Hydraulik System Additiv 1 L
Art.: 5116

1.2 Relevant identified uses of the substance or mixture and uses advised against
Relevant identified uses of the substance or mixture:
Hydraulic oil
Sector of use [SU]:
SU 3 - Industrial uses: Uses of substances as such or in preparations at industrial sites
SU21 - Consumer uses: Private households (=general public = consumers)
SU22 - Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Chemical product category [PC]:
PC17 - Hydraulic fluids
PC24 - Lubricants, greases, release products
Process category [PROC]:
PROC 1 - Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.
PROC 2 - Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions
PROC 8a - Transfer of substance or mixture (charging and discharging) at non-dedicated facilities
PROC 8b - Transfer of substance or mixture (charging and discharging) at dedicated facilities
PROC 9 - Transfer of substance or mixture into small containers (dedicated filling line, including weighing)
PROC20 - Use of functional fluids in small devices
Article Categories [AC]:
AC99 - Not required.
Environmental Release Category [ERC]:
ERC 4 - Use of non-reactive processing aid at industrial site (no inclusion into or onto article)
ERC 7 - Use of functional fluid at industrial site
ERC 9a - Widespread use of functional fluid (indoor)
ERC 9b - Widespread use of functional fluid (outdoor)
Uses advised against:
No information available at present.

1.3 Details of the supplier of the safety data sheet
LIQUI MOLY GmbH
Jerg-Wieland-Str. 4
89081 Ulm-Lehr
Tel.: (+49) 0731-1420-0
Fax: (+49) 0731-1420-88

Qualified person's e-mail address: info@chemical-check.de, k.schnurbusch@chemical-check.de  Please DO NOT use for requesting Safety Data Sheets.

1.4 Emergency telephone number
Emergency information services / official advisory body:
Telephone number of the company in case of emergencies: +49 (0) 700 / 24 112 112 (LMR)
2.1 Classification of the substance or mixture
Classification according to Regulation (EC) 1272/2008 (CLP)

<table>
<thead>
<tr>
<th>Hazard class</th>
<th>Hazard category</th>
<th>Hazard statement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aquatic Chronic</td>
<td>2</td>
<td>H411-Toxic to aquatic life with long lasting effects.</td>
</tr>
</tbody>
</table>

2.2 Label elements
Labeling according to Regulation (EC) 1272/2008 (CLP)

- H411-Toxic to aquatic life with long lasting effects.
- P273-Avoid release to the environment.
- P501-Dispose of contents/container to an approved waste disposal facility.

2.3 Other hazards
The mixture does not contain any vPvB substance (vPvB = very persistent, very bioaccumulative) or is not included under XIII of the regulation (EC) 1907/2006 (< 0,1 %).
The mixture does not contain any PBT substance (PBT = persistent, bioaccumulative, toxic) or is not included under XIII of the regulation (EC) 1907/2006 (< 0,1 %).
Product can compose a film on the water surface, which can prevent oxygen exchange.
Hazardous to drinking water, on escape of even small quantities.

SECTION 3: Composition/information on ingredients

3.1 Substance
n.a.

3.2 Mixture

<table>
<thead>
<tr>
<th>Zinc bis[(O.O-bis(2-ethylhexyl)) bis(dithiophosphate)]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Registration number (REACH)</td>
</tr>
<tr>
<td>Index</td>
</tr>
<tr>
<td>EINECS, ELINCS, NLP</td>
</tr>
<tr>
<td>CAS</td>
</tr>
<tr>
<td>content %</td>
</tr>
<tr>
<td>Classification according to Regulation (EC) 1272/2008 (CLP)</td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2,6-di-tert-butylphenol</th>
</tr>
</thead>
<tbody>
<tr>
<td>Registration number (REACH)</td>
</tr>
<tr>
<td>Index</td>
</tr>
<tr>
<td>EINECS, ELINCS, NLP</td>
</tr>
<tr>
<td>CAS</td>
</tr>
</tbody>
</table>
**SECTION 4: First aid measures**

### 4.1 Description of first aid measures

First-aiders should ensure they are protected!
Never pour anything into the mouth of an unconscious person!

