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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 VSG SAE 75W-90

Article No.:

1221101

UFI:

AKY0-RFQC-AECJ-K0H1

**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**

Produktsicherheit  
Jöllenbecker Str. 2  
33824 Werther  
Germany

**Telephone:** +49 5203 9719 0

**Telefax:** +49 5203 9719 40

**E-mail:** kontakt@ravenol.de

**Website:** www.ravenol.de

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

**1.4. Emergency telephone number**

24 hr. emergency phone number, 24h: +49 700 24 112 112 (Contract ID: RAV) / +1 872 5888271  
(Contract ID: RAV)

**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 |
|--|--|--------------------------|
| Respiratory or skin sensitisation<br>( <i>Skin Sens. 1</i> )         | H317: May cause an allergic skin reaction.               | Calculation method.      |
| Hazardous to the aquatic environment<br>( <i>Aquatic Chronic 3</i> ) | H412: Harmful to aquatic life with long lasting effects. | Calculation method.      |

\* **2.2. Label elements**

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

**Hazard pictograms:**



**GHS07**

Exclamation mark

**Signal word:** Warning



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**Hazard components for labelling:**

Polysulfides, di-tert-Bu; Reaction products of bis (4-methyl pentan-2-yl) phosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched); C16-18-(even numbered, saturated and unsaturated)-alkylamines

**Hazard statements for health hazards**

|      |                                      |
|------|--------------------------------------|
| H317 | May cause an allergic skin reaction. |
|------|--------------------------------------|

**Hazard statements for environmental hazards**

|      |  |
|------|--|
| H412 | Harmful to aquatic life with long lasting effects. |
|------|--|

**Precautionary statements Prevention**

|      |  |
|------|--|
| P261 | Avoid breathing vapours and spray.                         |
| P273 | Avoid release to the environment.                          |
| P280 | Wear protective gloves and eye protection/face protection. |

**Precautionary statements Response**

|             |  |
|-------------|--|
| P302 + P352 | IF ON SKIN: Wash with plenty of water and soap.                  |
| P333 + P313 | If skin irritation or rash occurs: Get medical advice/attention. |

**Precautionary statements Disposal**

|      |   |
|------|---|
| P501 | Dispose of contents/container to an appropriate recycling or disposal facility. |
|------|---|

**2.3. Other hazards**

**Other adverse effects:**

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

**SECTION 3: Composition/information on ingredients**

**\* 3.2. Mixtures**

**Hazardous ingredients / Hazardous impurities / Stabilisers:**

| Product identifiers  | Substance name<br>Classification according to Regulation (EC) No 1272/2008 [CLP]  | Concentration       |
|--|---|---------------------|
| CAS No.: 68037-01-4<br>EC No.: 500-183-1<br>REACH No.:<br>01-2119486452-34   | <b>1-decene, homopolymer, hydrogenated</b><br>The substance is classified as not hazardous according to regulation (EC) No 1272/2008 [CLP].   | 45 - < 75 weight-%  |
| CAS No.: 68937-96-2<br>EC No.: 273-103-3<br>REACH No.:<br>01-2119540515-43   | <b>Polysulfides, di-tert-Bu</b><br>Aquatic Chronic 4 (H413), Skin Sens. 1 (H317)<br>Warning   | 2 - < 5 weight-%    |
| EC No.: 931-384-6<br>REACH No.:<br>01-2119493620-38                          | <b>Reaction products of bis (4-methyl pentan-2-yl) phosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched)</b><br>Acute Tox. 4 (H302), Aquatic Chronic 2 (H411), Eye Dam. 1 (H318), Skin Sens. 1 (H317)<br>Danger  | 0 - < 0.5 weight-%  |
| CAS No.: 1213789-63-9<br>EC No.: 627-034-4<br>REACH No.:<br>01-2119473797-19 | <b>C16-18-(even numbered, saturated and unsaturated)-alkylamines</b><br>Acute Tox. 4 (H302), Aquatic Acute 1 (H400), Aquatic Chronic 1 (H410), Asp. Tox. 1 (H304), Eye Dam. 1 (H318), STOT RE 2 (H373), STOT SE 3 (H335), Skin Corr. 1B (H314)<br>Danger<br>M-factor (acute): 10 M-factor (chronic): 10 | 0 - < 0.25 weight-% |

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 but breathing normally, place in recovery position and seek medical advice. Do not leave affected person unattended.

