# Safety data sheet
# according to Regulation (EC) No 1907/2006, Annex II

## SECTION 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

## Kupfer-Paste 100 g
## Art.: 3080

### 1.2 Relevant identified uses of the substance or mixture and uses advised against
**Relevant identified uses of the substance or mixture:**
Lubricant
**Uses advised against:**
No information available at present.

### 1.3 Details of the supplier of the safety data sheet
GB

LIQUI MOLY GmbH, Jerg-Wieland-Str. 4, 89081 Ulm-Lehr, Germany
Phone: (+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:**
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**Telephone number of the company in case of emergencies:**
+49 (0) 700 / 24 112 112 (LMR)

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture
**Classification according to Regulation (EC) 1272/2008 (CLP)**

| Hazard class | Hazard category | Hazard statement |
|---|---|---|
| Aquatic Acute | 1 | H400-Very toxic to aquatic life. |
| Aquatic Chronic | 3 | H412-Harmful to aquatic life with long lasting effects. |

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

Warning

H410-Very toxic to aquatic life with long lasting effects.

P273-Avoid release to the environment.
P501-Dispose of contents/container to special waste collection point.

EUH208-Contains Di-iso-octyl amino methyl tolutriazole. May produce an allergic reaction.

## 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.
The mixture does not contain any PBT substance (PBT = persistent, bioaccumulative, toxic) or is not included under XIII of the regulation (EC) 1907/2006.

# SECTION 3: Composition/information on ingredients

## 3.1 Substance

n.a.

## 3.2 Mixture

| **Coated Copper Flakes** | |
|---|---|
| **Registration number (REACH)** | -- |
| **Index** | --- |
| **EINECS, ELINCS, NLP** | 231-159-6 |
| **CAS** | 7440-50-8 |
| **content %** | 5-15 |
| **Classification according to Regulation (EC) 1272/2008 (CLP)** | Flam. Sol. 1, H228<br>Acute Tox. 4, H302<br>Aquatic Acute 1, H400 (M=10)<br>Aquatic Chronic 2, H411 |

| **Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, < 2% aromatics** | |
|---|---|
| **Registration number (REACH)** | -- |
| **Index** | --- |
| **EINECS, ELINCS, NLP** | 919-857-5 (REACH-IT List-No.) |
| **CAS** | --- |
| **content %** | 1-2,5 |
| **Classification according to Regulation (EC) 1272/2008 (CLP)** | Flam. Liq. 3, H226<br>Asp. Tox. 1, H304<br>STOT SE 3, H336 |

| **2,6-Di-t-butyl-4-methyl-phenol** | |
|---|---|
| **Registration number (REACH)** | -- |
| **Index** | --- |
| **EINECS, ELINCS, NLP** | 204-881-4 |
| **CAS** | 128-37-0 |
| **content %** | 1-<2,5 |
| **Classification according to Regulation (EC) 1272/2008 (CLP)** | Aquatic Acute 1, H400 (M=1)<br>Aquatic Chronic 1, H410 (M=1) |

| **Di-iso-octyl amino methyl tolutriazole** | |
|---|---|
| **Registration number (REACH)** | -- |
| **Index** | --- |
| **EINECS, ELINCS, NLP** | 939-700-4 (REACH-IT List-No.) |
| **CAS** | (80584-90-3 + 80595-74-0) |
| **content %** | 0,1-<1 |
| **Classification according to Regulation (EC) 1272/2008 (CLP)** | Skin Irrit. 2, H315<br>Skin Sens. 1, H317<br>Aquatic Acute 1, H400 (M=1)<br>Aquatic Chronic 2, H411 |

For the text of the H-phrases and classification codes (GHS/CLP), see Section 16.
The substances named in this section are given with their actual, appropriate classification!
For substances that are listed in appendix VI, table 3.1/3.2 of the regulation (EC) no. 1272/2008 (CLP regulation) this means that all notes that may be given here for the named classification have been taken into account.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

#### Inhalation

Normally not necessary.
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.

#### 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

Drying of the skin.
With long-term contact:
Irritation of the skin.
Sensitive individuals:
Allergic reaction possible.
In certain cases, the symptoms of poisoning may only appear after an extended period / after several hours.