**Inhalation**
Remove person from danger area.
Supply person with fresh air and consult doctor according to symptoms.

**Skin contact**
Remove polluted, soaked clothing immediately, wash thoroughly with plenty of water and soap, in case of irritation of the skin (flare), consult a doctor.
Unsuitable cleaning product:
Solvent
Thinners

**Eye contact**
Remove contact lenses.
Wash thoroughly for several minutes using copious water. Seek medical help if necessary.

**Ingestion**
Rinse the mouth thoroughly with water.
Do not induce vomiting. Consult doctor immediately.

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

If applicable delayed symptoms and effects can be found in section 11 and the absorption route in section 4.1.
In certain cases, the symptoms of poisoning may only appear after an extended period / after several hours.

**Irritation of the eyes**
With long-term contact:
Drying of the skin.
Dermatitis (skin inflammation)
Oil acne

On vapour formation:
Irritation of the respiratory tract
Ingestion:
Gastrointestinal disturbances
Nausea
Vomiting

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

Symptomatic treatment.

---

**SECTION 5: Firefighting measures**
5.1 Extinguishing media

Suitable extinguishing media

CO₂
Foam
Dry extinguisher

Unsuitable extinguishing media

High volume water jet

5.2 Special hazards arising from the substance or mixture

In case of fire the following can develop:

- Oxides of carbon
- Hydrogen sulphide
- Oxides of sulphur
- Oxides of phosphorus
- Toxic gases

5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes.
Protective respirator with independent air supply.
According to size of fire
Full protection, if necessary.
Cool container at risk with water.
Dispose of contaminated extinction water according to official regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Ensure sufficient supply of air.
Avoid formation of oil mist.
Avoid contact with eyes or skin.
If applicable, caution - risk of slipping.

6.2 Environmental precautions

If leakage occurs, dam up.
Resolve leaks if this possible without risk.
Prevent from entering drainage system.
Prevent surface and ground-water infiltration, as well as ground penetration.
If accidental entry into drainage system occurs, inform responsible authorities.

6.3 Methods and material for containment and cleaning up

Soak up with absorbent material (e.g. universal binding agent, sand, diatomaceous earth, sawdust) and dispose of according to Section 13.

Oil binder
Do not wash away with water or watery cleaning agents.

6.4 Reference to other sections

For personal protective equipment see Section 8 and for disposal instructions see Section 13.

SECTION 7: Handling and storage

In addition to information given in this section, relevant information can also be found in section 8 and 6.1.

7.1 Precautions for safe handling

7.1.1 General recommendations

Avoid formation of oil mist.
Ensure good ventilation.
Keep away from sources of ignition - Do not smoke.
Do not heat to temperatures close to flash point.
Avoid contact with eyes.
Avoid long lasting or intensive contact with skin.
Do not carry cleaning cloths soaked in product in trouser pockets.
Eating, drinking, smoking, as well as food-storage, is prohibited in work-room.
7.1.2 Notes on general hygiene measures at the workplace

General hygiene measures for the handling of chemicals are applicable.

Wash hands before breaks and at end of work.
Keep away from food, drink and animal feedingstuffs.
Remove contaminated clothing and protective equipment before entering areas in which food is consumed.

7.2 Conditions for safe storage, including any incompatibilities

Keep out of access to unauthorised individuals.
Not to be stored in gangways or stair wells.
Store product closed and only in original packing.
Under all circumstances prevent penetration into the soil.
Protect from direct sunlight and warming.
Store in a dry place.

