

**Safety Data Sheet**

according to UK REACH Regulation

**ADDINOL Eco Gear 460 S**

Revision date: 03.03.2025

Product code: 741084

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**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1. Product identifier**

ADDINOL Eco Gear 460 S

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

Gearbox oil.

For industrial purposes only.

**1.3. Details of the supplier of the safety data sheet****Manufacturer**

Company name: ADDINOL Lube Oil GmbH  
4609  
Street: Am Haupttor  
Place: D-06237 Leuna  
Telephone: +49 (0) 3461 845-0      Telefax: +49 (0) 3461 845-555  
E-mail: info@addinol.de  
Contact person: Application Technology  
Internet: www.addinol.de  
Responsible Department: ADDINOL Application Technology

**Supplier**

Company name: ETL Fluid Experts Ltd.  
Street: Grimbald Crag Road  
Place: GB-HG5 8PY Knaresborough, North Yorkshire  
Telephone: +44 (0)1423 522911  
E-mail: sales(@)etlfe.com  
Internet: https://www.etlfluidexperts.com/

**1.4. Emergency telephone number:**

+44 (0)1423 522911 - This number is serviced during office hours.

**SECTION 2: Hazards identification****2.1. Classification of the substance or mixture****GB CLP Regulation**

Aquatic Chronic 3; H412

Full text of hazard statements: see SECTION 16.

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].

**2.2. Label elements****GB CLP Regulation****Hazard statements**

H412      Harmful to aquatic life with long lasting effects.

**Precautionary statements**

P273      Avoid release to the environment.  
P501      Return contents/container to the point of sale or to a special waste collection point.

**Additional advice on labelling**

Product is classified and labelled in accordance with EC regulations or the corresponding national laws.

**2.3. Other hazards**

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Prolonged/repetitive skin contact may cause skin defatting or dermatitis.

Spilled product must not leak into the ground.

Do not allow uncontrolled leakage of product into the environment.

**SECTION 3: Composition/information on ingredients****3.2. Mixtures****Relevant ingredients**

| CAS No      | Chemical name                                                                                                                                 |              |                  | Quantity      |
|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------|--------------|------------------|---------------|
|             | EC No                                                                                                                                         | Index No     | REACH No         |               |
|             | Classification (GB CLP Regulation)                                                                                                            |              |                  |               |
| 68937-96-2  | Di-tert-butyl-Polysulfides                                                                                                                    |              |                  | 0.5 - < 1 %   |
|             | 273-103-3                                                                                                                                     |              | 01-2119540515-43 |               |
|             | Skin Sens. 1B, Aquatic Chronic 3; H317 H412                                                                                                   |              |                  |               |
|             | Molybdenum trioxide, reaction products with bis[O,O-bis(2-ethylhexyl)] hydrogen dithiophosphate                                               |              |                  | 0.5 - < 1 %   |
|             | 947-946-9                                                                                                                                     |              | 01-2120772600-59 |               |
|             | Skin Irrit. 2, Skin Sens. 1B, Aquatic Chronic 4; H315 H317 H413                                                                               |              |                  |               |
|             | Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched) |              |                  | < 0,40 %      |
|             | 931-384-6                                                                                                                                     |              | 01-2119493620-38 |               |
|             | Acute Tox. 4, Eye Irrit. 2, Skin Sens. 1, Aquatic Chronic 2; H302 H319 H317 H411                                                              |              |                  |               |
| 68411-46-1  | Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene                                                                         |              |                  | 0.3 - < 0.5 % |
|             | 270-128-1                                                                                                                                     |              | 01-2119491299-23 |               |
|             | Repr. 2, Aquatic Chronic 3; H361f H412                                                                                                        |              |                  |               |
| 722503-68-6 | Benzenesulfonic acid, methyl-, mono-C20-24-branched alkyl derivs., calcium salts                                                              |              |                  | 0.1 - < 0.3 % |
|             | 682-816-2                                                                                                                                     |              | 01-2119985162-35 |               |
|             | Skin Sens. 1B; H317                                                                                                                           |              |                  |               |
| 121158-58-5 | Phenol, dodecyl-, branched                                                                                                                    |              |                  | < 0.1 %       |
|             | 310-154-3                                                                                                                                     | 604-092-00-9 | 01-2119513207-49 |               |
|             | Repr. 1B, Skin Corr. 1C, Eye Dam. 1, Aquatic Acute 1, Aquatic Chronic 1; H360F H314 H318 H400 H410                                            |              |                  |               |

Full text of H and EUH statements: see section 16.

