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

1.1. Product identifier
Kupferpaste

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

Use of the substance/mixture
coating

Uses advised against
Only use for the intended purpose.
The product is intended for professional use.

1.3. Details of the supplier of the safety data sheet
Company name: FDT Flachdach Technologie GmbH & Co. KG
Street: Eisenbahnstraße 6-8
Place: D-68199 Mannheim
Telephone: +49 (621) 8504100
Fax: +49 (621) 8504200
E-mail: kundenservice@fdt.de
Contact person: Marco Anderer
Telephone: +49 (621) 8504563
E-mail: marco.anderer@fdt.de
Internet: http://www.fdt.de
Responsible Department: Arbeitssicherheit und Umweltschutz

1.4. Emergency telephone number:
Poison Control Center (Mayence, GER): +49 (0)6131 - 19240 (24h - de, en)
Emergency Action: In the event of a medical enquiry involving this product, please contact your doctor or local hospital accident and emergency department or the NHS enquiry service.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No. 1272/2008
Hazard categories:
Acute toxicity: Acute Tox. 3
Acute toxicity: Acute Tox. 4
Serious eye damage/eye irritation: Eye Irrit. 2
Hazardous to the aquatic environment: Aquatic Acute 1
Hazardous to the aquatic environment: Aquatic Chronic 1
Hazard Statements:
Toxic if inhaled.
Harmful if swallowed.
Causes serious eye irritation.
Very toxic to aquatic life.
Very toxic to aquatic life with long lasting effects.

2.2. Label elements

Regulation (EC) No. 1272/2008
Hazard components for labelling
copper flakes (coated with aliphatic acid)
Signal word: Danger
Pictograms:
Hazard statements
H302 Harmful if swallowed.
H319 Causes serious eye irritation.
H331 Toxic if inhaled.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P311 Call a POISON CENTER/doctor.
P337+P313 If eye irritation persists: Get medical advice/attention.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P501 Dispose of contents/container in accordance with national disposal regulations.

2.3. Other hazards
Flammable solid substance.
The components in this mixture do not meet the criteria for classification as PBT or vPvB.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical name</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EC No</td>
<td>Index No</td>
<td>REACH No</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Classification according to Regulation (EC) No. 1272/2008 [CLP]</td>
<td></td>
</tr>
<tr>
<td></td>
<td>copper flakes (coated with aliphatic acid)</td>
<td>50-100 %</td>
</tr>
<tr>
<td>029-019-01-X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>64742-48-9</td>
<td>Naphtha (petroleum), hydrotreated heavy; Low boiling point hydrogen treated naphtha</td>
<td>10-&lt;20 %</td>
</tr>
<tr>
<td>265-150-3</td>
<td>649-327-00-6</td>
<td>01-2119457273-39</td>
</tr>
<tr>
<td>Asp. Tox. 1; H304</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

SECTION 4: First aid measures

4.1. Description of first aid measures

General information
In case of troubles or persistent symptoms, consult an doctor/physician.
Remove persons from danger area and lie them down. Never orally infuse something to an unconscious person. No special first aid measures necessary. A vomiting, supine person must be brought into recovery position.

After inhalation
Provide fresh air. In case of respiratory tract irritation, consult a physician.
In case of irregular breathing or respiratory arrest, perform artificial respiration.

After contact with skin
After contact with skin, wash immediately with plenty of water and soap. Change contaminated clothing. In case of skin irritation, consult a physician.

After contact with eyes
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing. If eye irritation persists: Get medical advice/attention.

**After ingestion**
Keep the respiratory system clear. Do not give milk or alcoholic drinks. Never orally infuse something to an unconscious person. In case of persistent symptoms of irritation or other symptoms seek medical advise.

**4.2. Most important symptoms and effects, both acute and delayed**
- Harmful if swallowed.
- Causes serious eye irritation.
- Toxic by inhalation.