**Following inhalation:**

Provide fresh air. Consult a doctor immediately.



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**In case of skin contact:**

After contact with skin, wash immediately with plenty of water and soap. Consult a doctor immediately.  
May cause an allergic skin reaction.

**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.

**Following 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 cause an allergic skin 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 (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

When hot, product develops flammable vapours.

**Hazardous combustion products:**

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

**Protective equipment:**

Personal protection equipment: see section 8

**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.



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### 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 (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:

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 (TRGS 510, Germany):** 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



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### 8.1.3. DNEL-/PNEC-values

| Substance name   | DNEL value             | ① DNEL type<br>② Exposure route                             |
|--|------------------------|---|
| <b>Polysulfides, di-tert-Bu</b><br>CAS No.: 68937-96-2<br>EC No.: 273-103-3  | 14.5 mg/m <sup>3</sup> | ① DNEL worker<br>② Long-term - inhalation, systemic effects |
| <b>Polysulfides, di-tert-Bu</b><br>CAS No.: 68937-96-2<br>EC No.: 273-103-3  | 1.66 mg/kg<br>bw/day   | ① DNEL worker<br>② Long-term - dermal, systemic effects     |
| <b>Reaction products of bis (4-methyl pentan-2-yl) phosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched)</b><br>EC No.: 931-384-6 | 8.56 mg/m <sup>3</sup> | ① DNEL worker<br>② Long-term - inhalation, systemic effects |
| <b>Reaction products of bis (4-methyl pentan-2-yl) phosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched)</b><br>EC No.: 931-384-6 | 12.5 mg/kg<br>bw/day   | ① DNEL worker<br>② Long-term - dermal, systemic effects     |
| <b>C16-18-(even numbered, saturated and unsaturated)-alkylamines</b><br>CAS No.: 1213789-63-9<br>EC No.: 627-034-4   | 0.38 mg/m <sup>3</sup> | ① DNEL worker<br>② Long-term - inhalation, systemic effects |
| <b>C16-18-(even numbered, saturated and unsaturated)-alkylamines</b><br>CAS No.: 1213789-63-9<br>EC No.: 627-034-4   | 1 mg/m <sup>3</sup>    | ① DNEL worker<br>② Long-term - inhalation, local effects    |
| <b>C16-18-(even numbered, saturated and unsaturated)-alkylamines</b><br>CAS No.: 1213789-63-9<br>EC No.: 627-034-4   | 1 mg/cm <sup>2</sup>   | ① DNEL worker<br>② Acute - inhalation, local effects        |

| Substance name   | PNEC Value            | ① PNEC type                   |
|--|-----------------------|-------------------------------|
| <b>Reaction products of bis (4-methyl pentan-2-yl) phosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched)</b><br>EC No.: 931-384-6 | 0.0012 mg/L           | ① PNEC aquatic, freshwater    |
| <b>Reaction products of bis (4-methyl pentan-2-yl) phosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched)</b><br>EC No.: 931-384-6 | 0.12 µg/L             | ① PNEC aquatic, marine water  |
| <b>Reaction products of bis (4-methyl pentan-2-yl) phosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched)</b><br>EC No.: 931-384-6 | 24.33 mg/L            | ① PNEC sewage treatment plant |
| <b>Reaction products of bis (4-methyl pentan-2-yl) phosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched)</b><br>EC No.: 931-384-6 | 3.13 mg/kg<br>bw/day  | ① PNEC sediment, freshwater   |
| <b>Reaction products of bis (4-methyl pentan-2-yl) phosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched)</b><br>EC No.: 931-384-6 | 0.313 mg/kg<br>bw/day | ① PNEC sediment, marine water |
| <b>C16-18-(even numbered, saturated and unsaturated)-alkylamines</b><br>CAS No.: 1213789-63-9<br>EC No.: 627-034-4   | 0.26 µg/L             | ① PNEC aquatic, freshwater    |
| <b>C16-18-(even numbered, saturated and unsaturated)-alkylamines</b><br>CAS No.: 1213789-63-9<br>EC No.: 627-034-4   | 0.026 µg/L            | ① PNEC aquatic, marine water  |



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| Substance name   | PNEC Value  | ① PNEC type                   |
|--|-------------|-------------------------------|
| <b>C16-18-(even numbered, saturated and unsaturated)-alkylamines</b><br>CAS No.: 1213789-63-9<br>EC No.: 627-034-4 | 3.76 mg/kg  | ① PNEC sediment, freshwater   |
| <b>C16-18-(even numbered, saturated and unsaturated)-alkylamines</b><br>CAS No.: 1213789-63-9<br>EC No.: 627-034-4 | 0.376 mg/kg | ① PNEC sediment, marine water |
| <b>C16-18-(even numbered, saturated and unsaturated)-alkylamines</b><br>CAS No.: 1213789-63-9<br>EC No.: 627-034-4 | 10 mg/kg    | ① PNEC soil                   |

## 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. 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: 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.