**Specific Conc. Limits, M-factors and ATE**

| CAS No      | EC No     | Chemical name                                                                                                                                 | Quantity      |
|-------------|-----------|-----------------------------------------------------------------------------------------------------------------------------------------------|---------------|
|             |           | Specific Conc. Limits, M-factors and ATE                                                                                                      |               |
| 68937-96-2  | 273-103-3 | Di-tert-butyl-Polysulfides                                                                                                                    | 0.5 - < 1 %   |
|             |           | Skin Sens. 1B; H317: >= 46 - 100                                                                                                              |               |
|             | 931-384-6 | Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched) | < 0,40 %      |
|             |           | dermal: LD50 = > 2000 mg/kg; oral: LD50 = > 2000 mg/kg Eye Irrit. 2; H319: >= 50 - 100 Skin Sens. 1; H317: >= 9,39 - 100                      |               |
| 68411-46-1  | 270-128-1 | Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene                                                                         | 0.3 - < 0.5 % |
|             |           | dermal: LD50 = > 2000 mg/kg; oral: LD50 = > 5000 mg/kg                                                                                        |               |
| 121158-58-5 | 310-154-3 | Phenol, dodecyl-, branched                                                                                                                    | < 0.1 %       |
|             |           | dermal: LD50 = ca. 15000 mg/kg; oral: LD50 = 2100 mg/kg Aquatic Acute 1; H400: M=10 Aquatic Chronic 1; H410: M=10                             |               |

**Further Information**

DMSO-Extract < 3 %; IP 346. Classification system: The classification corresponds to the current EC lists and is completed by information from specialist literature and company information.

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**SECTION 4: First aid measures****4.1. Description of first aid measures****General information**

Self-protection of the first aider. Change contaminated clothing. Do not put any product-impregnated cleaning rags into your trouser pockets.

**After inhalation**

Move victim to fresh air. Put victim at rest and keep warm. Seek medical attention if problems persist.

**After contact with skin**

After contact with skin, wash immediately with plenty of water and soap. Change contaminated clothing. In case of skin irritation, seek medical treatment.

**After contact with eyes**

In case of contact with eyes, rinse immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Subsequently consult an ophthalmologist.

**After ingestion**

Do NOT induce vomiting.

Rinse mouth thoroughly with water. Call a physician immediately.

**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**

First Aid, decontamination, treatment of symptoms.

**SECTION 5: Firefighting measures****5.1. Extinguishing media****Suitable extinguishing media**

Foam. Extinguishing powder. Carbon dioxide (CO<sub>2</sub>). Atomized water.

**Unsuitable extinguishing media**

High power water jet.

**5.2. Special hazards arising from the substance or mixture**

In case of fire may be liberated: Carbon monoxide Carbon dioxide (CO<sub>2</sub>). Sulfur oxides. Phosphorus oxides. Nitrogen oxides (NO<sub>x</sub>). carbon black.

**5.3. Advice for firefighters**

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

**Additional information**

Co-ordinate fire-fighting measures to the fire surroundings. Use water spray jet to protect personnel and to cool endangered containers. In case of fire and/or explosion do not breathe fumes. Contaminated fire-fighting water must be collected separately.

**SECTION 6: Accidental release measures****6.1. Personal precautions, protective equipment and emergency procedures****General advice**

High slip hazard because of leaking or spilled product. Remove all sources of ignition. Wear breathing apparatus if exposed to vapours/dusts/aerosols. Avoid contact with skin, eyes and clothes.

**6.2. Environmental precautions**

Do not allow to enter into surface water or drains. In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities. Prevent spread over a wide area (e.g. by containment or oil barriers).

**6.3. Methods and material for containment and cleaning up**

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#### Other information

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal. Clean contaminated articles and floor according to the environmental legislation.