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

### SECTION 5: Firefighting measures

**5.1. Extinguishing media**
- **Suitable extinguishing media**
  - Special powder for metal fires, dry sand, ABC powder.
- **Unsuitable extinguishing media**
  - Water.
  - High power water jet.

**5.2. Special hazards arising from the substance or mixture**
Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.

**5.3. Advice for firefighters**
- Co-ordinate fire-fighting measures to the fire surroundings. Wear a self-contained breathing apparatus and chemical protective clothing.

**Additional information**
Remove fire residues according to the regulations.

### SECTION 6: Accidental release measures

**6.1. Personal precautions, protective equipment and emergency procedures**
- Remove persons to safety.
- Provide adequate ventilation. Keep away from sources of ignition - No smoking.
- Avoid contact with skin, eyes and clothes. Wear personal protection equipment.

**6.2. Environmental precautions**
- Do not allow to enter into surface water or drains.
- In the case of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

**6.3. Methods and material for containment and cleaning up**
- Take up mechanically.
- Pick up and place in appropriately marked containers. Do not rinse with water. Contain and pick up leaking material with non-combustible, absorbent material (such as sand, earth, diatomaceous earth, vermiculite) and place in container for disposal in accordance with local / national regulations (see section 13). Place into suitable closed containers for disposal.

**6.4. Reference to other sections**
- Safe handling: see section 7
- Personal precautions: refer to section 8.
- Disposal: see section 13

### SECTION 7: Handling and storage

**7.1. Precautions for safe handling**
- **Advice on safe handling**
  - Do not breathe vapours/dust. Do not eat, drink or smoke when using this product.
Avoid contact with skin and eyes. Wear personal protection equipment (refer to section 8).
Provide adequate ventilation as well as local exhaustion at critical locations. Handle and open container with care.

**Advice on protection against fire and explosion**
Keep away from sources of ignition - No smoking. Take precautionary measures against static discharges. Avoid dust formation.

**Further information on handling**
Consider the usual precautions for handling chemicals.

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

**Requirements for storage rooms and vessels**
Store only in original container. Keep container tightly closed in a cool, well-ventilated place.

**Advice on storage compatibility**
Do not store together with oxidizing or self-igniting substances.
Keep away from strong acids, strong bases and strong oxidisers to avoid exothermic reactions.

**Further information on storage conditions**
Protect from humidity and water. Protect against direct sunlight.

### 7.3. Specific end use(s)

coating

**SECTION 8: Exposure controls/personal protection**

#### 8.1. Control parameters

**DNEL/DMEL values**

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Substance</th>
<th>DNEL type</th>
<th>Exposure route</th>
<th>Effect</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>64742-48-9</td>
<td>Naphtha (petroleum), hydrotreated heavy; Low boiling point hydrogen treated naphtha</td>
<td>Worker DNEL, long-term</td>
<td>dermal</td>
<td>systemic</td>
<td>300 mg/kg bw/day</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Consumer DNEL, long-term</td>
<td>oral</td>
<td>systemic</td>
<td>300 mg/kg bw/day</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Consumer DNEL, long-term</td>
<td>dermal</td>
<td>systemic</td>
<td>300 mg/kg bw/day</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Consumer DNEL, long-term</td>
<td>inhalation</td>
<td>systemic</td>
<td>900 mg/m³</td>
</tr>
</tbody>
</table>

**PNEC values**

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Substance</th>
<th>Environmental compartment</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>-</td>
<td>copper flakes (coated with aliphatic acid)</td>
<td></td>
<td>0,0078 mg/l</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Freshwater</td>
<td>0,0052 mg/l</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Marine water</td>
<td>0,0052 mg/l</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Freshwater sediment</td>
<td>87 mg/kg</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Micro-organisms in sewage treatment plants (STP)</td>
<td>0,23 mg/l</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Soil</td>
<td>65,5 mg/kg</td>
</tr>
</tbody>
</table>

#### 8.2. Exposure controls

**Protective and hygiene measures**
Change contaminated clothing. Wash hands before breaks and after work. When using do not eat or drink.
Avoid skin, eye and clothing contact. After contact with skin, wash immediately with plenty of water and soap or a suitable cleaning agent.