7.3 Specific end use(s)

No information available at present.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Oil mist, mineral</th>
<th>WEL-TWA: 5 mg/m3 (Mineral oil, excluding metal working fluids, ACGIH)</th>
<th>WEL-STEL: ---</th>
<th>Content %: ---</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monitoring procedures:</td>
<td>- Draeger - Oil 10/a-P (67 28 371)</td>
<td>- Draeger - Oil Mist 1/a (67 33 031)</td>
<td>BMGV: ---</td>
<td>Other information: ---</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Zinc bis[(O,O-bis(2-ethylhexyl)] bis(dithiophosphate)</th>
<th>Area of application</th>
<th>Exposure route / Environmental compartment</th>
<th>Effect on health</th>
<th>Descriptor</th>
<th>Value</th>
<th>Unit</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environment - freshwater</td>
<td>PNEC</td>
<td>0,004</td>
<td>mg/l</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environment - marine</td>
<td>PNEC</td>
<td>4,6</td>
<td>µg/l</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environment - sewage treatment plant</td>
<td>PNEC</td>
<td>3,8</td>
<td>mg/l</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environment - sediment, freshwater</td>
<td>PNEC</td>
<td>0,322</td>
<td>mg/kg dw</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environment - sediment, marine</td>
<td>PNEC</td>
<td>0,032</td>
<td>mg/kg dw</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environment - soil</td>
<td>PNEC</td>
<td>0,082</td>
<td>mg/kg dw</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environment - oral (animal feed)</td>
<td>PNEC</td>
<td>8,33</td>
<td>mg/kg feed</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Consumer | Human - dermal | Long term, systemic effects | DNEL | 4,8 | mg/kg bw/day | |
| Consumer | Human - oral | Long term, systemic effects | DNEL | 0,19 | mg/kg bw/day | |
| Consumer | Human - inhalation | Long term, systemic effects | DNEL | 1,67 | mg/m3 | |
| Workers / employees | Human - inhalation | Long term, systemic effects | DNEL | 6,6 | mg/m3 | |
| Workers / employees | Human - dermal | Long term, systemic effects | DNEL | 9,6 | mg/kg bw/day | |

2,6-di-tert-butyphenol

<table>
<thead>
<tr>
<th>Area of application</th>
<th>Exposure route / Environmental compartment</th>
<th>Effect on health</th>
<th>Descriptor</th>
<th>Value</th>
<th>Unit</th>
<th>Note</th>
</tr>
</thead>
</table>
Phenol, (tetrapropenyl) derivatives

<table>
<thead>
<tr>
<th>Area of application</th>
<th>Exposure route / Environmental compartment</th>
<th>Effect on health</th>
<th>Descriptor</th>
<th>Value</th>
<th>Unit</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workers / employees</td>
<td>Human - oral</td>
<td>Long term, systemic effects</td>
<td>DNEL</td>
<td>0,25</td>
<td>mg/kg</td>
<td></td>
</tr>
<tr>
<td>Workers / employees</td>
<td>Human - inhalation</td>
<td>Long term, systemic effects</td>
<td>DNEL</td>
<td>0,053</td>
<td>mg/m3</td>
<td></td>
</tr>
</tbody>
</table>

Distillates (petroleum), hydrotreated heavy paraffinic

<table>
<thead>
<tr>
<th>Area of application</th>
<th>Exposure route / Environmental compartment</th>
<th>Effect on health</th>
<th>Descriptor</th>
<th>Value</th>
<th>Unit</th>
<th>Note</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environment - oral (animal feed)</td>
<td>PNEC</td>
<td>9,33</td>
<td>mg/kg</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

8.2 Exposure controls

8.2.1 Appropriate engineering controls

Ensure good ventilation. This can be achieved by local suction or general air extraction.
If this is insufficient to maintain the concentration under the WEL or AGW values, suitable breathing protection should be worn.
Applies only if maximum permissible exposure values are listed here.
Suitable assessment methods for reviewing the effectiveness of protection measures adopted include metrological and non-metrological investigative techniques.
These are specified by e.g. BS EN 14042.
BS EN 14042 "Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents".