#### 6.4. Reference to other sections

Safe handling: see section 7

Personal protection equipment: see section 8

Section 12: Ecological Information (non-mandatory)

Disposal: see section 13

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

##### Advice on safe handling

Work in well-ventilated zones or use proper respiratory protection. Avoid oil mist. If handled uncovered, arrangements with local exhaust ventilation have to be used. Avoid contact with skin, eyes and clothes.

##### Advice on protection against fire and explosion

Keep away from sources of ignition - No smoking.

##### Advice on general occupational hygiene

Wash hands before breaks and after work. Take off immediately all contaminated clothing. Wash contaminated clothing prior to re-use. Do not eat, drink, smoke or sneeze at the workplace.

#### 7.2. Conditions for safe storage, including any incompatibilities

##### Requirements for storage rooms and vessels

Keep the packing dry and well sealed to prevent contamination and absorption of humidity. Keep container tightly closed in a cool place.

##### Hints on joint storage

Keep away from food, drink and animal feedingstuffs.

Keep away from: Oxidizing agent

##### Further information on storage conditions

Protect against: UV-radiation/sunlight. frost. heat.

Recommended storage temperature: 5 - 40°C

#### 7.3. Specific end use(s)

Further information: see technical data sheet.

### SECTION 8: Exposure controls/personal protection

#### 8.1. Control parameters

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## DNEL/DMEL values

| CAS No                   | Substance                                                                                                                                     |                |          |                    |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|----------------|----------|--------------------|
| DNEL type                |                                                                                                                                               | Exposure route | Effect   | Value              |
| 68937-96-2               | Di-tert-butyl-Polysulfides                                                                                                                    |                |          |                    |
| Worker DNEL, long-term   |                                                                                                                                               | inhalation     | systemic | 3,29 mg/m³         |
| Worker DNEL, long-term   |                                                                                                                                               | dermal         | systemic | 4,67 mg/kg bw/day  |
| Consumer DNEL, long-term |                                                                                                                                               | inhalation     | systemic | 0,58 mg/m³         |
| Consumer DNEL, long-term |                                                                                                                                               | dermal         | systemic | 1,67 mg/kg bw/day  |
| Consumer DNEL, long-term |                                                                                                                                               | oral           | systemic | 0,167 mg/kg bw/day |
|                          | Molybdenum trioxide, reaction products with bis[O,O-bis(2-ethylhexyl)] hydrogen dithiophosphate                                               |                |          |                    |
| Worker DNEL, long-term   |                                                                                                                                               | inhalation     | systemic | 4,93 mg/m³         |
| Worker DNEL, long-term   |                                                                                                                                               | dermal         | systemic | 1,4 mg/kg bw/day   |
| Consumer DNEL, long-term |                                                                                                                                               | inhalation     | systemic | 0,87 mg/m³         |
| Consumer DNEL, long-term |                                                                                                                                               | dermal         | systemic | 0,5 mg/kg bw/day   |
| Consumer DNEL, long-term |                                                                                                                                               | oral           | systemic | 0,5 mg/kg bw/day   |
|                          | Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched) |                |          |                    |
| Worker DNEL, long-term   |                                                                                                                                               | inhalation     | systemic | 4,28 mg/m³         |
| Worker DNEL, long-term   |                                                                                                                                               | dermal         | systemic | 12,5 mg/kg bw/day  |
| Consumer DNEL, long-term |                                                                                                                                               | inhalation     | systemic | 1,09 mg/m³         |
| Consumer DNEL, long-term |                                                                                                                                               | dermal         | systemic | 6,25 mg/kg bw/day  |
| Consumer DNEL, long-term |                                                                                                                                               | oral           | systemic | 0,25 mg/kg bw/day  |
| 68411-46-1               | Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene                                                                         |                |          |                    |
| Worker DNEL, long-term   |                                                                                                                                               | inhalation     | systemic | 0,31 mg/m³         |
| Worker DNEL, long-term   |                                                                                                                                               | dermal         | systemic | 0,44 mg/kg bw/day  |
| Consumer DNEL, long-term |                                                                                                                                               | inhalation     | systemic | 0,08 mg/m³         |
| Consumer DNEL, long-term |                                                                                                                                               | dermal         | systemic | 0,22 mg/kg bw/day  |
| Consumer DNEL, long-term |                                                                                                                                               | oral           | systemic | 0,05 mg/kg bw/day  |
| 121158-58-5              | Phenol, dodecyl-, branched                                                                                                                    |                |          |                    |
| Worker DNEL, acute       |                                                                                                                                               | inhalation     | systemic | 44,18 mg/m³        |
| Worker DNEL, long-term   |                                                                                                                                               | dermal         | systemic | 0,25 mg/kg bw/day  |
| Worker DNEL, acute       |                                                                                                                                               | dermal         | systemic | 166 mg/kg bw/day   |
| Consumer DNEL, long-term |                                                                                                                                               | inhalation     | systemic | 0,79 mg/m³         |
| Consumer DNEL, acute     |                                                                                                                                               | inhalation     | systemic | 13,26 mg/m³        |
| Consumer DNEL, long-term |                                                                                                                                               | dermal         | systemic | 0,075 mg/kg bw/day |
| Consumer DNEL, acute     |                                                                                                                                               | dermal         | systemic | 50 mg/kg bw/day    |