## SECTION 9: Physical and chemical properties

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

#### Appearance

**Physical state:** Liquid

**Colour:** light yellow

**Odour:** characteristic

#### Safety relevant basis data

| Parameter                                    | Value                    | at °C | ① Method<br>② Remark |
|--|--------------------------|-------|----------------------|
| pH   | <i>not applicable</i>    |       |                      |
| Melting point                                | <i>No data available</i> |       |                      |
| Freezing point                               | <i>No data available</i> |       |                      |
| Initial boiling point and boiling range      | <i>No data available</i> |       |                      |
| Decomposition temperature                    | <i>not applicable</i>    |       |                      |
| Flash point                                  | 224 °C                   |       |                      |
| Evaporation rate                             | <i>No data available</i> |       |                      |
| Auto-ignition temperature                    | <i>No data available</i> |       |                      |
| Upper/lower flammability or explosive limits | <i>No data available</i> |       |                      |



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| Parameter                              | Value                  | at °C | ① Method<br>② Remark |
|--|------------------------|-------|----------------------|
| Vapour pressure                        | No data available      |       |                      |
| Vapour density                         | No data available      |       |                      |
| Density                                | 843 kg/m <sup>3</sup>  | 15 °C |                      |
| Relative density                       | not applicable         |       |                      |
| Bulk density                           | not applicable         |       |                      |
| Water solubility                       | practically insoluble  |       |                      |
| Partition coefficient: n-octanol/water | not applicable         |       |                      |
| Dynamic viscosity                      | No data available      |       |                      |
| Kinematic viscosity                    | 109 mm <sup>2</sup> /s | 40 °C |                      |

**9.2. Other information**

Not applicable

**SECTION 10: Stability and reactivity**

\* **10.1. Reactivity**

No known hazardous reactions.

**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 monoxide, Carbon dioxide (CO<sub>2</sub>), Nitrogen oxides (NO<sub>x</sub>),  
 During heating or in case of fire, toxic gases is possible.

**Further information**

No information available.

**SECTION 11: Toxicological information**

\* **11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008**

|  |
|--|
| <b>1-decene, homopolymer, hydrogenated</b> CAS No.: 68037-01-4 EC No.: 500-183-1                             |
| <b>LD<sub>50</sub> oral:</b> >5,000 mg/kg (Rat)  |
| <b>LD<sub>50</sub> dermal:</b> >2,000 mg/kg (Rabbit)   |
| <b>LC<sub>50</sub> Acute inhalation toxicity (dust/mist):</b> >5 mg/L 4 h (Rat)                              |
| <b>C16-18-(even numbered, saturated and unsaturated)-alkylamines</b> CAS No.: 1213789-63-9 EC No.: 627-034-4 |
| <b>ATE (oral):</b> 500 mg/kg   |
| <b>LD<sub>50</sub> oral:</b> >1,200 mg/kg (Rat) OECD 401   |
| <b>LD<sub>50</sub> dermal:</b> >2,000 mg/kg (Rat) OECD 402   |
| <b>LC<sub>50</sub> Acute inhalation toxicity (dust/mist):</b> >5 mg/L 4 h                                    |

**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.

**Serious eye damage/irritation:**

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



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**Respiratory or skin sensitisation:**

May cause an allergic skin reaction.

**Germ cell mutagenicity:**

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

**Carcinogenicity:**

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

**Reproductive toxicity:**

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

**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.

For viscosity data, see section 9.

**Additional information:**

Frequently or prolonged contact with skin may cause dermal irritation.

\* **11.2. Information on other hazards**

**Endocrine disrupting properties:**

This product does not contain a substance that has endocrine disrupting properties with respect to humans as no components meets the criteria.

**Other information:**

No data available.