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

n.c.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

#### Suitable extinguishing media

Foam
Dry extinguisher
Sand

#### Unsuitable extinguishing media

Water
CO2

### 5.2 Special hazards arising from the substance or mixture

In case of fire the following can develop:
Oxides of carbon
Oxides of nitrogen
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.
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 inhalation, and 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.

### 6.3 Methods and material for containment and cleaning up
Soak up with absorbent material (e.g. universal binding agent) and dispose of according to Section 13.
Or:
Pick up mechanically and dispose of according to Section 13.

### 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
Keep away from sources of ignition - Do not smoke.
Eating, drinking, smoking, as well as food-storage, is prohibited in work-room.
Do not carry cleaning cloths soaked in product in trouser pockets.
Observe directions on label and instructions for use.
Use working methods according to operating instructions.

#### 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.
Protect against moisture and store closed.
Store cool

### 7.3 Specific end use(s)
No information available at present.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters
Workplace exposure limit (WEL) of the total hydrocarbon solvent content of the mixture (RCP method according to EH40):
800 mg/m3

| GB **Chemical Name** | Coated Copper Flakes | Content %:5-15 |
|---|---|---|
| WEL-TWA: 1 mg/m3 (dusts and mists, as Cu) | WEL-STEL: 2 mg/m3 (dusts and mists, as Cu) | --- |

Monitoring procedures:

- ISO 15202 (Workplace air - Determination of metals and metalloids in airborne particulate matter by Inductively Coupled Plasma Atomic Emission Spectrometry), Part 1-3 - 2000(Part 1), 2001(Part 2), 2004 (Part 3) - EU project BC/CEN/ENTR/000/2002-16 card 84-1 (2004)
- MDHS 91 (Metals and metalloids in workplace air by X-ray fluorescence spectrometry) - 1998 - EU project BC/CEN/ENTR/000/2002-16 card 84-2 (2004)
- NIOSH 7029 (Copper (dust and fume)) - 1994
- NIOSH 7300 (Elements by ICP (nitric/perchloric ashing)) - 2003
- NIOSH 7301 (Elements by ICP (aqua regia ashing)) - 2003
- NIOSH 7303 (Elements by ICP (Hot block HCl/HNO3 digestion)) - 2003
- OSHA ID-121 (Metal and metalloid particulates in workplace atmospheres (Atomic absorption)) - 2002 - EU project BC/CEN/ENTR/000/2002-16 card 84-10 (2004)

| | |
|---|---|
| | - OSHA ID-125G (Metal and metalloid particulates in workplace atmospheres (ICP)) - 2002<br>- OSHA ID-206 (ICP analysis of metal/metallloid particulates from solder operations) - 1991 |
| BMGV: --- | Other information: --- |

| | | |
|---|---|---|
| **Chemical Name** | Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, < 2% aromatics | Content %:1-2,5 |
| WEL-TWA: 800 mg/m3 | WEL-STEL: --- | --- |
| Monitoring procedures: | - Draeger - Hydrocarbons 2/a (81 03 581)<br>- Draeger - Hydrocarbons 0,1%/c (81 03 571)<br>- Compur - KITA-187 S (551 174) | |
| BMGV: --- | Other information: (WEL acc. to RCP-method, EH40) | |

| | | |
|---|---|---|
| **Chemical Name** | 2,6-Di-t-butyl-4-methyl-phenol | Content %:1-<2,5 |
| WEL-TWA: 10 mg/m3 | WEL-STEL: --- | --- |
| Monitoring procedures: | --- | |
| BMGV: --- | Other information: --- | |

| | | |
|---|---|---|
| **Chemical Name** | Oil mist, mineral | Content %: |
| WEL-TWA: 5 mg/m3 (ACGIH) | WEL-STEL: 10 mg/m3 (ACGIH) | --- |
| Monitoring procedures: | - Draeger - Oil 10/a-P (67 28 371)<br>- Draeger - Oil Mist 1/a (67 33 031) | |
| BMGV: --- | Other information: --- | |

WEL-TWA = Workplace Exposure Limit - Long-term exposure limit (8-hour TWA (= time weighted average) reference period) EH40. AGW = "Arbeitsplatzgrenzwert" (workplace limit value, Germany). | WEL-STEL = Workplace Exposure Limit - Short-term exposure limit (15-minute reference period). | BMGV = Biological monitoring guidance value EH40. BGW = "Biologischer Grenzwert" (biological limit value, Germany) | Other information: Sen = Capable of causing occupational asthma. Sk = Can be absorbed through skin. Carc = Capable of causing cancer and/or heritable genetic damage.
** = The exposure limit for this substance is repealed through the TRGS 900 (Germany) of January 2006 with the goal of revision.

**Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, < 2% aromatics**

| Area of application | Exposure route / Environmental compartment | Effect on health | Descriptor | Value | Unit | Note |
|---|---|---|---|---|---|---|
| Workers / employees | Human - dermal | Long term, systemic effects | DNEL | 300 | mg/kg bw/day | |
| Workers / employees | Human - inhalation | Long term, systemic effects | DNEL | 1500 | mg/m3 | |
| Consumer | Human - oral | Long term, systemic effects | DNEL | 300 | mg/kg bw/day | |
| Consumer | Human - dermal | Long term, systemic effects | DNEL | 300 | mg/kg bw/day | |
| Consumer | Human - inhalation | Long term, systemic effects | DNEL | 900 | mg/m3 | |

**2,6-Di-t-butyl-4-methyl-phenol**

| Area of application | Exposure route / Environmental compartment | Effect on health | Descriptor | Value | Unit | Note |
|---|---|---|---|---|---|---|
| Workers / employees | Human - inhalation | Long term, systemic effects | DNEL | 5,8 | mg/m3 | |
| Consumer | Human - inhalation | Long term, systemic effects | DNEL | 1,74 | mg/m3 | |
| Workers / employees | Human - dermal | Long term, systemic effects | DNEL | 8,3 | mg/kg bw/day | |
| Consumer | Human - dermal | Long term, systemic effects | DNEL | 5 | mg/kg bw/d | |
| | Environment - soil | | PNEC | 1,04 | mg/kg wwt | |
| | Environment - sewage treatment plant | | PNEC | 100 | mg/l | |
| | Environment - sediment | | PNEC | 1,29 | mg/kg wwt | |

| | | | | | | |
|---|---|---|---|---|---|---|
| | Environment - marine | | PNEC | 0,4 | µg/l | |
| | Environment - periodic release | | PNEC | 4 | µg/l | |
| | Environment - freshwater | | PNEC | 4 | µg/l | |
| | Environment - oral (animal feed) | | PNEC | 16,7 | mg/kg | |
| | Environment - soil | | PNEC | 1,23 | mg/kg | |

## 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.

### 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:
If applicable
Tight fitting protective goggles with side protection (EN 166).

Skin protection - Hand protection:
Recommended
Protective nitrile gloves (EN 374)
Minimum layer thickness in mm:
0,3
Permeation time (penetration time) in minutes:
> 120
The breakthrough times determined in accordance with EN 374 Part 3 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.
If OES or MEL is exceeded.
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

| | |
|---|---|
| Physical state: | Liquid |
| Colour: | Black |
| Odour: | Slightly, Characteristic |
| Odour threshold: | Not determined |
| pH-value: | Not determined |
| Melting point/freezing point: | Not determined |
| Initial boiling point and boiling range: | Not determined |
| Flash point: | >150 °C |
| Evaporation rate: | Not determined |
| Flammability (solid, gas): | n.a. |
| Lower explosive limit: | Not determined |
| Upper explosive limit: | Not determined |
| Vapour pressure: | Not determined |
| Vapour density (air = 1): | Not determined |
| Density: | ~1 g/cm3 (20°C) |
| Bulk density: | n.a. |
| Solubility(ies): | Not determined |
| Water solubility: | Not miscible |
| Partition coefficient (n-octanol/water): | Not determined |
| Auto-ignition temperature: | >300 °C (Ignition temperature ) |
| Auto-ignition temperature: | No |
| Decomposition temperature: | Not determined |
| Viscosity: | 2000 mPas (23°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 decomposition if used as intended.