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|--------------------------|------|----------|-----------------------|
| Consumer DNEL, long-term | oral | systemic | 0,075 mg/kg<br>bw/day |
| Consumer DNEL, acute     | oral | systemic | 1,26 mg/kg<br>bw/day  |

### PNEC values

| CAS No                                           | Substance                                                                                                                                     |               |
|--------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| Environmental compartment                        |                                                                                                                                               | Value         |
| 68937-96-2                                       | Di-tert-butyl-Polysulfides                                                                                                                    |               |
| Freshwater                                       |                                                                                                                                               | 0,00024 mg/l  |
| Freshwater (intermittent releases)               |                                                                                                                                               | 0,002 mg/l    |
| Marine water                                     |                                                                                                                                               | 0,000024 mg/l |
| Freshwater sediment                              |                                                                                                                                               | 0,94 mg/kg    |
| Marine sediment                                  |                                                                                                                                               | 0,094 mg/kg   |
| Secondary poisoning                              |                                                                                                                                               | 6,66 mg/kg    |
| Micro-organisms in sewage treatment plants (STP) |                                                                                                                                               | 4,51 mg/l     |
| Soil                                             |                                                                                                                                               | 0,0181 mg/kg  |
|                                                  | Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched) |               |
| Freshwater                                       |                                                                                                                                               | 0,0024 mg/l   |
| Freshwater (intermittent releases)               |                                                                                                                                               | 0,15 mg/l     |
| Marine water                                     |                                                                                                                                               | 0,00024 mg/l  |
| Freshwater sediment                              |                                                                                                                                               | 0,0129 mg/kg  |
| Marine sediment                                  |                                                                                                                                               | 0,00129 mg/kg |
| Secondary poisoning                              |                                                                                                                                               | 10 mg/kg      |
| Micro-organisms in sewage treatment plants (STP) |                                                                                                                                               | 24,33 mg/l    |
| Soil                                             |                                                                                                                                               | 0,00117 mg/kg |
| 68411-46-1                                       | Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene                                                                         |               |
| Freshwater                                       |                                                                                                                                               | 0,034 mg/l    |
| Freshwater (intermittent releases)               |                                                                                                                                               | 0,51 mg/l     |
| Marine water                                     |                                                                                                                                               | 0,003 mg/l    |
| Freshwater sediment                              |                                                                                                                                               | 0,446 mg/kg   |
| Marine sediment                                  |                                                                                                                                               | 0,045 mg/kg   |
| Secondary poisoning                              |                                                                                                                                               | 0,833 mg/kg   |
| Micro-organisms in sewage treatment plants (STP) |                                                                                                                                               | 10 mg/l       |
| Soil                                             |                                                                                                                                               | 17,6 mg/kg    |
| 121158-58-5                                      | Phenol, dodecyl-, branched                                                                                                                    |               |
| Freshwater                                       |                                                                                                                                               | 0,000074 mg/l |
| Freshwater (intermittent releases)               |                                                                                                                                               | 0,00037 mg/l  |
| Marine water                                     |                                                                                                                                               | 0,000007 mg/l |
| Freshwater sediment                              |                                                                                                                                               | 0,226 mg/kg   |
| Marine sediment                                  |                                                                                                                                               | 0,027 mg/kg   |
| Secondary poisoning                              |                                                                                                                                               | 4 mg/kg       |
| Micro-organisms in sewage treatment plants (STP) |                                                                                                                                               | 100 mg/l      |
| Soil                                             |                                                                                                                                               | 0,118 mg/kg   |

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**Additional advice on limit values**

Recommended limit value for oil mist

TWA: 5 mg/m<sup>3</sup>STEL: 10 mg/m<sup>3</sup>

The product does not contain any relevant quantities of substances with legally established exposure limitation.