8.2.2 Individual protection measures, such as personal protective equipment

General hygiene measures for the handling of chemicals are applicable.
Wash hands before breaks and at end of work.
Keep away from food, drink and animal feedingstuffs.
Remove contaminated clothing and protective equipment before entering areas in which food is consumed.
Eye/face protection:
Tight fitting protective goggles (EN 166) with side protection, with danger of splashes.

Skin protection - Hand protection:
Protective gloves, oil resistant (EN 374)
If applicable
Protective nitrile gloves (EN 374).
Protective PVC gloves (EN 374)
Minimum layer thickness in mm:
>= 0,4
Permeation time (penetration time) in minutes:
>= 480
The breakthrough times determined in accordance with EN 16523-1 were not obtained under practical conditions.
The recommended maximum wearing time is 50% of breakthrough time.
Protective hand cream recommended.

Skin protection - Other:
Protective working garments (e.g. safety shoes EN ISO 20345, long-sleeved protective working garments).

Respiratory protection:
Normally not necessary.
With oil mist formation:
Filter A2 P2 (EN 14387), code colour brown, white
Observe wearing time limitations for respiratory protection equipment.

Thermal hazards:
Not applicable

Additional information on hand protection - No tests have been performed.
In the case of mixtures, the selection has been made according to the knowledge available and the information about the contents.
Selection of materials derived from glove manufacturer's indications.
Final selection of glove material must be made taking the breakthrough times, permeation rates and degradation into account.
Selection of a suitable glove depends not only on the material but also on other quality characteristics and varies from manufacturer to manufacturer.
In the case of mixtures, the resistance of glove materials cannot be predicted and must therefore be tested before use.
The exact breakthrough time of the glove material can be requested from the protective glove manufacturer and must be observed.

### 8.2.3 Environmental exposure controls
No information available at present.

### SECTION 9: Physical and chemical properties

#### 9.1 Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Colour</td>
<td>Brown</td>
</tr>
<tr>
<td>Odour</td>
<td>Characteristic</td>
</tr>
<tr>
<td>Odour threshold</td>
<td>Not determined</td>
</tr>
<tr>
<td>pH-value</td>
<td>Not determined</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>Not determined</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>Not determined</td>
</tr>
<tr>
<td>Flash point</td>
<td>220 °C</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not determined</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>n.a.</td>
</tr>
<tr>
<td>Lower explosive limit</td>
<td>Not determined</td>
</tr>
<tr>
<td>Upper explosive limit</td>
<td>Not determined</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>Not determined</td>
</tr>
<tr>
<td>Vapour density (air = 1)</td>
<td>0,885 g/ml</td>
</tr>
<tr>
<td>Density</td>
<td>n.a.</td>
</tr>
<tr>
<td>Bulk density</td>
<td>Not determined</td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td>Insoluble</td>
</tr>
<tr>
<td>Water solubility</td>
<td></td>
</tr>
</tbody>
</table>
Partition coefficient (n-octanol/water): Not determined
Auto-ignition temperature: Not determined
Decomposition temperature: Not determined
Viscosity: 35 mm²/s (40°C)
Viscosity: 5.7 mm²/s (100°C)
Explosive properties: Product is not explosive.
Oxidising properties: No
9.2 Other information
Miscibility: Not determined
Fat solubility / solvent: Not determined
Conductivity: Not determined
Surface tension: Not determined
Solvents content: Not determined

SECTION 10: Stability and reactivity

10.1 Reactivity
The product has not been tested.

10.2 Chemical stability
Stable with proper storage and handling.

10.3 Possibility of hazardous reactions
No dangerous reactions are known.

10.4 Conditions to avoid
See also section 7.
Heating, open flame, ignition sources
Protect from humidity.

10.5 Incompatible materials
See also section 7.
Avoid contact with strong oxidizing agents.

10.6 Hazardous decomposition products
See also section 5.2
No decomposition when used as directed.

SECTION 11: Toxicological information

11.1 Information on toxicological effects
Possibly more information on health effects, see Section 2.1 (classification).

<table>
<thead>
<tr>
<th>Hydraulik System Additiv 1 L</th>
<th>Art.: 5116</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Toxicity / effect</strong></td>
<td><strong>Endpoint</strong></td>
</tr>
</tbody>
</table>