### 10.4 Conditions to avoid
Protect from humidity.

### 10.5 Incompatible materials
Avoid contact with strong oxidizing agents.

### 10.6 Hazardous decomposition products
No decomposition when used as directed.

## SECTION 11: Toxicological information

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

**Kupfer-Paste 100 g**
**Art.: 3080**

| Toxicity / effect | Endpoint | Value | Unit | Organism | Test method | Notes |
|---|---|---|---|---|---|---|
| Acute toxicity, by oral route: | ATE | >2000 | mg/kg | | | calculated value |
| Acute toxicity, by dermal route: | ATE | >2000 | mg/kg | | | calculated value |
| Acute toxicity, by inhalation: | ATE | 10,02 | mg/l/4h | | | calculated value, Vapours |
| Skin corrosion/irritation: | | | | | | n.d.a. |
| Serious eye damage/irritation: | | | | | | n.d.a. |
| Respiratory or skin sensitisation: | | | | | | n.d.a. |

| | | | | | | |
|---|---|---|---|---|---|---|
| Germ cell mutagenicity: | | | | | | n.d.a. |
| Carcinogenicity: | | | | | | n.d.a. |
| Reproductive toxicity: | | | | | | n.d.a. |
| Specific target organ toxicity - single exposure (STOT-SE): | | | | | | n.d.a. |
| Specific target organ toxicity - repeated exposure (STOT-RE): | | | | | | n.d.a. |
| Aspiration hazard: | | | | | | n.d.a. |
| Symptoms: | | | | | | n.d.a. |

**Coated Copper Flakes**

| Toxicity / effect | Endpoint | Value | Unit | Organism | Test method | Notes |
|---|---|---|---|---|---|---|
| Acute toxicity, by oral route: | LD50 | >300 | mg/kg | Rat | | |
| Acute toxicity, by inhalation: | LC50 | 1-5 | mg/m3/4 h | Rat | | |

**Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, < 2% aromatics**

| Toxicity / effect | Endpoint | Value | Unit | Organism | Test method | Notes |
|---|---|---|---|---|---|---|
| Acute toxicity, by oral route: | LD50 | >5000 | mg/kg | Rat | | |
| Acute toxicity, by oral route: | LD50 | >5000 | mg/kg | Rat | OECD 401 (Acute Oral Toxicity) | |
| Acute toxicity, by dermal route: | LD50 | >5000 | mg/kg | Rabbit | | |
| Acute toxicity, by dermal route: | LD50 | >5000 | mg/kg | Rabbit | OECD 402 (Acute Dermal Toxicity) | |
| Acute toxicity, by inhalation: | LC50 | >5 | mg/l/4h | Rat | | |
| Acute toxicity, by inhalation: | LC50 | >5000 | mg/m3/8 h | Rat | OECD 403 (Acute Inhalation Toxicity) | |
| Skin corrosion/irritation: | | | | Rabbit | OECD 404 (Acute Dermal Irritation/Corrosion) | Not irritant, Repeated exposure may cause skin dryness or cracking. |
| Serious eye damage/irritation: | | | | Rabbit | OECD 405 (Acute Eye Irritation/Corrosion) | Not irritant |
| Respiratory or skin sensitisation: | | | | Guinea pig | OECD 406 (Skin Sensitisation) | No (skin contact) |
| Germ cell mutagenicity: | | | | | OECD 471 (Bacterial Reverse Mutation Test) | Negative, Analogous conclusion |
| Carcinogenicity: | | | | | OECD 453 (Combined Chronic Toxicity/Carcinogenicity Studies) | Negative, Analogous conclusion |
| Reproductive toxicity: | | | | | OECD 414 (Prenatal Developmental Toxicity Study) | Negative, Analogous conclusion |
| Specific target organ toxicity - single exposure (STOT-SE): | | | | | | May cause drowsiness or dizziness. |
| Aspiration hazard: | | | | | | Yes |
| Symptoms: | | | | | | unconsciousness, headaches, dizziness, reddening of the skin |
| Specific target organ toxicity - repeated exposure (STOT-RE), oral: | | | | | OECD 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents) | Not to be expected |

**2,6-Di-t-butyl-4-methyl-phenol**

| Toxicity / effect | Endpoint | Value | Unit | Organism | Test method | Notes |
|---|---|---|---|---|---|---|
| Acute toxicity, by oral route: | LD50 | >5000 | mg/kg | Rat | OECD 401 (Acute Oral Toxicity) | |
| Acute toxicity, by dermal route: | LD50 | >5000 | mg/kg | Rabbit | OECD 402 (Acute Dermal Toxicity) | |
| Skin corrosion/irritation: | | | | | | Slightly irritant |