**8.2. Exposure controls****Appropriate engineering controls**

Provide adequate ventilation as well as local exhaustion at critical locations.

**Individual protection measures, such as personal protective equipment****Eye/face protection**

Tightly sealed safety glasses. German Industry Norms (DIN) / European Norms (EN): DIN EN ISO 16321

**Hand protection**

Tested protective gloves are to be worn: German Industry Norms (DIN) / European Norms (EN): EN ISO 374

Duration of wearing with permanent contact: 480 min

Suitable material: NBR (Nitrile rubber).

Thickness of glove material: 0.7 mm.

Wearing time with occasional contact (splashes): 30 min

Suitable material: NBR (Nitrile rubber).

Thickness of glove material: 0.4 mm

Protect skin by using skin protective cream.

**Skin protection**

Wear suitable protective clothing. Change contaminated clothing. Do not put any product-impregnated cleaning rags into your trouser pockets.

**Respiratory protection**

If technical exhaust or ventilation measures are not possible or insufficient, respiratory protection must be worn. Breathing protection with filter against organic gases and vapours type A - boiling point > 65°C: A1: < 1000 ppm; A2: < 5000 ppm; A3: < 10000 ppm

**SECTION 9: Physical and chemical properties****9.1. Information on basic physical and chemical properties**

|                  |                |
|------------------|----------------|
| Physical state:  | liquid         |
| Colour:          | brown          |
| Odour:           | characteristic |
| Odour threshold: | not determined |

|                                                           |                        |
|-----------------------------------------------------------|------------------------|
| Melting point/freezing point:                             | No data available      |
| Boiling point or initial boiling point and boiling range: | not determined         |
| Flammability:                                             | No data available      |
| Lower explosion limits:                                   | No data available      |
| Upper explosion limits:                                   | No data available      |
| Flash point:                                              | 235 °C DIN EN ISO 2592 |

**Test method**

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|                                        |                                    |
|----------------------------------------|------------------------------------|
| Auto-ignition temperature:             | not determined                     |
| Decomposition temperature:             | No data available                  |
| pH-Value:                              | No data available                  |
| Viscosity / kinematic:<br>(at 40 °C)   | 450 mm <sup>2</sup> /s ASTM D 7042 |
| Water solubility:                      | virtually insoluble                |
| Solubility in other solvents           |                                    |
| No data available                      |                                    |
| Partition coefficient n-octanol/water: | No data available                  |
| Vapour pressure:                       | No data available                  |
| Density (at 15 °C):                    | 0,884 g/cm <sup>3</sup> DIN 51757  |
| Relative vapour density:               | No data available                  |
| Particle characteristics:              | No data available                  |

**9.2. Other information****Information with regard to physical hazard classes**

Explosive properties

No data available

Self-ignition temperature

Solid:

No data available

Gas:

No data available

Oxidizing properties

No data available

**Other safety characteristics**

Evaporation rate:

No data available

Pour point:

-40 °C ASTM D 7346

**SECTION 10: Stability and reactivity****10.1. Reactivity**

The product is stable under storage at normal ambient temperatures.

**10.2. Chemical stability**

The mixture is chemically stable under recommended conditions of storage, use and temperature.

**10.3. Possibility of hazardous reactions**

No known hazardous reactions.

**10.4. Conditions to avoid**

Refer to chapter 7 No further action is necessary.

Do not overheat to avoid decomposition by heat.

**10.5. Incompatible materials**

Reacts with: Oxidising agent, strong

**10.6. Hazardous decomposition products**In case of fire may be liberated: Carbon monoxide Carbon dioxide (CO<sub>2</sub>). Sulfur oxides. Phosphorus oxides.Nitrogen oxides (NO<sub>x</sub>). carbon black.**SECTION 11: Toxicological information****11.1. Information on hazard classes as defined in GB CLP Regulation****Acute toxicity**

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

Mixture not tested.



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**ATEmix calculated**

ATE (oral) > 2000 mg/kg; ATE (dermal) > 2000 mg/kg; ATE (inhalation vapour) > 20 mg/l; ATE (inhalation dust/mist) > 5 mg/l

| CAS No      | Chemical name                                                                                                                                 |                      |         |                     |                    |
|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------|----------------------|---------|---------------------|--------------------|
|             | Exposure route                                                                                                                                | Dose                 | Species | Source              | Method             |
|             | Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched) |                      |         |                     |                    |
|             | oral                                                                                                                                          | LD50 > 2000 mg/kg    | Rat     | Study report (1995) | OECD Guideline 401 |
|             | dermal                                                                                                                                        | LD50 > 2000 mg/kg    | Rabbit  |                     |                    |
| 68411-46-1  | Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene                                                                         |                      |         |                     |                    |
|             | oral                                                                                                                                          | LD50 > 5000 mg/kg    | Rat     | Study report (1982) | OECD Guideline 401 |
|             | dermal                                                                                                                                        | LD50 > 2000 mg/kg    | Rat     | Study report (1988) | OECD Guideline 402 |
| 121158-58-5 | Phenol, dodecyl-, branched                                                                                                                    |                      |         |                     |                    |
|             | oral                                                                                                                                          | LD50 2100 mg/kg      | Rat     | Publication (1978)  | OECD Guideline 401 |
|             | dermal                                                                                                                                        | LD50 ca. 15000 mg/kg | Rabbit  | Study report (1968) | OECD Guideline 402 |

**Irritation and corrosivity**

Skin corrosion/irritation: Based on available data, the classification criteria are not met.

Serious eye damage/eye irritation: Based on available data, the classification criteria are not met.

**Sensitising effects**

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

**Carcinogenic/mutagenic/toxic effects for reproduction**

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.

Prolonged/repetitive skin contact may cause skin defatting or dermatitis.

**Aspiration hazard**

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

**11.2. Information on other hazards****Endocrine disrupting properties**

not applicable

**SECTION 12: Ecological information****12.1. Toxicity**

Harmful to aquatic life with long lasting effects.

Mixture not tested.