**SECTION 12: Ecological information**

\* **12.1. Toxicity**

|   |
|---|
| <b>1-decene, homopolymer, hydrogenated</b> CAS No.: 68037-01-4 EC No.: 500-183-1  |
| LC <sub>50</sub> : >750 mg/L 4 d (fish)   |
| EC <sub>50</sub> : 190 mg/L 2 d (crustaceans, Daphnia pulex (water flea))   |
| EC <sub>50</sub> : >1,000 mg/L 3 d (Algae/water plant)  |
| <b>Polysulfides, di-tert-Bu</b> CAS No.: 68937-96-2 EC No.: 273-103-3   |
| EC <sub>50</sub> : 63 mg/L 2 d (crustaceans)  |
| EC <sub>50</sub> : >100 mg/L 3 d (Algae/water plant)  |
| <b>Reaction products of bis (4-methyl pentan-2-yl) phosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched)</b> EC No.: 931-384-6 |
| LC <sub>50</sub> : ≈24 mg/L 4 d   |
| EC <sub>50</sub> : 91.4 mg/L 2 d (crustaceans)  |
| <b>C16-18-(even numbered, saturated and unsaturated)-alkylamines</b> CAS No.: 1213789-63-9 EC No.: 627-034-4  |
| LC <sub>50</sub> : >0.84 mg/L 4 d (fish)  |
| EC <sub>50</sub> : >0.32 mg/L 2 d (crustaceans)   |
| EC <sub>50</sub> : >0.39 mg/L 3 d (Algae/water plant)   |
| NOEC: >0.63 mg/L 4 d (fish)   |

**Aquatic toxicity:**

Harmful to aquatic life with long lasting effects.

**Assessment/classification:**

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

**Additional ecotoxicological information:**

Do not allow uncontrolled discharge of product into the environment.

**12.2. Persistence and degradability**

**Biodegradation:**

Not readily biodegradable (according to OECD criteria)

\* **12.3. Bioaccumulative potential**

|   |
|---|
| <b>Polysulfides, di-tert-Bu</b> CAS No.: 68937-96-2 EC No.: 273-103-3 |
| Log K <sub>ow</sub> : = 6   |





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|  |
|--|
| <b>C16-18-(even numbered, saturated and unsaturated)-alkylamines</b> CAS No.: 1213789-63-9 EC No.: 627-034-4 |
| <b>Log K<sub>ow</sub></b> : 433  |

**Partition coefficient: n-octanol/water:**  
not applicable

**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**

|   |
|---|
| <b>1-decene, homopolymer, hydrogenated</b> CAS No.: 68037-01-4 EC No.: 500-183-1  |
| <b>Results of PBT and vPvB assessment:</b> This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.   |
| <b>Polysulfides, di-tert-Bu</b> CAS No.: 68937-96-2 EC No.: 273-103-3   |
| <b>Results of PBT and vPvB assessment:</b> This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.   |
| <b>Reaction products of bis (4-methyl pentan-2-yl) phosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched)</b> EC No.: 931-384-6 |
| <b>Results of PBT and vPvB assessment:</b> This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.   |
| <b>C16-18-(even numbered, saturated and unsaturated)-alkylamines</b> CAS No.: 1213789-63-9 EC No.: 627-034-4  |
| <b>Results of PBT and vPvB assessment:</b> This substance does not meet the PBT/vPvB criteria of REACH, Annex XIII.   |

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

**12.6. Endocrine disrupting properties**

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

**12.7. Other adverse effects**  
No data 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 Directive 2008/98/EC (Waste Framework Directive)**

|       |          |
|-------|----------|
| HP 14 | Ecotoxic |
|-------|----------|

**Waste treatment options**

**Appropriate disposal / Product:**  
Dispose of waste according to applicable legislation.

**Appropriate disposal / Package:**  
Non-contaminated packages may be recycled.

**Other disposal recommendations:**  
Consult the appropriate local waste disposal expert about waste disposal.

**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**

| Land transport (ADR/RID)                                   | Inland waterway craft (ADN)                                | Sea transport (IMDG)                                       | Air transport (ICAO-TI / IATA-DGR)                         |
|--|--|--|--|
| <b>14.1. UN number or ID number</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. |



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| Land transport (ADR/RID)                  | Inland waterway craft (ADN) | Sea transport (IMDG) | Air transport (ICAO-TI / IATA-DGR) |
|---|-----------------------------|----------------------|------------------------------------|
| <b>14.3. Transport hazard class(es)</b>   |                             |                      |                                    |
| not relevant                              | not relevant                | not relevant         | not relevant                       |
| <b>14.4. Packing group</b>                |                             |                      |                                    |
| not relevant                              | not relevant                | not relevant         | not relevant                       |
| <b>14.5. Environmental hazards</b>        |                             |                      |                                    |
| not relevant                              | not relevant                | not relevant         | not relevant                       |
| <b>14.6. Special precautions for user</b> |                             |                      |                                    |
| not relevant                              | not relevant                | not relevant         | not relevant                       |

**14.7. Maritime transport in bulk according to IMO instruments**

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):**

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 juveniles 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 (12. BImSchV)**

**for substances contained in the product:**

This product is not assigned to a hazard category.

**Technische Anleitung zur Reinhaltung der Luft (TA-Luft)**

**Remark:**

To follow: 5.2.5

**Water hazard class**

**WGK:**

2 - obviously hazardous to water

**Source:**

Self-classification (mixture; calculation rule).

Identification number 436

**Technische Regeln für Gefahrstoffe**

TRGS 510

TRGS 500


**Berufsgenossenschaftliche Vorschriften (DGUV-Vorschriften)**

Berufsgenossenschaftliche Informationen (DGUV-Informationen) 868

Berufsgenossenschaftliche Regeln (DGUV-Regeln) 189, 190, 192, 195

**Other regulations, restrictions and prohibition regulations**


Altöl-Verordnung (AltöIV)

 **[DK] National regulations**

**Other regulations, restrictions and prohibition regulations**

Dänemark: Bekendtgørelse af lov om arbejdsmiljø: Beskæftigelsesministeriets lovbekendtgørelse nr. 1072 af 7. september 2010

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

 **[FR] National regulations**

**Other regulations, restrictions and prohibition regulations**

Frankreich: Tableaux de maladies professionnelles

Nomenclature des installations classées pour la protection de l'environnement

Articles L. 4523-1 à L. 4523-17, L. 4611-1 à L. 4614-16, R. 4523-1 à R. 4523-17 et R. 4612-1 à R. 4615-21 du Code du travail



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 **[NL] National regulations**


**Other regulations, restrictions and prohibition regulations**

Niederlande: Lijst vank kankerverwekkende, mutagene en voor de voortplanting giftige stoffen (SZW)  
 Algemeene beoordelingsmethodiek Water (ABM)  
 Nederlandse emissierichtlijn (NeR)  
 NIET-Limitatieve lijst an voor de voortplanting giftige stoffen - Borstvoeding  
 NIET-Limitatieve lijst an voor de voortplanting giftige stoffen - Vruchtbaarheid  
 NIET-Limitatieve lijst an voor de voortplanting giftige stoffen - Ontwikkeling  
 SZW-lijst van kankerverwekkende stoffen  
 SZW-lijst van mutagene stoffen  
 Wet van 18 maart 1999, houdende bepalingen ter verbetering van de arbeidsomstandigheden  
 (Arbeidsomstandighedenwet)  
 Wet op de ondernemingsraden 1971

 **[CH] National regulations**

**Other regulations, restrictions and prohibition regulations**

Mengenschwelle (Schweiz - StFV)  
 Gefahrencode  
 Brandverhütung, BVD (Schweiz)

 **[SK] National regulations**

**Other regulations, restrictions and prohibition regulations**

Zákon č. 67/2010 Z.z., o podmienkach uvedenia chemických látok a chemických zmesí na trh a o zmene a doplnení niektorých zákonov (chemický zákon).  
 Zákon č. 124/2006 Z. z. o bezpečnosti a ochrane zdravia pri práci a o zmene a doplnení niektorých zákonov.  
 Zákon NR SR č. 355/2007 Z.z., o ochrane, podpore a rozvoji verejného zdravia a o zmene a doplnení niektorých zákonov, v znení neskorších predpisov.  
 Nariadenie vlády SR 471/2011 Z.z., ktorým sa mení nariadenie vlády Slovenskej republiky č. 355/2006 Z. z. o ochrane zamestnancov pred rizikami súvisiacimi s expozíciou chemickým faktorom pri práci, Príloha č.1.  
 Zákon č. 79/2015 Z.z. o odpadoch v znení neskorších predpisov.  
 Vyhláška MV SR č. 96/2004 Z.z., ktorou sa ustanovujú zásady protipožiarnej bezpečnosti pri manipulácii a skladovaní horľavých kvapalín, ťažkých vykurovacích olejov a rastlinných a živočíšnych tukov a olejov.  
 Zákon NR SR č. 137/2010 Z.z. o ovzduší v znení neskorších predpisov.  
 Zákon č. 319/2013 Z.z. o pôsobnosti orgánov štátnej správy pre sprístupňovanie biocídnych výrobkov na trh a ich používanie a o zmene a doplnení niektorých zákonov (biocídny zákon).