**Eye/face protection**
Tightly fitting safety glasses with side shields.
In case of handling difficulties wear face shield and protective suit.
When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances.

Wear solvent-resistant protective gloves. (Butyl caoutchouc (butyl rubber))
For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.
The exact break-through time must be obtained from the manufacturer of the protective gloves and adhered to.

**Hand protection**

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances.

Wear solvent-resistant protective gloves. (Butyl caoutchouc (butyl rubber))
For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.
The exact break-through time must be obtained from the manufacturer of the protective gloves and adhered to.

**Skin protection**

Full cover clothing covering arms and legs.

**Respiratory protection**

Use protective filter mask in case of short-term and low exposure; in case of intense or longer exposure, use respiratory protection device operating independently from circulating air.

**Environmental exposure controls**

Preferably prevent the material from infiltrating the canalization or water courses. Do not contaminate surface waters.

---

**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>paste-like</td>
</tr>
<tr>
<td>Colour</td>
<td>Copper</td>
</tr>
<tr>
<td>Odour</td>
<td>characteristic</td>
</tr>
<tr>
<td>pH-Value</td>
<td>No data available</td>
</tr>
<tr>
<td>Changes in the physical state</td>
<td></td>
</tr>
<tr>
<td>Initial boiling point and boiling range:</td>
<td>180 °C</td>
</tr>
<tr>
<td>Flash point</td>
<td>36 °C</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>No data available</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>Solid: No data available</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>Flammable solid substance</td>
</tr>
<tr>
<td>Density</td>
<td>No data available</td>
</tr>
<tr>
<td>Bulk density</td>
<td>No data available</td>
</tr>
<tr>
<td>Water solubility</td>
<td>Immiscible</td>
</tr>
<tr>
<td>Solubility in other solvents</td>
<td>No data available</td>
</tr>
<tr>
<td>Partition coefficient</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity / dynamic</td>
<td>No data available</td>
</tr>
<tr>
<td>Viscosity / kinematic</td>
<td>No data available</td>
</tr>
<tr>
<td>Flow time</td>
<td>No data available</td>
</tr>
</tbody>
</table>

**9.2. Other information**

No further information available.

---

**SECTION 10: Stability and reactivity**
10.1. Reactivity
No dangerous reactivity under regular conditions.

10.2. Chemical stability
The product is stable under regular conditions.

10.3. Possibility of hazardous reactions
Keep away from strong acids, strong bases and strong oxidisers to avoid exothermic reactions.

10.4. Conditions to avoid
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Prevent evaporation to dryness.

10.5. Incompatible materials

10.6. Hazardous decomposition products
Thermal decomposition can lead to harmful gases and vapours.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity
Based on available data, the classification criteria are not met.
The product is:
Harmful if swallowed.
Toxic if inhaled.

ATEmix calculated
ATE (oral) 625,0 mg/kg; ATE (inhalation vapour) 3,75 mg/l; ATE (inhalation aerosol) 0,875 mg/l