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| CAS No      | Chemical name                                                                                                                                 |                        |           |                                                     |                            |                    |
|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------|------------------------|-----------|-----------------------------------------------------|----------------------------|--------------------|
|             | Aquatic toxicity                                                                                                                              | Dose                   | [h]   [d] | Species                                             | Source                     | Method             |
| 68937-96-2  | Di-tert-butyl-Polysulfides                                                                                                                    |                        |           |                                                     |                            |                    |
|             | Acute algae toxicity                                                                                                                          | ErC50 > 100 mg/l       | 72 h      | Raphidocelis subcapitata                            | Study report (2012)        | OECD Guideline 201 |
|             | Acute crustacea toxicity                                                                                                                      | EL50 63 mg/l           | 48 h      | Daphnia magna                                       | Study report (2013)        | OECD Guideline 202 |
|             | Molybdenum trioxide, reaction products with bis[O,O-bis(2-ethylhexyl)] hydrogen dithiophosphate                                               |                        |           |                                                     |                            |                    |
|             | Acute algae toxicity                                                                                                                          | ErC50 > 100 mg/l       | 72 h      | Raphidocelis subcapitata                            | REACH Registration Dossier | OECD Guideline 201 |
|             | Acute bacteria toxicity                                                                                                                       | EC50 > 1000 mg/l ( )   | 3 h       | activated sludge of a predominantly domestic sewage | REACH Registration Dossier | OECD Guideline 209 |
|             | Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched) |                        |           |                                                     |                            |                    |
|             | Acute fish toxicity                                                                                                                           | LL50 ca. 24 mg/l       | 96 h      | Oncorhynchus mykiss                                 | REACH Registration Dossier | OECD Guideline 203 |
|             | Acute algae toxicity                                                                                                                          | ErC50 6,4 mg/l         | 96 h      | Raphidocelis subcapitata                            | REACH Registration Dossier | OECD Guideline 201 |
|             | Acute crustacea toxicity                                                                                                                      | EL50 ca. 91,4 mg/l     | 48 h      | Daphnia magna                                       | REACH Registration Dossier | OECD Guideline 202 |
|             | Acute bacteria toxicity                                                                                                                       | EC50 ca. 2433 mg/l ( ) | 3 h       | activated sludge, domestic                          | REACH Registration Dossier | OECD Guideline 209 |
| 68411-46-1  | Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene                                                                         |                        |           |                                                     |                            |                    |
|             | Acute fish toxicity                                                                                                                           | LC50 > 100 mg/l        | 96 h      | Danio rerio                                         | Study report (1988)        | OECD Guideline 203 |
|             | Acute algae toxicity                                                                                                                          | ErC50 > 100 mg/l       | 72 h      | Desmodesmus subspicatus                             | Study report (2006)        | OECD Guideline 201 |
|             | Acute crustacea toxicity                                                                                                                      | EC50 51 mg/l           | 48 h      | Daphnia magna                                       | Study report (2004)        | OECD Guideline 202 |
|             | Fish toxicity                                                                                                                                 | NOEC 10 mg/l           | 34 d      | Danio rerio                                         | Study report (2020)        | OECD Guideline 210 |
|             | Crustacea toxicity                                                                                                                            | NOEC 4,45 mg/l         | 21 d      | Daphnia magna                                       | Study report (2020)        | OECD Guideline 211 |
| 121158-58-5 | Phenol, dodecyl-, branched                                                                                                                    |                        |           |                                                     |                            |                    |
|             | Acute fish toxicity                                                                                                                           | LL50 40 mg/l           | 96 h      | Pimephales promelas                                 | Study report (1994)        | OECD Guideline 203 |
|             | Acute algae toxicity                                                                                                                          | ErC50 0,15 mg/l        | 72 h      | Desmodesmus subspicatus                             | Study report (2005)        | OECD Guideline 201 |
|             | Acute crustacea toxicity                                                                                                                      | EC50 0,037 mg/l        | 48 h      | Daphnia magna                                       | Study report (2005)        | OECD Guideline 202 |
|             | Crustacea toxicity                                                                                                                            | NOEC 0,004 mg/l        | 21 d      | Daphnia magna                                       | Study report (2005)        | OECD Guideline 211 |
|             | Acute bacteria toxicity                                                                                                                       | EC50 > 1000 mg/l ( )   | 3 h       | activated sludge of a predominantly industrial sew  | Study report (2004)        | OECD Guideline 209 |

**12.2. Persistence and degradability**

Not easily bio-degradable (according to OECD-criteria). Do not allow to enter into surface water or drains.

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**12.3. Bioaccumulative potential**

No data available

**Partition coefficient n-octanol/water**

| CAS No      | Chemical name                                                                                                                                 | Log Pow |
|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------|---------|
| 68937-96-2  | Di-tert-butyl-Polysulfides                                                                                                                    | 5,6     |
|             | Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched) | < 0,3   |
| 68411-46-1  | Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene                                                                         | 7,11    |
| 121158-58-5 | Phenol, dodecyl-, branched                                                                                                                    | 7,14    |

**BCF**

| CAS No      | Chemical name                                                                                                                                 | BCF   | Species              | Source               |
|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------|-------|----------------------|----------------------|
| 68937-96-2  | Di-tert-butyl-Polysulfides                                                                                                                    | 0,006 | Lepomis macrochirus  | Study report (2015)  |
|             | Reaction products of bis(4-methylpentan-2-yl)dithiophosphoric acid with phosphorus oxide, propylene oxide and amines, C12-14-alkyl (branched) | 436   | Onchorhynchus mykiss | REACH Registration D |
| 68411-46-1  | Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene                                                                         | 411   | Cyprinus carpio      | Study report (2000)  |
| 121158-58-5 | Phenol, dodecyl-, branched                                                                                                                    | 289   | Oncorhynchus mykiss  | Study report (2006)  |

**12.4. Mobility in soil**

Due to its low solubility in water the product is almost completely mechanically separated in biological waste water treatment plants.

**12.5. Results of PBT and vPvB assessment**

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

**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

**Further information**

Do not allow uncontrolled leakage of product into the environment.