Zinc bis[(O,O-bis(2-ethylhexyl)] bis(dithiophosphate)

<table>
<thead>
<tr>
<th><strong>Toxicity / effect</strong></th>
<th><strong>Endpoint</strong></th>
<th><strong>Value</strong></th>
<th><strong>Unit</strong></th>
<th><strong>Organism</strong></th>
<th><strong>Test method</strong></th>
<th><strong>Notes</strong></th>
</tr>
</thead>
</table>
Hydraulik System Additiv 1 L
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<table>
<thead>
<tr>
<th>Substance</th>
<th>Toxicity / effect</th>
<th>Endpoint</th>
<th>Value</th>
<th>Unit</th>
<th>Organism</th>
<th>Test method</th>
<th>Notes</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,6-di-tert-butylphenol</td>
<td>Skin corrosion/irritation:</td>
<td>&lt;35</td>
<td>%</td>
<td>Rabbit</td>
<td>OECD 404 (Acute Dermal Irritation/Corrosion)</td>
<td>Not irritant</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Serious eye damage/irritation:</td>
<td>&gt;=80</td>
<td>%</td>
<td>Rabbit</td>
<td>OECD 405 (Acute Eye Irritation/Corrosion)</td>
<td>Eye Dam. 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Respiratory or skin sensitisation:</td>
<td></td>
<td></td>
<td>Guinea pig</td>
<td>OECD 406 (Skin Sensitisation)</td>
<td>No (skin contact), References</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Symptoms:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>burns, nausea and vomiting, sore throat, stomach pain</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Phenol, (tetrapropenyl) derivatives

<table>
<thead>
<tr>
<th>Substance</th>
<th>Toxicity / effect</th>
<th>Endpoint</th>
<th>Value</th>
<th>Unit</th>
<th>Organism</th>
<th>Test method</th>
<th>Notes</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity, by oral route:</td>
<td>LD50</td>
<td>&gt;2000</td>
<td>mg/kg</td>
<td>Rat</td>
<td>OECD 401 (Acute Oral Toxicity)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute toxicity, by dermal route:</td>
<td>LD50</td>
<td>&gt;2000</td>
<td>mg/kg</td>
<td>Rat</td>
<td>OECD 402 (Acute Dermal Toxicity)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skin corrosion/irritation:</td>
<td>LD50</td>
<td>&gt;5000</td>
<td>mg/kg</td>
<td>Rabbit</td>
<td>OECD 404 (Acute Dermal Toxicity)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Serious eye damage/irritation:</td>
<td>&gt;=80</td>
<td>%</td>
<td>Rabbit</td>
<td>OECD 405 (Acute Eye Irritation/Corrosion)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Respiratory or skin sensitisation:</td>
<td></td>
<td></td>
<td>Guinea pig</td>
<td>OECD 406 (Skin Sensitisation)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Germ cell mutagenicity:</td>
<td></td>
<td></td>
<td></td>
<td>OECD 471 (Bacterial Reverse Mutation Test)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Reproductive toxicity:</td>
<td>NOAEL</td>
<td>15</td>
<td>mg/kg</td>
<td>Rat</td>
<td>OECD 416 (Two-generation Reproduction Toxicity Study)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Positive</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Reproductive toxicity (Developmental toxicity):</td>
<td></td>
<td></td>
<td></td>
<td>OECD 414 (Prenatal Developmental Toxicity Study)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Positive</td>
<td></td>
</tr>
</tbody>
</table>

SECTION 12: Ecological information

Possibly more information on environmental effects, see Section 2.1 (classification).