**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**

|       |  |
|-------|--|
| 2.1.  | Classification of the substance or mixture   |
| 2.2.  | Label elements   |
| 3.2.  | Mixtures   |
| 4.1.  | Description of first aid measures  |
| 4.2.  | Most important symptoms and effects, both acute and delayed                                    |
| 5.2.  | Special hazards arising from the substance or mixture  |
| 8.1.  | Control parameters   |
| 9.1.  | Information on basic physical and chemical properties  |
| 10.1. | Reactivity   |
| 11.1. | Information on hazard classes as defined in Regulation (EC) No 1272/2008                       |
| 11.2. | Information on other hazards   |
| 12.1. | Toxicity   |
| 12.3. | Bioaccumulative potential  |
| 12.5. | Results of PBT and vPvB assessment   |
| 13.1. | Waste treatment methods  |
| 15.1. | Safety, health and environmental regulations/legislation specific for the substance or mixture |



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|       |  |
|-------|--|
| 16.1. | Indication of changes  |
| 16.2. | Abbreviations and acronyms   |
| 16.4. | Classification for mixtures and used evaluation method according to regulation (EC) No 1272/2008 [CLP] |
| 16.5. | List of relevant hazard statements and/or precautionary statements from sections 2 to 15               |

\* **16.2. Abbreviations and acronyms**

|                  |   |
|------------------|---|
| ADN              | European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways |
| ADR              | European Agreement concerning the International Carriage of Dangerous Goods by Road             |
| CAS              | Chemical Abstracts Service  |
| CLP              | Classification, Labelling and Packaging   |
| DNEL             | derived no-effect level   |
| EC <sub>50</sub> | Effective Concentration 50%   |
| EWC              | European Waste Catalogue  |
| ICAO             | International Civil Aviation Organization   |
| IMDG             | International Maritime Dangerous Goods  |
| IMO              | International Maritime Organization   |
| KG               | body weight   |
| LC <sub>50</sub> | Lethal (fatal) Concentration 50%  |
| LD <sub>50</sub> | Lethal (fatal) Dose 50%   |
| MAK              | Maximum concentration in the workplace air (CH)   |
| NFPA             | National Fire Protection Association  |
| NOEC             | No Observed Effect Concentration  |
| OECD             | Organisation for Economic Cooperation and Development   |
| OSHA             | Occupational Safety & Health Administration   |
| PBT              | persistent and bioaccumulative and toxic  |
| PNEC             | Predicted No Effect Concentration   |
| REACH            | Registration, Evaluation and Authorization of Chemicals   |
| RID              | Dangerous goods regulations for transport by rail   |
| TRGS             | Technische Regeln für Gefahrstoffe  |
| UN               | United Nations  |
| ZNS              | central nervous system  |

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**

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]**

| Hazard classes and hazard categories                                 | Hazard statements  | Classification procedure |
|--|--|--------------------------|
| Respiratory or skin sensitisation<br>( <i>Skin Sens. 1</i> )         | H317: May cause an allergic skin reaction.               | Calculation method.      |
| Hazardous to the aquatic environment<br>( <i>Aquatic Chronic 3</i> ) | H412: Harmful to aquatic life with long lasting effects. | Calculation method.      |

\* **16.5. List of relevant hazard statements and/or precautionary statements from sections 2 to 15**

| Hazard statements |   |
|-------------------|---|
| H302              | Harmful if swallowed.                         |
| H304              | May be fatal if swallowed and enters airways. |
| H314              | Causes severe skin burns and eye damage.      |



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**Hazard statements**

|      |  |
|------|--|
| H317 | May cause an allergic skin reaction.                               |
| H318 | Causes serious eye damage.   |
| H335 | May cause respiratory irritation.                                  |
| H373 | May cause damage to organs through prolonged or repeated exposure. |
| 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.                   |
| 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.