| | | | | | | |
|---|---|---|---|---|---|---|
| Serious eye damage/irritation: | | | | Rabbit | (Draize-Test) | Slightly irritant |
| Respiratory or skin sensitisation: | | | | Human being | | Not sensitizising |
| Germ cell mutagenicity: | | | | | (Ames-Test) | Negative |
| Germ cell mutagenicity: | | | | Mammalian | | Negative |
| Reproductive toxicity: | NOAEL | 100 | mg/kg | Rat | | |
| Specific target organ toxicity - repeated exposure (STOT-RE): | NOEL | 25 | mg/kg | Rat | | (28d) |
| Symptoms: | | | | | | mucous membrane irritation |

| **Di-iso-octyl amino methyl tolutriazole** | | | | | | |
|---|---|---|---|---|---|---|
| **Toxicity / effect** | **Endpoint** | **Value** | **Unit** | **Organism** | **Test method** | **Notes** |
| Acute toxicity, by oral route: | LD50 | 3313 | mg/kg | Rat | OECD 401 (Acute Oral Toxicity) | |
| Acute toxicity, by dermal route: | LD50 | >2000 | mg/kg | Rat | OECD 402 (Acute Dermal Toxicity) | |
| Skin corrosion/irritation: | | | | Rabbit | OECD 404 (Acute Dermal Irritation/Corrosion) | Irritant |
| Serious eye damage/irritation: | | | | Rabbit | OECD 405 (Acute Eye Irritation/Corrosion) | Not irritant |
| Respiratory or skin sensitisation: | | | | Guinea pig | OECD 406 (Skin Sensitisation) | Yes (skin contact) |
| Germ cell mutagenicity: | | | | | OECD 471 (Bacterial Reverse Mutation Test) | Negative |
| Reproductive toxicity: | | | | | | Negative |

## SECTION 12: Ecological information

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

| **Kupfer-Paste 100 g<br>Art.: 3080** | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Toxicity / effect** | **Endpoint** | **Time** | **Value** | **Unit** | **Organism** | **Test method** | **Notes** |
| Toxicity to fish: | | | | | | | n.d.a. |
| Toxicity to daphnia: | | | | | | | n.d.a. |
| Toxicity to algae: | | | | | | | n.d.a. |
| Persistence and degradability: | | | | | | | n.d.a. |
| Bioaccumulative potential: | | | | | | | n.d.a. |
| Mobility in soil: | | | | | | | n.d.a. |
| Results of PBT and vPvB assessment | | | | | | | n.d.a. |
| Other adverse effects: | | | | | | | n.d.a. |

| **Coated Copper Flakes** | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Toxicity / effect** | **Endpoint** | **Time** | **Value** | **Unit** | **Organism** | **Test method** | **Notes** |
| Toxicity to fish: | LC50 | | 0,0068 -0,0156 | mg/l | Pimephales promelas | | |
| Toxicity to daphnia: | EC50 | 48h | 0,03 | mg/l | Daphnia magna | | |
| Toxicity to daphnia: | NOEC/NOEL | 24h | 0,004 | mg/l | Daphnia magna | | |
| Toxicity to algae: | EC50 | 72h | 0,0426 -0,0535 | mg/l | Pseudokirchneriella subcapitata | | |

| **Hydrocarbons, C9-C11, n-alkanes, isoalkanes, cyclics, < 2% aromatics** | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Toxicity / effect** | **Endpoint** | **Time** | **Value** | **Unit** | **Organism** | **Test method** | **Notes** |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Toxicity to fish: | LC50 | 96h | >1000 | mg/l | Oncorhynchus mykiss | OECD 203 (Fish, Acute Toxicity Test) | |
| Toxicity to fish: | LL50 | 96h | >1000 | mg/l | Oncorhynchus mykiss | | |
| Toxicity to fish: | NOELR | 28d | 0,13 | mg/l | Oncorhynchus mykiss | QSAR | |
| Toxicity to daphnia: | EC50 | 48h | >1000 | mg/l | Daphnia magna | OECD 202 (Daphnia sp. Acute Immobilisation Test) | |
| Toxicity to daphnia: | NOELR | 21d | 0,23 | mg/l | Daphnia magna | QSAR | |
| Toxicity to algae: | ErC50 | 72h | >1000 | mg/l | Pseudokirchneriella subcapitata | OECD 201 (Alga, Growth Inhibition Test) | |
| Toxicity to algae: | EbC50 | 72h | >1000 | mg/l | Pseudokirchneriella subcapitata | OECD 201 (Alga, Growth Inhibition Test) | |
| Toxicity to algae: | EL50 | 72h | >1000 | mg/l | Pseudokirchneriella subcapitata | | |
| Toxicity to algae: | NOELR | 72h | 100 | mg/l | Raphidocelis subcapitata | OECD 201 (Alga, Growth Inhibition Test) | |
| Toxicity to algae: | NOELR | 72h | 100 | mg/l | Raphidocelis subcapitata | OECD 201 (Alga, Growth Inhibition Test) | groth rate |
| Toxicity to algae: | NOELR | 72h | 100 | mg/l | Pseudokirchneriella subcapitata | | |
| Toxicity to algae: | NOELR | 72h | 3 | mg/l | Pseudokirchneriella subcapitata | OECD 201 (Alga, Growth Inhibition Test) | |
| Persistence and degradability: | | 28d | 80 | % | | OECD 301 F (Ready Biodegradability - Manometric Respirometry Test) | |
| Persistence and degradability: | | 28d | 80 | % | | OECD 301 F (Ready Biodegradability - Manometric Respirometry Test) | Readily biodegradable |
| Results of PBT and vPvB assessment | | | | | | | No PBT substance, No vPvB substance |

**2,6-Di-t-butyl-4-methyl-phenol**

| Toxicity / effect | Endpoint | Time | Value | Unit | Organism | Test method | Notes |
|---|---|---|---|---|---|---|---|
| Toxicity to fish: | LC0 | 96h | >=0,57 | mg/l | Brachydanio rerio | Regulation (EC) 440/2008 C.1 (ACUTE TOXICITY FOR FISH) | |
| Toxicity to fish: | LC50 | 96h | >=0,57 | mg/l | Brachydanio rerio | | |
| Toxicity to daphnia: | EC50 | 48h | 0,61 | mg/l | Daphnia magna | OECD 202 (Daphnia sp. Acute Immobilisation Test) | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Toxicity to daphnia: | NOEC/NOEL | 21d | 0,316 | mg/l | Daphnia magna | OECD 202 (Daphnia sp. Acute Immobilisation Test) | |
| Toxicity to algae: | EC50 | 72h | >0,42 | mg/l | Scenedesmus subspicatus | OECD 201 (Alga, Growth Inhibition Test) | |
| Toxicity to algae: | IC50 | 72h | >0,4 | mg/l | Desmodesmus subspicatus | 84/449/EEC C.3 | |
| Persistence and degradability: | | 28d | 4,5 | % | | OECD 301 C (Ready Biodegradability - Modified MITI Test (I)) | |
| Persistence and degradability: | | 28d | 4,5 | % | | OECD 301 C (Ready Biodegradability - Modified MITI Test (I)) | Not readily biodegradable |
| Bioaccumulative potential: | | | 230-2500 | | Cyprinus caprio | OECD 305 (Bioconcentration - Flow-Through Fish Test) | 56d |
| Bioaccumulative potential: | Log Pow | | 5,1 | | | | |
| Results of PBT and vPvB assessment | | | | | | | No PBT substance |
| Toxicity to bacteria: | EC50 | 3h | >10000 | mg/l | activated sludge | | |
| Other information: | | | | | | | Does not contain any organically bound halogens which can contribute to the AOX value in waste water. |
| Water solubility: | | | 0,00076 | g/l | | | |

**Di-iso-octyl amino methyl tolutriazole**

| Toxicity / effect | Endpoint | Time | Value | Unit | Organism | Test method | Notes |
|---|---|---|---|---|---|---|---|
| Toxicity to fish: | LC50 | 96h | 1,3 | mg/l | Brachydanio rerio | OECD 203 (Fish, Acute Toxicity Test) | |
| Toxicity to daphnia: | EC50 | 48h | 2,05 | mg/l | Daphnia magna | OECD 202 (Daphnia sp. Acute Immobilisation Test) | |
| Toxicity to algae: | EC50 | 72h | 0,976 | mg/l | Desmodesmus subspicatus | OECD 201 (Alga, Growth Inhibition Test) | |
| Persistence and degradability: | | 28d | 60 | % | | OECD 301 B (Ready Biodegradability - Co2 Evolution Test) | |
| Bioaccumulative potential: | BCF | | 1676 | | | | |
| Results of PBT and vPvB assessment | | | | | | | No PBT substance, No vPvB substance |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Toxicity to bacteria: | IC50 | 3h | 69 | mg/l | activated sludge | OECD 209 (Activated Sludge, Respiration Inhibition Test (Carbon and Ammonium Oxidation)) | |
| Toxicity to bacteria: | EC20 | 3h | 15 | mg/l | activated sludge | OECD 209 (Activated Sludge, Respiration Inhibition Test (Carbon and Ammonium Oxidation)) | |
| Other information: | | | | | | | The surfactant(s) contained in this mixture complies(comply) with the biodegradability criteria as laid down in Regulation (EC) No.648/2004 on detergents., Data to support this assertion are held at the disposal of the competent authorities of the Member States and will be made available to them, at their direct request or at the request of a detergent manufacturer. |
| Water solubility: | | | <0,01 | % | | | |

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

### For the substance / mixture / residual amounts

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)
07 06 99 wastes not otherwise specified
20 01 26 oil and fat other than those mentioned in 20 01 25
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.
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

UN number: 3077

### Transport by road/by rail (ADR/RID)


UN proper shipping name:
UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (COATED COPPER FLAKES,2,6-TERT-BUTYLPHENOL)

| | |
|---|---|
| Transport hazard class(es): | 9 |
| Packing group: | III |
| Classification code: | M7 |
| LQ (ADR 2015): | 5 kg |
| Environmental hazards: | environmentally hazardous |
| Tunnel restriction code: | E |

## Transport by sea (IMDG-code)


UN proper shipping name:
ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (COATED COPPER FLAKES,2,6-TERT-BUTYLPHENOL)

| | |
|---|---|
| Transport hazard class(es): | 9 |
| Packing group: | III |
| EmS: | F-A, S-F |
| Marine Pollutant: | Yes |
| Environmental hazards: | environmentally hazardous |

## Transport by air (IATA)

UN proper shipping name:
Environmentally hazardous substance, solid, n.o.s. (COATED COPPER FLAKES,2,6-TERT-BUTYLPHENOL)


| | |
|---|---|
| Transport hazard class(es): | 9 |
| Packing group: | III |
| Environmental hazards: | environmentally hazardous |

## 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.

## 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

For classification and labelling see Section 2.
Observe restrictions:
Comply with trade association/occupational health regulations.

| | |
|---|---|
| Directive 2010/75/EU (VOC): | 1,88 % |
| Directive 2010/75/EU (VOC): | 26,3 g/l |

## 15.2 Chemical safety assessment

A chemical safety assessment is not provided for mixtures.

# SECTION 16: Other information

| | |
|---|---|
| Revised sections: | 1 - 16 |

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

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

| Classification in accordance with regulation (EC) No. 1272/2008 (CLP) | Evaluation method used |
|---|---|
| Aquatic Acute 1, H400 | Classification according to calculation procedure. |
| Aquatic Chronic 3, H412 | Classification according to calculation procedure. |

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).
H226 Flammable liquid and vapour.
H228 Flammable solid.
H302 Harmful if swallowed.
H304 May be fatal if swallowed and enters airways.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H336 May cause drowsiness or dizziness.
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 Acute — Hazardous to the aquatic environment - acute
Aquatic Chronic — Hazardous to the aquatic environment - chronic
Flam. Sol. — Flammable solid
Acute Tox. — Acute toxicity - oral
Flam. Liq. — Flammable liquid
Asp. Tox. — Aspiration hazard
STOT SE — Specific target organ toxicity - single exposure - narcotic effects
Skin Irrit. — Skin irritation
Skin Sens. — Skin sensitization

## Any abbreviations and acronyms used in this document:

AC Article Categories
acc., acc. to according, according to
ACGIH American Conference of Governmental Industrial Hygienists
ADR Accord européen relatif au transport international des marchandises Dangereuses par Route (= European Agreement concerning the International Carriage of Dangerous Goods by Road)
AOEL Acceptable Operator Exposure Level
AOX Adsorbable organic halogen compounds
approx. approximately
Art., Art. no. Article number
ATE Acute Toxicity Estimate according to Regulation (EC) 1272/2008 (CLP)
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)
BCF Bioconcentration factor
BGV Berufsgenossenschaftliche Vorschrift (= Accident Prevention Regulation)
BHT Butylhydroxytoluol (= 2,6-Di-t-butyl-4-methyl-phenol)
BMGV Biological monitoring guidance value (EH40, UK)
BOD Biochemical oxygen demand
BSEF Bromine Science and Environmental Forum
bw body weight
CAS Chemical Abstracts Service
CEC Coordinating European Council for the Development of Performance Tests for Fuels, Lubricants and Other Fluids
CESIO Comité Européen des Agents de Surface et de leurs Intermédiaires Organiques
CIPAC Collaborative International Pesticides Analytical Council
CLP Classification, Labelling and Packaging (REGULATION (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures)
CMR carcinogenic, mutagenic, reproductive toxic
COD Chemical oxygen demand
CTFA Cosmetic, Toiletry, and Fragrance Association
DMEL Derived Minimum Effect Level
DNEL Derived No Effect Level
DOC Dissolved organic carbon
DT50 Dwell Time - 50% reduction of start concentration
DVS Deutscher Verband für Schweißen und verwandte Verfahren e.V. (= German Association for Welding and Allied Processes)
dw dry weight
e.g. for example (abbreviation of Latin 'exempli gratia'), for instance
EC European Community
ECHA European Chemicals Agency

EEA European Economic Area
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)
ERC Environmental Release Categories
ES Exposure scenario
etc. et cetera
EU European Union
EWC European Waste Catalogue
Fax. Fax number
gen. general
GHS Globally Harmonized System of Classification and Labelling of Chemicals
GWP Global warming potential
HET-CAM Hen's Egg Test - Chorionallantoic Membrane
HGWP Halocarbon Global Warming Potential
IARC International Agency for Research on Cancer
IATA International Air Transport Association
IBC Intermediate Bulk Container
IBC (Code) International Bulk Chemical (Code)
IC Inhibitory concentration
IMDG-code International Maritime Code for Dangerous Goods
incl. including, inclusive
IUCLID International Uniform ChemicaL Information Database
LC lethal concentration
LC50 lethal concentration 50 percent kill
LCLo lowest published lethal concentration
LD Lethal Dose of a chemical
LD50 Lethal Dose, 50% kill
LDLo Lethal Dose Low
LOAEL Lowest Observed Adverse Effect Level
LOEC Lowest Observed Effect Concentration
LOEL Lowest Observed Effect Level
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
NIOSH National Institute of Occupational Safety and Health (United States of America)
NOAEC No Observed Adverse Effective Concentration
NOAEL No Observed Adverse Effect Level
NOEC No Observed Effect Concentration
NOEL No Observed Effect Level
ODP Ozone Depletion Potential
OECD Organisation for Economic Co-operation and Development
org. organic
PAH polycyclic aromatic hydrocarbon
PBT persistent, bioaccumulative and toxic
PC Chemical product category
PE Polyethylene
PNEC Predicted No Effect Concentration
POCP Photochemical ozone creation potential
ppm parts per million
PROC Process category
PTFE Polytetrafluorethylene
REACH Registration, Evaluation, Authorisation and Restriction of Chemicals (REGULATION (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals)
REACH-IT List-No. 9xx-xxx-x No. is automatically assigned, e.g. to pre-registrations without a CAS No. or other numerical identifier. List Numbers do not have any legal significance, rather they are purely technical identifiers for processing a submission via REACH-IT.
RID Règlement concernant le transport International ferroviaire de marchandises Dangereuses (= Regulation concerning the International Carriage of Dangerous Goods by Rail)
SADT Self-Accelerating Decomposition Temperature

SAR Structure Activity Relationship
SU Sector of use
SVHC Substances of Very High Concern
Tel. Telephone
ThOD Theoretical oxygen demand
TOC Total organic carbon
TRGS Technische Regeln für Gefahrstoffe (=Technical Regulations for Hazardous Substances)
UN RTDG United Nations Recommendations on the Transport of Dangerous Goods
VbF Verordnung über brennbare Flüssigkeiten (= Regulation for flammable liquids (Austria))
VOC Volatile organic compounds
vPvB very persistent and very bioaccumulative
WEL-TWA, WEL-STEL WEL-TWA = Workplace Exposure Limit - Long-term exposure limit (8-hour TWA (= time weighted average) reference period), WEL-STEL = Workplace Exposure Limit - Short-term exposure limit (15-minute reference period) (EH40, UK).
WHO World Health Organization
wwt wet weight

The statements made here should describe the product with regard to the necessary safety precautions - they are not meant to guarantee definite characteristics - but they are based on our present up-to-date knowledge.
No responsibility.
These statements were made by:

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