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<table>
<thead>
<tr>
<th>Toxicity / effect</th>
<th>Endpoint</th>
<th>Time</th>
<th>Value</th>
<th>Unit</th>
<th>Organism</th>
<th>Test method</th>
<th>Notes</th>
<th>Notes</th>
</tr>
</thead>
</table>
### Zinc bis[(O,O-bis(2-ethylhexyl)) bis(dithiophosphate)]

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<th>Toxicity / effect</th>
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<th>Unit</th>
<th>Organism</th>
<th>Test method</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>12.1. Toxicity to fish:</td>
<td>LC50</td>
<td>96h</td>
<td>4,4</td>
<td>mg/l</td>
<td>Oncorhynchus mykiss</td>
<td>OECD 203 (Fish, Acute Toxicity Test)</td>
<td></td>
</tr>
<tr>
<td>12.3. Bioaccumulative potential:</td>
<td>Log Kow</td>
<td></td>
<td>3,6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12.1. Toxicity to daphnia:</td>
<td>NOEC/NOEL</td>
<td>21d</td>
<td>0,4</td>
<td>mg/l</td>
<td>Daphnia magna</td>
<td>Analogous conclusion</td>
<td></td>
</tr>
<tr>
<td>12.1. Toxicity to algae:</td>
<td>ErC50</td>
<td>72h</td>
<td>&gt;240</td>
<td>mg/l</td>
<td>Desmodesmus subspicatus</td>
<td>OECD 201 (Alga, Growth Inhibition Test)</td>
<td></td>
</tr>
<tr>
<td>12.1. Toxicity to daphnia:</td>
<td>EC50</td>
<td>48h</td>
<td>75</td>
<td>mg/l</td>
<td>Daphnia magna</td>
<td>OECD 202 (Daphnia sp. Acute Immobilisation Test)</td>
<td></td>
</tr>
<tr>
<td>12.2. Persistence and degradability:</td>
<td>COD</td>
<td>28d</td>
<td>&lt;5</td>
<td>%</td>
<td>OECD 301 D (Ready Biodegradability - Closed Bottle Test)</td>
<td>Not readily biodegradable</td>
<td></td>
</tr>
<tr>
<td>Other information:</td>
<td>AOX</td>
<td></td>
<td>0</td>
<td>%</td>
<td></td>
<td>Does not contain any organically bound halogens which can contribute to the AOX value in waste water.</td>
<td></td>
</tr>
<tr>
<td>12.5. Results of PBT and vPvB assessment</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>No PBT substance, No vPvB substance</td>
<td></td>
</tr>
</tbody>
</table>

### Phenol, (tetrapropenyl) derivatives

<table>
<thead>
<tr>
<th>Toxicity / effect</th>
<th>Endpoint</th>
<th>Time</th>
<th>Value</th>
<th>Unit</th>
<th>Organism</th>
<th>Test method</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxicity to bacteria:</td>
<td>EC50</td>
<td>3h</td>
<td>&gt;1000</td>
<td>mg/l</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12.3. Bioaccumulative potential:</td>
<td>BCF</td>
<td></td>
<td>289-1601</td>
<td></td>
<td></td>
<td>High</td>
<td></td>
</tr>
<tr>
<td>12.1. Toxicity to daphnia:</td>
<td>NOEC/NOEL</td>
<td>21d</td>
<td>0,0037</td>
<td>mg/l</td>
<td>Daphnia magna</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12.1. Toxicity to algae:</td>
<td>EC50</td>
<td>72h</td>
<td>0,36</td>
<td>mg/l</td>
<td>Desmodesmus subspicatus</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12.1. Toxicity to algae:</td>
<td>NOEC/NOEL</td>
<td>72h</td>
<td>0,07</td>
<td>mg/l</td>
<td>Desmodesmus subspicatus</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12.1. Toxicity to fish:</td>
<td>LC50</td>
<td>96h</td>
<td>40</td>
<td>mg/l</td>
<td>Pimephales promelas</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12.1. Toxicity to daphnia:</td>
<td>EC50</td>
<td>48h</td>
<td>0,037</td>
<td>mg/l</td>
<td>Daphnia magna</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12.2. Persistence and degradability:</td>
<td></td>
<td>28d</td>
<td>6-25</td>
<td>%</td>
<td>activated sludge</td>
<td>OECD 301 B (Ready Biodegradability - Co2 Evolution Test)</td>
<td>Not readily biodegradable</td>
</tr>
</tbody>
</table>
SECTION 13: Disposal considerations