**SECTION 13: Disposal considerations****13.1. Waste treatment methods****Disposal recommendations**

Must not be disposed of with domestic refuse. Do not allow to enter into surface water or drains.

**List of Wastes Code - residues/unused products**

130206 OIL WASTES AND WASTES OF LIQUID FUELS (EXCEPT EDIBLE OILS, AND THOSE IN CHAPTERS 05, 12 AND 19); waste engine, gear and lubricating oils; synthetic engine, gear and lubricating oils; hazardous waste

**Contaminated packaging**

Contaminated packages must be completely emptied and can be re-used following proper cleaning. Dispose of waste according to applicable legislation. Packing which cannot be properly cleaned must be thrown away.

**SECTION 14: Transport information****Land transport (ADR/RID)**

**14.1. UN number or ID number:** -

**14.2. UN proper shipping name:** -

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**14.3. Transport hazard class(es):** -**14.4. Packing group:** -**Inland waterways transport (ADN)****14.1. UN number or ID number:** -**14.2. UN proper shipping name:** -**14.3. Transport hazard class(es):** -**14.4. Packing group:** -**Marine transport (IMDG)****14.1. UN number or ID number:** -**14.2. UN proper shipping name:** -**14.3. Transport hazard class(es):** -**14.4. Packing group:** -**Air transport (ICAO-TI/IATA-DGR)****14.1. UN number or ID number:** -**14.2. UN proper shipping name:** -**14.3. Transport hazard class(es):** -**14.4. Packing group:** -**14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: No

**14.6. Special precautions for user**

Unless specified otherwise, general measures for safe transport must be followed.

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

No dangerous good in sense of these transport regulations.

**SECTION 15: Regulatory information****15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****EU regulatory information**

Authorisations (REACH, annex XIV):

Substances of very high concern, SVHC (REACH, article 59):

Phenol, dodecyl-, branched

Restrictions on use (REACH, annex XVII):

Entry 3, Entry 30, Entry 75

**National regulatory information**

Water hazard class (D): 1 - slightly hazardous to water

**15.2. Chemical safety assessment**

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

**SECTION 16: Other information****Changes**

This data sheet contains changes from the previous version in section(s): 2,3,5,6,7,8,9,10,12,15,16.

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**Abbreviations and acronyms**

Acute Tox: Acute toxicity

Skin Corr: Skin corrosion

Skin Irrit: Skin irritation

Eye Dam: Eye damage

Eye Irrit: Eye irritation

Skin Sens: Skin sensitisation

Repr: Reproductive toxicity

Aquatic Acute: Acute aquatic hazard

Aquatic Chronic: Chronic aquatic hazard

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

ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road ; ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways ; ASTM - American Society for the Testing of Materials; ATE - Acute Toxicity Estimates; bw - Body weight; CAO - Cargo Aircraft Only; CAS - Chemical Abstracts Service; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DNEL - Derived No-Effect Level; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); EG - European Union; EN - European standards; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISO - International Organisation for Standardization; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; OECD - Organization for Economic Co-operation and Development; PBT - Persistent, Bioaccumulative and Toxic substance; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulation concerning the International Carriage of Dangerous Goods by Rail; RQ - Reportable Quantity; SADT - Self- Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

**Classification for mixtures and used evaluation method according to GB CLP Regulation**

| Classification          | Classification procedure |
|-------------------------|--------------------------|
| Aquatic Chronic 3; H412 | Calculation method       |

**Relevant H and EUH statements (number and full text)**

|       |                                                         |
|-------|---------------------------------------------------------|
| H302  | Harmful if swallowed.                                   |
| H314  | Causes severe skin burns and eye damage.                |
| H315  | Causes skin irritation.                                 |
| H317  | May cause an allergic skin reaction.                    |
| H318  | Causes serious eye damage.                              |
| H319  | Causes serious eye irritation.                          |
| H360F | May damage fertility.                                   |
| H361f | Suspected of damaging fertility.                        |
| 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.        |
| H412  | Harmful to aquatic life with long lasting effects.      |
| H413  | May cause long lasting harmful effects to aquatic life. |

**Further Information**

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].

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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.

The receiver of our product is singularly responsible for adhering to existing laws and regulations.

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*(The data for the relevant ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)*