



RAVENOL Professional Radiator Stop Leak



ART.-NR. 1390301

300 ml | 1390301-300

EMPFEHLUNGEN NEUTRAL GEGEN GUMMI, KUNSTSTOFFE, LEICHT- UND BUNTMETALLE | VOLL VERTRÄGLICH MIT FROSTSCHUTZMITTELN UND KÜHLFLÜSSIGKEITEN

Dichtmittel für den Kühlkreislauf

RAVENOL Professional Radiator Stop Leak ist eine Dispersion zur Absicherung des Kühlkreislaufs und Brennraums vor Undichtigkeiten und zur Erhöhung der Betriebssicherheit.

RAVENOL Professional Radiator Stop Leak dichtet dauerhaft Haarrisse und Leckagen ab.

RAVENOL Professional Radiator Stop Leak vermeidet Dichtungsschwitzen und Kühlwasserverlust.

RAVENOL Professional Radiator Stop Leak ist für geschlossene Kühlsysteme geeignet.

Anwendungshinweis

RAVENOL Professional Radiator Stop Leak wird dem Kühler zugeführt. Bei Vorhandensein von Filtern im Kühlsystem darf keine Kühlerdichtung eingesetzt werden.

Einsatzbereich:

- Durchschwitzende Kopfdichtungen
- Undichte Schlauchanschlüsse
- Haarrisse im Kühler, Zylinderkopf oder Motorblock

Anwendung: **RAVENOL Professional Radiator Stop Leak** ist ausreichend für 10 L Kühlwasser. Heizungsventil ganz öffnen. Der Motor sollte Betriebstemperatur haben.

Dose schütteln und den Inhalt bei laufendem Motor in den Kühlkreislauf einfüllen. Kühlwasser ergänzen.

Nach dem Einfüllen Motor mind. 10 Min. weiter laufen lassen, oder Probefahrt machen. Kühlwasserstand, Luftfreiheit und Dichtigkeit des Systems überprüfen.

Für LKW-Kühler Mischungsverhältnis max. 1:100.

RAVENOL Professional Radiator Stop Leak ist auch für geschlossene Kühlsysteme geeignet.



Eigenschaften

RAVENOL Professional Radiator Stop Leak bietet:

- Schutz vor durchschwitzenden Kopfdichtungen
- Abdichtung von Haarrissen und Leckagen im Kühlkreislauf

| Eigenschaften | Einheit | Daten | Prüfung nach |
|------------------|-------------------|----------|--------------|
| Dichte bei 20°C | kg/m ³ | 1020 | EN ISO 12185 |
| Farbe | | grünblau | visuell |
| Geruch | | citrus | - |
| pH-Wert bei 20°C | | 9,5 | DIN 19268 |

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: 20. Januar 2020



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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 Professional Radiator Stop Leak

Article No.:

1390301

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture:

Additive
sealant

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 48

E-mail: kontakt@ravenol.de

Website: www.ravenol.de

E-mail (competent person): kontakt@ravenol.de

1.4. Emergency telephone number

Abt. 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 (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 |
|--------------------------------------|--|--------------------------|
| STOT-repeated exposure (STOT RE 2) | H373: May cause damage to organs through prolonged or repeated exposure. | |

2.2. Label elements

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

Hazard pictograms:



GHS08

Health hazard

Signal word: Warning

Hazard components for labelling:

ethane-1,2-diol

| hazard statements for health hazards | |
|--------------------------------------|--|
| H373 | May cause damage to organs through prolonged or repeated exposure. |

Supplemental Hazard information (EU): -



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Precautionary statements

P102 Keep out of reach of children.

Precautionary statements Prevention

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

Precautionary statements Response

P314 Get medical advice/attention 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 [CLP] | Concentration |
|---|--|-------------------|
| CAS No.: 107-21-1 EC No.: 203-473-3 REACH No.: 01-2119456816-28-0000 | ethane-1,2-diol Acute Tox. 4, STOT RE 2 Warning H302-H373 | 15 - < 20 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:

Never give anything by mouth to an unconscious person or a person with cramps. Remove persons to safety.

Following inhalation:

Remove person to fresh air and keep comfortable for breathing. Medical treatment necessary.

In case of skin contact:

Wash with plenty of water. Immediately remove any contaminated clothing, shoes or stockings. Medical treatment necessary.

After eye contact:

Rinse immediately carefully and thoroughly with eye-bath or water. In case of eye irritation consult an ophthalmologist.

After ingestion:

Rinse mouth immediately and drink plenty of water. Induce vomiting when the affected person is not unconscious. Medical treatment necessary.

Self-protection of the first aider:

First aider: Pay attention to self-protection!

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

No information available.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media:

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

Unsuitable extinguishing media:

High power water jet

5.2. Special hazards arising from the substance or mixture

Non-flammable.



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Hazardous combustion products:

Nitrogen oxides (NOx) Carbon monoxide Carbon dioxide (CO2)

5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus.

5.4. Additional information

Suppress gases/vapours/mists with water spray jet. Co-ordinate fire-fighting measures to the fire surroundings. Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

Fire class: B

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. Avoid contact with skin, eyes and clothes. Do not breathe gas/fumes/vapour/spray. Provide adequate ventilation.

6.1.2. For emergency responders

Personal protection equipment:

Use appropriate respiratory protection.

6.2. Environmental precautions

Do not allow to enter into surface water or drains.

6.3. Methods and material for containment and cleaning up

For cleaning up:

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal.

6.4. Reference to other sections

SECTION 7: Handling and storage

SECTION 8: Exposure controls/personal protection

SECTION 13: Disposal considerations

6.5. Additional information

Clear spills immediately.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Protective measures

Advices on safe handling:

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray.

Fire prevent measures:

No special fire protection measures are necessary.

Measures to prevent aerosol and dust generation:

See protective measures under point 7 and 8.

Environmental precautions:

SECTION 6: Accidental release measures

Advices on general occupational hygiene

Minimum standard for preventive measures while handling with working materials are specified in the TRGS 500. Wash hands before breaks and after work. When using do not eat, drink, smoke, sniff. Remove contaminated, saturated clothing immediately.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures and storage conditions:

Keep container tightly closed. Keep locked up and out of reach of children. Keep only in original container. Keep in a cool, well-ventilated place.

Requirements for storage rooms and vessels:

No special measures are necessary. Shafts and sewers must be protected from entry of the product. Keep only in the original container in a cool, well-ventilated place.



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Hints on storage assembly:

No special measures are necessary.

Storage class: 12 - non-combustible liquids that cannot be assigned to any of the above storage classes

Further information on storage conditions:

Observe technical data sheet.

7.3. Specific end use(s)

No data available

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 |
|--------------------------------------|--------------------------------------|--|
| IOELV (EU) | ethane-1,2-diol CAS No.: 107-21-1 | ① 20 ppm (52 mg/m ³) ② 40 ppm (104 mg/m ³) |
| TRGS 900 (DE) | ethane-1,2-diol CAS No.: 107-21-1 | ① 10 ppm (26 mg/m ³) ② 20 ppm (52 mg/m ³) |

8.1.2. biological limit values

No data available

8.1.3. DNEL-/PNEC-values

No data available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

No data available

8.2.2. Personal protection equipment

Eye/face protection:

During transfer: Eye glasses with side protection

Skin protection:

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 material: NBR (Nitrile rubber) Thickness of the glove material: >= 0,4 mm

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

No data available

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state: liquid

Colour: not determined

Odour: not determined

Safety relevant basis data

| parameter | | at °C | Method | Remark |
|---|-----------------------|-------|--------|--------|
| pH | <i>not determined</i> | | | |
| Melting point/freezing point | <i>not determined</i> | | | |
| Freezing point | <i>not determined</i> | | | |
| Initial boiling point and boiling range | 100 °C | | | |
| Decomposition temperature (°C): | <i>not determined</i> | | | |



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| parameter | | at °C | Method | Remark |
|--|-----------------------|-------|--------|--------|
| Flash point | <i>not determined</i> | | | |
| Evaporation rate | <i>not determined</i> | | | |
| Ignition temperature in °C | <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 | <i>not determined</i> | | | |
| Bulk density | <i>not determined</i> | | | |
| Water solubility (g/L) | <i>not determined</i> | | | |
| Partition coefficient: n-octanol/ water | <i>not determined</i> | | | |
| Dynamic viscosity | <i>not determined</i> | | | |
| Kinematic viscosity | <i>not determined</i> | 40 °C | | |

9.2. Other information

No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

No hazardous reaction when handled and stored according to provisions.