13.1 Waste treatment methods
For the substance / mixture / residual amounts
Soaked polluted cloths, paper or other organic materials represent a fire hazard and should be controlled, collected and disposed of.
EC disposal code no.:
The waste codes are recommendations based on the scheduled use of this product.
Owing to the user's specific conditions for use and disposal, other waste codes may be allocated under certain circumstances. (2014/955/EU)
13 01 10 mineral based non-chlorinated hydraulic oils
Recommendation:
Sewage disposal shall be discouraged.
Pay attention to local and national official regulations.
E.g. dispose at suitable refuse site.
E.g. suitable incineration plant.
For contaminated packing material
Pay attention to local and national official regulations.
15 01 01 paper and cardboard packaging
15 01 02 plastic packaging
15 01 04 metallic packaging
Empty container completely.
Uncontaminated packaging can be recycled.
Dispose of packaging that cannot be cleaned in the same manner as the substance.

SECTION 14: Transport information

General statements
14.1. UN number: 3082
Transport by road/by rail (ADR/RID)
14.2. UN proper shipping name:
UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (ZINC BIS[O,O-BIS(2-ETHYLHEXYL)] BIS(DITHIOPHOSPHATE),2,6-DI-TERT-BUTYLPHENOL)
14.3. Transport hazard class(es): 9
14.4. Packing group: III
Classification code: M6
LO: 5 L
14.5. Environmental hazards: environmentally hazardous
Tunnel restriction code: -
Transport by sea (IMDG-code)
14.2. UN proper shipping name:
ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (ZINC BIS[O,O-BIS(2-ETHYLHEXYL)] BIS(DITHIOPHOSPHATE),2,6-DI-TERT-BUTYLPHENOL)
14.3. Transport hazard class(es): 9
14.4. Packing group: III
EmS: F-A, S-F
Marine Pollutant: Yes
14.5. Environmental hazards: environmentally hazardous
Transport by air (IATA)
14.2. UN proper shipping name:
Environmentally hazardous substance, liquid, n.o.s. (ZINC BIS[O,O-BIS(2-ETHYLHEXYL)] BIS(DITHIOPHOSPHATE),2,6-DI-TERT-BUTYLPHENOL)
14.3. Transport hazard class(es): 9
14.4. Packing group: III
14.5. Environmental hazards: environmentally hazardous

14.6. Special precautions for user
Persons employed in transporting dangerous goods must be trained.
All persons involved in transporting must observe safety regulations.
Precautions must be taken to prevent damage.
14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

Freighted as packaged goods rather than in bulk, therefore not applicable.
Minimum amount regulations have not been taken into account.
Danger code and packing code on request.
Comply with special provisions.

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Observe restrictions:
Phenol, (tetrapropenyl) derivatives
Comply with trade association/occupational health regulations.

Directive 2012/18/EU ("Seveso III"), Annex I, Part 1 - The following categories apply to this product (others may also need to be considered according to storage, handling etc.):

<table>
<thead>
<tr>
<th>Hazard categories</th>
<th>Notes to Annex I</th>
<th>Qualifying quantity (tonnes) of dangerous substances as referred to in Article 3(10) for the application of - Lower-tier requirements</th>
<th>Qualifying quantity (tonnes) of dangerous substances as referred to in Article 3(10) for the application of - Upper-tier requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>E2</td>
<td></td>
<td>200</td>
<td>500</td>
</tr>
</tbody>
</table>

The Notes to Annex 1 of Directive 2012/18/EU, in particular those named in the tables here and notes 1-6, must be taken into account when assigning categories and qualifying quantities.