<table>
<thead>
<tr>
<th>CAS No</th>
<th>Chemical name</th>
<th>Exposure route</th>
<th>Dose</th>
<th>Species</th>
<th>Source</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>-</td>
<td>copper flakes (coated with aliphatic acid)</td>
<td>oral</td>
<td>LD50</td>
<td>500</td>
<td>Rat</td>
<td>OECD 423</td>
</tr>
<tr>
<td>-</td>
<td></td>
<td>dermal</td>
<td>LD50</td>
<td>&gt;2000</td>
<td>Rat</td>
<td>OECD 402</td>
</tr>
<tr>
<td>-</td>
<td></td>
<td>inhalation vapour</td>
<td>ATE</td>
<td>3 mg/l</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-</td>
<td></td>
<td>inhalation (4 h) aerosol</td>
<td>LC50</td>
<td>0,7 mg/l</td>
<td>Rat</td>
<td>OECD 403</td>
</tr>
<tr>
<td>64742-48-9</td>
<td>Naphtha (petroleum), hydrotreated heavy; Low boiling point hydrogen treated naphtha</td>
<td>oral</td>
<td>LD50</td>
<td>&gt; 5000</td>
<td>Rat</td>
<td></td>
</tr>
<tr>
<td>-</td>
<td></td>
<td>dermal</td>
<td>LD50</td>
<td>&gt; 5000</td>
<td>Rabbit</td>
<td></td>
</tr>
</tbody>
</table>

Irritation and corrosivity
Based on available data, the classification criteria are not met.
The product:
Causes serious eye irritation.
May cause skin irritation in susceptible persons.

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

Carcinogenic/mutagenic/toxic effects for reproduction
Based on available data, the classification criteria are not met.
STOT-single exposure
Based on available data, the classification criteria are not met.

STOT-repeated exposure
Based on available data, the classification criteria are not met.

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

SECTION 12: Ecological information

12.1. Toxicity
Very toxic to aquatic life.
Very toxic to aquatic life with long lasting effects.

12.2. Persistence and degradability
No data available.

12.3. Bioaccumulative potential
No data available.

12.4. Mobility in soil
No data available.

12.5. Results of PBT and vPvB assessment
The components in this mixture do not meet the criteria for classification as PBT or vPvB.

12.6. Other adverse effects
An environmental hazard cannot be ruled out in case of improper handling or disposal.

SECTION 13: Disposal considerations

13.1. Waste treatment methods
Advice on disposal
Disposal according to official regulations.
Consult the local waste disposal expert about waste disposal. According to EAKV, allocation of waste identity numbers/waste descriptions must be carried out in a specific way for every industry and process.

Waste disposal number of waste from residues/unused products
120104 WASTES FROM SHAPING AND PHYSICAL AND MECHANICAL SURFACE TREATMENT OF METALS AND PLASTICS; wastes from shaping and physical and mechanical surface treatment of metals and plastics; non-ferrous metal dust and particles

Contaminated packaging
Disposal like unused product. Dispose of waste according to applicable legislation.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number:
UN 3077

14.2. UN proper shipping name:
ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
(Copper metal powder)

14.3. Transport hazard class(es):
9

14.4. Packing group:
III

Hazard label:
9

Classification code:
M7

Special Provisions:
274 335 375 601
Limited quantity: 5 kg
Excepted quantity: E1
Transport category: 3
Hazard No: 90
Tunnel restriction code: -

Inland waterways transport (ADN)

14.1. UN number: UN 3077
14.2. UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Copper metal powder)
14.3. Transport hazard class(es): 9
14.4. Packing group: III
Hazard label: 9

Marine transport (IMDG)

14.1. UN number: UN 3077
14.2. UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Copper metal powder)
14.3. Transport hazard class(es): 9
14.4. Packing group: III
Hazard label: 9

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number: UN 3077
14.2. UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Copper metal powder)
14.3. Transport hazard class(es): 9
14.4. Packing group: III
Hazard label: 9

Special Provisions: A97 A158 A179 A197
Limited quantity Passenger: 30 kg G
Passenger LQ: Y956
Excepted quantity: E1
IATA-packing instructions - Passenger: 956
IATA-max. quantity - Passenger: 400 kg
14.6. Special precautions for user

For single packagings <= 5 L / 5 kg net, and for composite packagings consisting of inner packagings of <= 5 L / 5 kg net per inner pack, SV375 ADR, 2.10.2.7 IMDG code, A197 IATA-DGR may be used.

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

not applicable

SECTION 15: Regulatory information

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

EU regulatory information

Additional information
- Regulation (EC) No. 1005/2009 on substances that lead to the depletion of the ozone layer: not applicable
- Regulation (EC) No. 648/2004 (Detergents regulation): not applicable
- Regulation (EC) No 850/2004 on persistent organic pollutants: not applicable
- Regulation (EC) No 649/2012 of the European Parliament and of the Council concerning the export and import of dangerous chemicals: This mix contains no chemicals that are subject to the export notification procedures (annex 1).
- This mixture contains the following substances of very high concern (SVHC) which are included in the Candidate List according to Article 59 of REACH: none
- This mixture contains the following substances of very high concern (SVHC) which are subject to authorisation according to Annex XIV of REACH: none

National regulatory information

Water contaminating class (D): 3 - highly water contaminating

15.2. Chemical safety assessment

For the following substances of this mixture a chemical safety assessment has been carried out:
- Naphtha (petroleum), hydrotreated heavy; Low boiling point hydrogen treated naphtha

SECTION 16: Other information

Changes

Version 1.00 - Creation - 19.03.2018

Abbreviations and acronyms
- ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
- CAS: Chemical Abstracts Service
- EC: Effective Concentration
- EG: European Community (Europäische Gemeinschaft)
- EN: European Norm
- IATA: International Air Transport Association
- IBC Code: International Code for the Construction and Equipment of ships carrying Dangerous Chemicals in Bulk
- ICAO: International Civil Aviation Organization
- IMDG: International Maritime Code for Dangerous Goods
- CLP: Classification, Labeling, Packaging
- IUCLID: International Uniform Chemical Information Database
- LC: Lethal concentration
- LD: Lethal dose
- log Kow: Octanol/water partition coefficient
- MARPOL: Maritime Pollution Convention = Convention for the Prevention of Maritime Pollution from Ships
OECD: Organisation for Economic Co-operation and Development
PBT: Persistent, bio-cumulative, toxic
RID: Regulation Concerning the International Transport of Dangerous Goods by Rail
TRGS: Technische Regeln für Gefahrstoffe
VOC: Volatile Organic Compounds
vPvB: very persistent and very bio-cumulative
VwVwS: Administrative Regulation for Water Pollutants
WGK: German Water Hazard Class
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
DNEL: Derived No Effect Level
PNEC: Predicted No Effect Concentration
TLV: Threshold Limiting Value
STOT: Specific Target Organ Toxicity

Classification for mixtures and used evaluation method according to Regulation (EC) No. 1272/2008 [CLP]

<table>
<thead>
<tr>
<th>Classification</th>
<th>Classification procedure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Tox. 3; H331</td>
<td>Calculation method</td>
</tr>
<tr>
<td>Acute Tox. 4; H302</td>
<td>Calculation method</td>
</tr>
<tr>
<td>Eye Irrit. 2; H319</td>
<td>Calculation method</td>
</tr>
<tr>
<td>Aquatic Acute 1; H400</td>
<td>Calculation method</td>
</tr>
<tr>
<td>Aquatic Chronic 1; H410</td>
<td>Calculation method</td>
</tr>
</tbody>
</table>

Relevant H and EUH statements (number and full text)

H302  Harmful if swallowed.
H304  May be fatal if swallowed and enters airways.
H319  Causes serious eye irritation.
H331  Toxic if inhaled.
H400  Very toxic to aquatic life.
H410  Very toxic to aquatic life with long lasting effects.

Further Information

The information given in this safety data sheet is to describe the product's safety regulations. It is not for guaranteeing certain characteristics and is based on today's knowledge. The safety data sheet was generated upon information of pre-suppliers by:

REACHECK Solutions GmbH, Frohsinnstraße 28, 63739 Aschaffenburg, Germany
Phone: +49 (0)6021 - 1 50 86-0, Fax: +49 (0)6021 - 1 50 86-77, E-Mail: eu-sds@reacheck.eu,
www.reacheck.eu

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