

Revision date: 13-Mar-2018 Version: 2 Print date: 13-Mar-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 TEG 10W-40

Article No.:

1132100

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]:

The mixture is classified as not hazardous according to regulation (EC) No 1272/2008 [CLP].

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 statements: -

Supplemental Hazard information (EU)

EUH208

Contains Benzenesulfonic acid, 2(or 4)-C10-14-alkyl derivs., compds. with isopropanolamine.
May produce an allergic reaction.

Precautionary statements: -

2.3. Other hazards

No data available



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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.: 68603-67-8 EC No.: 271-671-7 | Amines, polyethylenepoly-, reaction products with benzyl chloride Aquatic Chronic 4 H413 | 1 - ≤ 2.48 Wt % |
| CAS No.: 85995-83-1 EC No.: 289-091-8 | Benzenesulfonic acid, 2(or 4)-C10-14-alkyl derivs., compds. with isopropanolamine Skin Sens. 1B, Aquatic Chronic 4 H317-H413 | 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 (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

Hazardous combustion products:

Carbon monoxide, Carbon dioxide (CO₂), Nitrogen oxides (NO_x),

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.



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* **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:

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

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:

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.



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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

No data available

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(sec-Bu and 1,3-dimethylbutyl) esters, zinc salts CAS No.: 68784-31-6 | 2.93 mg/m ³ | ① DNEL worker ② DNEL long-term inhalative (systemic) |
| Phenol, dodecyl-, sulfurized, carbonates, calcium salts, overbased CAS No.: 68784-26-9 | 3.5 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), CR (polychloroprene, chloroprene rubber)

Thickness of the glove material: >= 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: DIN EN 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 mg / m³, ACGIH STEL - value of 10 mg / m³



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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state: Liquid

Colour: tawny

Odour: characteristic

Safety relevant basis data

| parameter | | at °C | Method | Remark |
|--|--|-------|--------|--------|
| pH | <i>not applicable</i> | | | |
| Melting point | <i>not determined</i> | | | |
| Freezing point | <i>No data available</i> | | | |
| Initial boiling point and boiling range | <i>No data available</i> | | | |
| Decomposition temperature (°C): | <i>No data available</i> | | | |
| Flash point | 238 °C | | | |
| Evaporation rate | <i>No data available</i> | | | |
| Ignition temperature in °C | <i>No data available</i> | | | |
| Upper/lower flammability or explosive limits | <i>not determined</i> | | | |
| Vapour pressure | <i>No data available</i> | | | |
| Vapour density | <i>No data available</i> | | | |
| Relative density | 862 kg/m ³ | 20 °C | | |
| Bulk density | <i>not applicable</i> | | | |
| Water solubility (g/L) | The study does not need to be conducted because the substance is known to be insoluble in water. | | | |
| Partition coefficient: n-octanol/water | <i>No data available</i> | | | |
| Dynamic viscosity | <i>not applicable</i> | | | |
| Kinematic viscosity | 91.3 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 (NOx)



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SECTION 11: Toxicological information

* 11.1. Information on toxicological effects

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:

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. Contains Benzenesulfonic acid, 2(or 4)-C10-14-alkyl derivs., compds. with isopropanolamine. 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:

Observe risk of aspiration if vomiting occurs.

SECTION 12: Ecological information

* 12.1. Toxicity

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

Additional information:

The product has not been tested.

12.3. Bioaccumulative potential

Partition coefficient: n-octanol/water:

No data available

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 |
|------------|---|--|
| 68603-67-8 | Amines, polyethylenepoly-, reaction products with benzyl chloride | The substance in the mixture does not meet the PBT/vPvB criteria according to REACH, annex XIII. |
| 85995-83-1 | Benzenesulfonic acid, 2(or 4)-C10-14-alkyl derivs., compds. with isopropanolamine | 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.



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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.

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

Other regulations (EU):

Safety data sheet available for professional user on request.

15.1.2. National regulations

[DE] National regulations

Störfallverordnung

Remark:

Not subject to StörfallVO.

Technische Anleitung Luft (TA-Luft)

Remark:

To follow: 5.2.5.

Water hazard class (WGK)

WGK:

2 - deutlich wassergefährdend

Description:

hazardous to water (WGK 2)



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Source:

Self-classification (mixture; calculation rule).

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**

| | |
|-------|--|
| 1.4. | Emergency telephone number |
| 3.2. | Mixtures |
| 4.1. | Description of first aid measures |
| 4.3. | Indication of any immediate medical attention and special treatment needed |
| 5.2. | Special hazards arising from the substance or mixture |
| 5.3. | Advice for firefighters |
| 5.4. | Additional information |
| 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 |
| 7.2. | Conditions for safe storage, including any incompatibilities |
| 10.1. | Reactivity |
| 10.4. | Conditions to avoid |
| 10.5. | Incompatible materials |
| 10.6. | Hazardous decomposition products |
| 11.1. | Information on toxicological effects |
| 12.1. | Toxicity |
| 15.1. | Safety, health and environmental regulations/legislation specific for the substance or mixture |
| 16.1. | Indication of changes |

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)



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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]:

The mixture is classified as not hazardous according to regulation (EC) No 1272/2008 [CLP].

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

Hazard statements

| | |
|------|---|
| H317 | May cause an allergic skin reaction. |
| H413 | May cause long lasting harmful effects to aquatic life. |

16.6. Training advice

No data available

16.7. Additional information

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the 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



RAVENOL TEG 10W-40



VISKOSITÄT 10W-40
SPEZIFIKATIONEN API CF
HERSTELLUNGSART TEILSYNTHETISCH

RAVENOL TEG 10W-40 ist ein hochlegiertes teilsynthetisches Motorenöl für den Einsatz in Erdgasmotoren.

RAVENOL TEG 10W-40 ermöglicht durch seine Additivierung und die Auswahl der Grundöle und Viskositätseinstellung einen energiesparenden Betrieb der Motoren. Durch seine speziellen Wirkstoffe erzielt **RAVENOL TEG 10W-40** ein Maximum an Verschleißschutz.

RAVENOL TEG 10W-40 ist auf Basis von Hydrocrackölen und Polyalphaolefinen (PAO) konzipiert, die den High-Tech-Ansprüchen gerecht werden.

ART.-NR. 1132100

1 L | 1132100-001
4 L | 1132100-004
5 L | 1132100-005
10 L | 1132100-010
20 L | 1132100-020
20 L | 1132100-B20
60 L | 1132100-060
60 L | 1132100-D60
208 L | 1132100-208
208 L | 1132100-D28
1000 L | 1132100-700

Anwendungshinweis

RAVENOL TEG 10W-40 ist konzipiert für den Einsatz in Erdgasmotoren.

Eigenschaften

RAVENOL TEG 10W-40 bietet:

- Hohen Verschleißschutz
- Kraftstoffeinsparung durch Leichtlaufeigenschaften
- Hervorragende Detergent- und Dispersanteigenschaften
- Verhinderung von Schwarzschlamm Bildung
- Lange Lebensdauer durch hohe Oxidationsstabilität
- Hervorragendes Kaltstartverhalten
- Sehr gutes Viskositäts-Temperaturverhalten
- Geringe Verdampfungsneigung.



| Eigenschaften | Einheit | Daten | Prüfung nach |
|---|--------------------|-----------|--------------|
| Dichte bei 20°C | kg/m ³ | 862 | EN ISO 12185 |
| Farbe | | gelbbraun | visuell |
| Viskosität bei 100°C | mm ² /s | 14,6 | DIN 51 562 |
| Viskosität bei 40°C | mm ² /s | 97,8 | DIN 51 562 |
| Viskositätsindex VI | | 154 | DIN ISO 2909 |
| CCS Viskosität bei -25°C | mPa*s | 6300 | |
| Low Temp. Pumping viscosity (MRV) bei -30°C | mPa*s | 24600 | |
| Pourpoint | °C | - 36 | DIN ISO 3016 |
| Noack Verdampfungstest | % M/M | 8.2 | ASTM D5800 |
| Flammpunkt (COC) | °C | 224 | DIN ISO 2592 |
| TBN | mg KOH/g | 10,0 | ASTM D2896 |
| Sulfatasche | %wt. | 1,3 | DIN 51 575 |

Alle Angaben entsprechen nach bestem Wissen dem derzeitigen Stand der Erkenntnisse und unserer Entwicklung. Änderungen bleiben vorbehalten. Alle Bezugnahme auf DIN-Normen dienen nur der Warenbeschreibung und stellen keine Garantie dar. Bei vorliegenden Problemfällen technische Beratung anfordern.

Stand: 04. Mai 2021