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

No known hazardous reactions.

10.4. Conditions to avoid

none

10.5. Incompatible materials

No information available.

10.6. Hazardous decomposition products

No known hazardous decomposition products.

Additional information

Do not mix with other chemicals.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

| CAS No. | Substance name | Toxicological information |
|----------|-----------------|---|
| 107-21-1 | ethane-1,2-diol | LD₅₀ oral: 4,700 mg/kg (rat) LD₅₀ dermal: 10,600 mg/kg (canin) |

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.

Eye damage/irritation:

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

Respiratory or skin sensitisation:

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

Germ cell mutagenicity:

No indications of human germ cell mutagenicity exist.

Carcinogenicity:

No indication of human carcinogenicity.



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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:

May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard:

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

SECTION 12: Ecological information

12.1. Toxicity

| CAS No. | Substance name | Toxicological information |
|----------|-----------------|--|
| 107-21-1 | ethane-1,2-diol | LC₅₀ : 8,050 - 72,900 mg/l 4 d EC₅₀ : >100 mg/l 2 d ErC₅₀ : 6,500 - 13,000 mg/l 4 d NOEC : 72,860 mg/l -∞ h NOEC : 8,590 mg/l -∞ h |

Aquatic toxicity:

The classification criteria for this hazard class are not met by definition.

12.2. Persistence and degradability

| CAS No. | Substance name | Biodegradation | Remark |
|----------|-----------------|----------------|--------|
| 107-21-1 | ethane-1,2-diol | Yes, rapidly | |

Abiotic degradation:

The product has not been tested.

12.3. Bioaccumulative potential

| CAS No. | Substance name | Log K _{OC} | Bioconcentration factor (BCF) |
|----------|-----------------|---------------------|-------------------------------|
| 107-21-1 | ethane-1,2-diol | -1.36 | |

Bioconcentration factor (BCF):

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 |
|----------|-----------------|------------------------------------|
| 107-21-1 | ethane-1,2-diol | — |

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

Do not allow to enter into surface water or drains. Dispose of waste according to applicable legislation.

13.1.1. Product/Packaging disposal

Waste codes/waste designations according to EWC/AVV

Waste code product:

Remark:

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

Waste treatment options

Appropriate disposal / Product:

Dispose of waste according to applicable legislation.

Appropriate disposal / Package:

Dispose of waste according to applicable legislation.



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13.2. Additional information

Delivery to an approved waste disposal company.

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):

Information according to 1999/13/EC about limitation of emissions of volatile organic compounds (VOC-guideline).

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

VOC-CH: 0 kg/l (- % w/w)

15.1.2. National regulations

[DE] National regulations

Restrictions of occupation

5 MuSchRiV.

4 MuSchRiV.

22 JArbSchG.

Störfallverordnung

for substances contained in the product:

Not subject to StörfallVO.

Water hazard class (WGK)

WGK:

1 - schwach wassergefährdend

Description:

slightly hazardous to water (WGK 1)

Source:

Analogous classification:

Technische Regeln für Gefahrstoffe

Minimum protective measures according to TRGS 500

Berufsgenossenschaftliche Vorschriften (BGV)

To follow: Berufsgenossenschaftliche Regeln (BGR) 190, 192, 195

15.2. Chemical Safety Assessment

Chemical safety assessments for substances in this mixture were not carried out.



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15.3. Additional information

No data available

SECTION 16: Other information

16.1. Indication of changes

sections 2

16.2. Abbreviations and acronyms

For abbreviations and acronyms, see: ECHA Guidance on information requirements and chemical safety assessment, chapter R.20 (Table of terms and abbreviations).

See overview table at www.euphrac.eu

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 |
|--------------------------------------|--|--------------------------|
| STOT-repeated exposure (STOT RE 2) | H373: May cause damage to organs through prolonged or repeated exposure. | |

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

| Hazard statements | |
|-------------------|--|
| H302 | Harmful if swallowed. |
| H373 | May cause damage to organs through prolonged or repeated exposure. |

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.