.

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, Reducing agent

10.6. Hazardous decomposition products

Hazardous combustion products: Carbon dioxide Carbon monoxide Nitrogen oxides (NO_x)

SECTION 11: Toxicological information

11.1. Information on toxicological effects

CAS No.	Substance name	Toxicological information
36878-20-3	bis(nonylphenyl)amine	LD₅₀ oral: 5,000 g/m ³ (Rat) LD₅₀ dermal: >2,000 g/m ³ (Rabbit)
122-39-4	diphenylamine	LD₅₀ oral: 1,120 mg/kg

Acute oral toxicity:

The product has not been tested.

Acute dermal toxicity:

No information available for acute dermal and inhalative toxicity.

Acute inhalation toxicity:

No information available for acute dermal and inhalative toxicity.

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.

Aspiration hazard:

Observe risk of aspiration if vomiting occurs.



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SECTION 12: Ecological information

12.1. Toxicity

CAS No.	Substance name	Toxicological information
36878-20-3	bis(nonylphenyl)amine	LC ₅₀ : >100 mg/l 4 d EC ₅₀ : >100 mg/l 2 d EC ₅₀ : 600 mg/l 3 d
68784-17-8	Isooctadecanoic acid, reaction products with tetraethylenepentamine	EC ₅₀ : 94 mg/l 4 d NOEC: 23 mg/l 4 d EC ₅₀ : >1,000 mg/l 2 d NOEC: 32 mg/l 21 d LC ₅₀ : >1,000 mg/l 4 d

Additional ecotoxicological information:

Harmful to aquatic life with long lasting effects.

12.2. Persistence and degradability

CAS No.	Substance name	Biodegradation	Remark
68649-11-6	Dec-1-ene, dimers, hydrogenated	Yes, rapidly	
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 _{OC}	Bioconcentration factor (BCF)
36878-20-3	bis(nonylphenyl)amine	7.6	1,584.89
68784-17-8	Isooctadecanoic acid, reaction products with tetraethylenepentamine	45.8	

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
157707-86-3	Dec-1-en, Trimere, hydrated	The substance in the mixture does not meet the PBT/vPvB criteria according to REACH, annex XIII.
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.
36878-20-3	bis(nonylphenyl)amine	The substance in the mixture does not meet the PBT/vPvB criteria according to REACH, annex XIII.
68784-17-8	Isooctadecanoic acid, reaction products with tetraethylenepentamine	The substance in the mixture does not meet the PBT/vPvB criteria according to REACH, annex XIII.
91648-65-6	1,3,4-Thiadiazolidine-2,5-dithione, reaction products with hydrogen peroxide and tert-nonanethiol	—
	Polymere	The substance in the mixture does not meet the PBT/vPvB criteria according to REACH, annex XIII.
61791-44-4	Ethanol, 2,2'-iminobis-, N-tallow alkyl derivs.	The substance in the mixture does not meet the PBT/vPvB criteria according to REACH, annex XIII.
688-84-6	2-ethylhexyl methacrylate	—

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

12.6. Other adverse effects

No data available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Dispose of waste according to applicable legislation.



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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.

14.1. UN-No.

not relevant

14.2. UN proper shipping name

not relevant

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

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

No data available

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.

Water hazard class (WGK)

WGK:

2 - deutlich wassergefährdend

Description:

hazardous to water (WGK 2)

Source:

Classification according to VwVwS, Annex 4.



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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)

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

sections 1-16

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
Acute toxicity (inhalative) (Acute Tox. 4)	H332: Harmful if inhaled.	
Hazardous to the aquatic environment (Aquatic Chronic 3)	H412: Harmful to aquatic life with long lasting effects.	

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

Hazard statements	
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H412	Harmful to aquatic life with long lasting effects.
H413	May cause long lasting harmful effects to aquatic life.



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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.