Directive 2010/75/EU (VOC): < 1 %

Observe incident regulations.

15.2 Chemical safety assessment

A chemical safety assessment is not provided for mixtures.

SECTION 16: Other information

Revised sections: 2, 3, 4, 5, 7, 8, 9, 10, 11, 12, 14, 15, 16

Employee training in handling dangerous goods is required.
These details refer to the product as it is delivered.
Employee instruction/training in handling hazardous materials is required.

Classification and processes used to derive the classification of the mixture in accordance with the ordinance (EG) 1272/2008 (CLP):

<table>
<thead>
<tr>
<th>Classification in accordance with regulation (EC) No. 1272/2008 (CLP)</th>
<th>Evaluation method used</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aquatic Chronic 2, H411</td>
<td>Classification according to calculation procedure.</td>
</tr>
</tbody>
</table>

The following phrases represent the posted Hazard Class and Risk Category Code (GHS/CLP) of the product and the constituents (specified in Section 2 and 3).
H314 Causes severe skin burns and eye damage.
H360F May damage fertility.
H315 Causes skin irritation.
H318 Causes serious eye damage.
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.

Aquatic Chronic — Hazardous to the aquatic environment - chronic
Eye Dam. — Serious eye damage
Skin Irrit. — Skin irritation
Aquatic Acute — Hazardous to the aquatic environment - acute
Skin Corr. — Skin corrosion
Repr. — Reproductive toxicity

Any abbreviations and acronyms used in this document:

acc., acc. to according, according to
ADR Accord européen relatif au transport international des marchandises Dangereuses par Route (= European Agreement concerning the International Carriage of Dangerous Goods by Road)
AOX Adsorbable organic halogen compounds
approx. approximately
Art., Art. no. Article number
ASTM ASTM International (American Society for Testing and Materials)
BAM Bundesanstalt für Materialforschung und -prüfung (Federal Institute for Materials Research and Testing, Germany)
BAUA Bundesanstalt für Arbeitsschutz und Arbeitsmedizin (= Federal Institute for Occupational Health and Safety, Germany)
BSEF The International Bromine Council
bw body weight
CAS Chemical Abstracts Service
CLP Classification, Labelling and Packaging (REGULATION (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures)
CMR carcinogenic, mutagenic, reproductive toxic
DMEL Derived Minimum Effect Level
DNEL Derived No Effect Level
dw dry weight
e.g. for example (abbreviation of Latin 'exempli gratia'), for instance
EC European Community
ECHA European Chemicals Agency
EEC European Economic Community
EINECS European Inventory of Existing Commercial Chemical Substances
ELINCS European List of Notified Chemical Substances
EN European Norms
EPA United States Environmental Protection Agency (United States of America)
etc. et cetera
EU European Union
EVAL Ethylene-vinyl alcohol copolymer
Fax. Fax number
gen. general
GHS Globally Harmonized System of Classification and Labelling of Chemicals
GWP Global warming potential
IARC International Agency for Research on Cancer
IATA International Air Transport Association
IBC (Code) International Bulk Chemical (Code)
IMDG-code International Maritime Code for Dangerous Goods
incl. including, inclusive
IUCLID International Uniform Chemical Information Database
LQ Limited Quantities
MARPOL International Convention for the Prevention of Marine Pollution from Ships
n.a. not applicable
n.av. not available
n.c. not checked
n.d.a. no data available
OECD Organisation for Economic Co-operation and Development
org. organic
PBT persistent, bioaccumulative and toxic
PE Polyethylene
PNEC Predicted No Effect Concentration
ppm parts per million
PVC Polychloroethylene
REACH Registration, Evaluation, Authorisation and Restriction of Chemicals (REGULATION (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals)