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

1.1 Product identifier
Trade name : eConduct Copper 122000
Product code : 010352GK0 010352GK0

1.2 Relevant identified uses of the substance or mixture and uses advised against
This information is not available.

1.3 Details of the supplier of the safety data sheet
Company : ECKART GmbH
Guentersthal 4
91235 Hartenstein
Telephone : +499152770
Telefax : +499152777008
E-mail address of person responsible for the SDS : msds.eckart@altana.com

1.4 Emergency telephone number
GBK Gefahrgut Büro GmbH, Ingelheim, Germany:
From outside US: (001) 352-323-3500
(First call in English, response in your language is possible)
US & Canada (toll free) : 1-800-5355-053

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture
Classification (REGULATION (EC) No 1272/2008)
Flammable solids, Category 1 H228: Flammable solid.
Flammable solids, Category 1 H228: Flammable solid.
Acute toxicity, Category 4 H302: Harmful if swallowed.
Acute toxicity, Category 4 H302: Harmful if swallowed.
Eye irritation, Category 2 H319: Causes serious eye irritation.
Acute aquatic toxicity, Category 1 H400: Very toxic to aquatic life.
Acute aquatic toxicity, Category 1 H400: Very toxic to aquatic life.
Chronic aquatic toxicity, Category 1 H410: Very toxic to aquatic life with long lasting
effects.

Chronic aquatic toxicity, Category 2  H411: Toxic to aquatic life with long lasting effects.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms:

Signal word: Danger

Hazard statements:
H228 Flammable solid.
H302 Harmful if swallowed.
H319 Causes serious eye irritation.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements:

Prevention:
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P370 + P378 In case of fire: Use for extinction: Special powder for metal fires.
P370 + P378 In case of fire: Use for extinction: Dry sand.

Hazardous components which must be listed on the label:
copper

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Hazardous components

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>EC-No.</th>
<th>Index-No.</th>
<th>Registration number</th>
<th>Classification</th>
<th>Concentration (% w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
<td>REGULATION (EC) No 1272/2008</td>
<td></td>
</tr>
</tbody>
</table>
### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

**General advice**: Move the victim to fresh air.

- Do not leave the victim unattended.
- Move out of dangerous area.
- Show this safety data sheet to the doctor in attendance.

**If inhaled**

- If unconscious, place in recovery position and seek medical advice.
- If symptoms persist, call a physician.

**If skin contact**

- Wash off immediately with soap and plenty of water.
- If on skin, rinse well with water.
- If on clothes, remove clothes.

**In case of eye contact**

- Flush eyes with water as a precaution.
- Remove contact lenses.
- Keep eye wide open while rinsing.
- If eye irritation persists, consult a specialist.

**If swallowed**

- Keep respiratory tract clear.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.

Keep respiratory tract clear.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.

4.2 Most important symptoms and effects, both acute and delayed
Risks: Harmful if swallowed.

4.3 Indication of any immediate medical attention and special treatment needed
This information is not available.

SECTION 5: Firefighting measures

5.1 Extinguishing media
Suitable extinguishing media:
- Special powder against metal fire
- Dry sand
- ABC powder

Unsuitable extinguishing media:
- Water
- High volume water jet

5.2 Special hazards arising from the substance or mixture
Specific hazards during firefighting:
- Do not allow run-off from fire fighting to enter drains or water courses.
- Do not allow run-off from fire fighting to enter drains or water courses.

5.3 Advice for firefighters
Special protective equipment for firefighters:
- Wear self-contained breathing apparatus for firefighting if necessary.

Further information:
- Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
- Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
- Use a water spray to cool fully closed containers.

- Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Standard procedure for chemical fires. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. Use a water spray to cool fully closed containers.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions:
- Avoid dust formation.
- Avoid breathing dust.
- Remove all sources of ignition.
- Use personal protective equipment.
- Evacuate personnel to safe areas.
- Use personal protective equipment.
- Avoid dust formation.
- Avoid breathing dust.
- Remove all sources of ignition.

6.2 Environmental precautions

Environmental precautions:
- Prevent product from entering drains.
- Prevent further leakage or spillage if safe to do so.
- If the product contaminates rivers and lakes or drains inform respective authorities.

6.3 Methods and material for containment and cleaning up

Methods for cleaning up:
- Keep in suitable, closed containers for disposal.
- Use mechanical handling equipment.
- Pick up and transfer to properly labelled containers.
- Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For personal protection see section 8.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling:
- Avoid creating dust.
- Routine housekeeping should be instituted to ensure that
dusts do not accumulate on surfaces.
Avoid formation of respirable particles.
Do not breathe vapours/dust.
Avoid contact with skin and eyes.
For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
Dispose of rinse water in accordance with local and national regulations.

Advice on protection against fire and explosion:
Keep away from open flames, hot surfaces and sources of ignition.
Normal measures for preventive fire protection.
Avoid dust formation. Keep away from open flames, hot surfaces and sources of ignition.

Hygiene measures:
When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.
General industrial hygiene practice. Do not smoke. Wash hands before breaks and at the end of workday. Keep away from food and drink. Keep away from tobacco products.
When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.

7.2 Conditions for safe storage, including any incompatibilities
Requirements for storage areas and containers:
Electrical installations / working materials must comply with the technological safety standards.
Keep away from sources of ignition - No smoking. Do not store near combustible materials. Keep containers tightly closed in a cool, well-ventilated place. To maintain product quality, do not store in heat or direct sunlight.
No smoking. Keep container tightly closed in a dry and well-ventilated place. Electrical installations / working materials must comply with the technological safety standards.

Further information on storage conditions:
Protect from humidity and water.

Advice on common storage:
Keep away from oxidizing agents, strongly alkaline and strongly acid materials in order to avoid exothermic reactions. Do not store together with oxidizing and self-igniting products.

Dampness:
Keep in a dry, cool and well-ventilated place.

Further information on storage stability:
Keep in a dry place. No decomposition if stored and applied as directed.
7.3 Specific end use(s)
This information is not available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value type (Form of exposure)</th>
<th>Control parameters</th>
<th>Basis (Version Date)</th>
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</thead>
<tbody>
<tr>
<td>copper</td>
<td>7440-50-8</td>
<td>NGV (Total dust)</td>
<td>1 mg/m³ (Copper)</td>
<td>SE AFS (2015-11-12)</td>
</tr>
<tr>
<td>Further information</td>
<td></td>
<td></td>
<td>Inhalable dust refers to the dust fraction as defined in the Swedish Standard SS-EN 481, Workplace Atmospheres - Size fraction definitions for measurement of airborne particles, 1st ED., 1993., Section 2.3 and having sampling characteristics as specified in paragraph 5.1. Respirable dust refers to the dust fraction as defined in the Swedish Standard SS-EN 481, Workplace Atmospheres - Size fraction definitions for measurement of airborne particles, 1st ED., 1993., Section 2.11 and having sampling characteristics as specified in paragraph 5.3. Total dust refers to all the particles (aerosols) trapped in a filter in the sampling apparatus described in Methods, Sampling of total dust and respirable dust, method nr 1010, published by the National Board of Occupational Safety and Health, now Work Environment Authority. The filter diameter shall normally be 37 mm but can also be 25 mm. Despite its name, not the total amount of airborne particles is measured by this method.</td>
<td></td>
</tr>
<tr>
<td>Further information</td>
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<td></td>
<td>NGV (Respirable dust)</td>
<td>0.2 mg/m³ (Copper)</td>
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<td>Further information</td>
<td></td>
<td></td>
<td>Inhalable dust refers to the dust fraction as defined in the Swedish Standard SS-EN 481, Workplace Atmospheres - Size fraction definitions for measurement of airborne particles, 1st ED., 1993., Section 2.3 and having sampling characteristics as specified in paragraph 5.1. Respirable dust refers to the dust fraction as defined in the Swedish Standard SS-EN 481, Workplace Atmospheres - Size fraction definitions for measurement of airborne particles, 1st ED., 1993., Section 2.11 and having sampling characteristics as specified in paragraph 5.3. Total dust refers to all the particles (aerosols) trapped in a filter in the sampling apparatus described in Methods, Sampling of total dust and respirable dust, method nr 1010, published by the National Board of Occupational Safety and Health, now Work Environment Authority. The filter diameter shall normally be 37 mm but can also be 25 mm. Despite its name, not the total amount of airborne particles is measured by this method.</td>
<td></td>
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<tr>
<td>silver</td>
<td>7440-22-4</td>
<td>TWA</td>
<td>0.1 mg/m³</td>
<td>2000/39/EC (2000-06-16)</td>
</tr>
<tr>
<td>Further information</td>
<td></td>
<td></td>
<td>Indicative</td>
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<tr>
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<thead>
<tr>
<th>NGV (Total dust)</th>
<th>0.01 mg/m³ (Silver)</th>
<th>SE AFS (2011-12-16)</th>
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<tr>
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<th>NGV (Respirable dust)</th>
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| silver  | 7440-22-4 | TWA | 0.1 mg/m³ | 2000/39/EC (2000-06-16) |
|-----------------------|---------------------|---------------------|
| Further information   | Indicative |

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<tr>
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<th>2006/15/EC (2006-02-09)</th>
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<tbody>
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<td>Further information</td>
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</table>

**Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:**

<table>
<thead>
<tr>
<th>Substance name</th>
<th>End Use</th>
<th>Exposure routes</th>
<th>Potential health effects</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>copper</td>
<td>Workers</td>
<td>Skin contact</td>
<td>short term – systemic effects</td>
<td>273 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Workers</td>
<td>Inhalation</td>
<td>short term – systemic effects</td>
<td>20 mg/m³</td>
</tr>
<tr>
<td></td>
<td>Workers</td>
<td>Skin contact</td>
<td>long term – systemic effects</td>
<td>137 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Consumers</td>
<td>Skin contact</td>
<td>short term – systemic effects</td>
<td>273 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Consumers</td>
<td>Inhalation</td>
<td>short term – systemic effects</td>
<td>20 mg/m³</td>
</tr>
<tr>
<td></td>
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<td>Skin contact</td>
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<td></td>
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<td>Skin contact</td>
<td>short term – systemic effects</td>
<td>273 mg/kg</td>
</tr>
</tbody>
</table>
SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

eConduct Copper 122000

Version: 2.0  Revision Date: 08.03.2018  SDS Number: 102000021790  Print Date: 19.11.2018  Date of first issue: 26.03.2014

### Effects

<p>| | | | |</p>
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<tbody>
<tr>
<td></td>
<td>Consumers</td>
<td>Inhalation</td>
<td>short term – systemic effects</td>
</tr>
<tr>
<td>silver</td>
<td>Workers</td>
<td>Inhalation</td>
<td>long term – systemic effects</td>
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<td>Consumers</td>
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<td></td>
<td>Consumers</td>
<td>Oral</td>
<td>long term – systemic effects</td>
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</table>

### Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

<table>
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<tr>
<th>Substance name</th>
<th>Environmental Compartment</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>copper</td>
<td>Soil</td>
<td>65,5 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Fresh water</td>
<td>0,0078 mg/l</td>
</tr>
<tr>
<td></td>
<td>Fresh water sediment</td>
<td>87 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Marine water</td>
<td>0,0052 mg/l</td>
</tr>
<tr>
<td></td>
<td>Marine sediment</td>
<td>676 mg/kg</td>
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<tr>
<td></td>
<td>STP</td>
<td>0,230 mg/l</td>
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<tr>
<td></td>
<td>Soil</td>
<td>65,5 mg/kg</td>
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<tr>
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<td>Fresh water</td>
<td>0,0078 mg/l</td>
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<td>87 mg/kg</td>
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<td></td>
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<td>STP</td>
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<td>STP</td>
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<td>Marine water</td>
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</tr>
<tr>
<td></td>
<td>Fresh water sediment</td>
<td>438,13 mg/kg</td>
</tr>
<tr>
<td></td>
<td>Marine sediment</td>
<td>438,13 mg/kg</td>
</tr>
</tbody>
</table>

### 8.2 Exposure controls

#### Personal protective equipment

- **Eye protection**: Eye wash bottle with pure water
  - Safety glasses
  - Wear face-shield and protective suit for abnormal processing problems.

- **Hand protection**
  - **Material**: Leather

- **Remarks**: Leather gloves The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. The exact break through time can be obtained from the protective glove producer and this has to be observed. Recommended preventive skin protection The suitability for a specific workplace should be discussed with the producers of the protective gloves.
Skin and body protection: Dust impervious protective suit
Choose body protection according to the amount and concentration of the dangerous substance at the work place.
Long sleeved clothing
Safety shoes
Dust impervious protective suit
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Respiratory protection: Use suitable breathing protection if workplace concentration requires.
Respirator with a dust filter
P1 filter

Environmental exposure controls
Water: The product should not be allowed to enter drains, water courses or the soil.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties
Appearance: powder
Colour: No data available
Odour: odourless
Odour Threshold: No data available
pH: No data available
Freezing point: No data available
Boiling point/boiling range: 2.597 °C
Flash point: No data available
Evaporation rate: No data available
Flammability (solid, gas): The substance or mixture is a flammable solid with the category 1.
Self-ignition: No data available
Auto-ignition temperature: No data available
Smoldering temperature: No data available
### Decomposition temperature
- No data available

### Explosive properties
- No data available

### Oxidizing properties
- No data available

### Upper explosion limit / Upper flammability limit
- No data available

### Lower explosion limit / Lower flammability limit
- No data available

### Vapour pressure
- No data available

### Relative vapour density
- No data available

### Relative density
- No data available

### Density
- ca. 9.2 g/cm³

### Bulk density
- No data available

### Water solubility
- No data available

### Solubility in other solvents
- No data available

### Partition coefficient: n-octanol/water
- No data available

### Decomposition temperature
- No data available

### Viscosity, dynamic
- No data available

### Viscosity, kinematic
- No data available

### Flow time
- No data available

#### 9.2 Other information
- No data available

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### SECTION 10: Stability and reactivity

#### 10.1 Reactivity
- No decomposition if stored and applied as directed.
- No decomposition if stored and applied as directed.

#### 10.2 Chemical stability
- No decomposition if stored and applied as directed.
- No decomposition if stored and applied as directed.
10.3 Possibility of hazardous reactions
Hazardous reactions: Stable under recommended storage conditions. No hazards to be specially mentioned.
No decomposition if stored and applied as directed.
Dust may form explosive mixture in air.

10.4 Conditions to avoid
Conditions to avoid: No data available
Heat, flames and sparks.

10.5 Incompatible materials

10.6 Hazardous decomposition products
Contact with water or humid air: This information is not available.

Thermal decomposition: This information is not available.

SECTION 11: Toxicological information

11.1 Information on toxicological effects
Acute toxicity
Harmful if swallowed.

Product:
Acute oral toxicity: Acute toxicity estimate: 625 mg/kg
Method: Calculation method

Components:
copper:
Acute oral toxicity: Assessment: The component/mixture is moderately toxic after single ingestion.

Skin corrosion/irritation
Not classified based on available information.

Product:
Remarks: May cause skin irritation in susceptible persons.

Components:
copper:
Remarks: May cause skin irritation in susceptible persons.

**Serious eye damage/eye irritation**
Not classified based on available information.

**Product:**
Remarks: Eye irritation

**Components:**
copper:
Result: Eye irritation

**Respiratory or skin sensitisation**

**Skin sensitisation**
Not classified based on available information.

**Respiratory sensitisation**
Not classified based on available information.

**Germ cell mutagenicity**
Not classified based on available information.

**Carcinogenicity**
Not classified based on available information.

**Reproductive toxicity**
Not classified based on available information.

**STOT - single exposure**
Not classified based on available information.

**STOT - repeated exposure**
Not classified based on available information.

**Aspiration toxicity**
Not classified based on available information.

**Further information**

**Product:**
Remarks: No data available

Remarks: No data available

**Components:**
copper:
Remarks: No data available
SECTION 12: Ecological information

12.1 Toxicity

**Components:**

**copper:**
M-Factor (Acute aquatic toxicity) : 10

**Ecotoxicology Assessment**
Acute aquatic toxicity : Very toxic to aquatic life.
Chronic aquatic toxicity : Very toxic to aquatic life with long lasting effects.

**silver:**
M-Factor (Acute aquatic toxicity) : 10
M-Factor (Chronic aquatic toxicity) : 10

**Ecotoxicology Assessment**
Acute aquatic toxicity : Very toxic to aquatic life.
Chronic aquatic toxicity : 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
SAFETY DATA SHEET
according to Regulation (EC) No. 1907/2006

eConduct Copper 122000

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12.5 Results of PBT and vPvB assessment

**Product:**

**Assessment:** This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects

**Product:**

**Additional ecological information:** An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Very toxic to aquatic life. Toxic to aquatic life with long lasting effects.

**Components:**

copper:

**Additional ecological information:** An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Very toxic to aquatic life with long lasting effects.

SECTION 13: Disposal considerations

**European Waste Catalogue**

- 12 01 04 - non-ferrous metal dust and particles
- 10 03 21 - other particulates and dust (including ball-mill dust) containing dangerous substances

13.1 Waste treatment methods

**Product:**

The product should not be allowed to enter drains, water courses or the soil. Do not contaminate ponds, waterways or ditches with chemical or used container. Send to a licensed waste management company.

The product should not be allowed to enter drains, water courses or the soil. Do not contaminate ponds, waterways or ditches with chemical or used container. Send to a licensed waste management company. In accordance with local and national regulations.

**Contaminated packaging:**

Empty remaining contents. Dispose of as unused product. Do not re-use empty containers.
Do not burn, or use a cutting torch on, the empty drum.

Empty remaining contents.
Dispose of as unused product.
Do not re-use empty containers.
Do not burn, or use a cutting torch on, the empty drum.
In accordance with local and national regulations.

SECTION 14: Transport information

14.1 UN number

ADR : UN 3089
IMDG : UN 3089
IATA : UN 3089

14.2 UN proper shipping name

ADR : METAL POWDER, FLAMMABLE, N.O.S.
      (Copper metal powder)
IMDG : METAL POWDER, FLAMMABLE, N.O.S.
      (Copper metal powder)
IATA : Metal powder, flammable, n.o.s.

14.3 Transport hazard class(es)

ADR : 4.1
IMDG : 4.1
IATA : 4.1

14.4 Packing group

ADR
Packing group : II
Classification Code : F3
Hazard Identification Number : 40
Labels : 4.1
Tunnel restriction code : (E)

IMDG
Packing group : II
Labels : 4.1
EmS Code : F-G, S-G
Remarks : IMDG Code segregation group 7 - Heavy metals and their salts, IMDG Code segregation group 15 - Powdered metals

IATA (Cargo)
Packing instruction (cargo aircraft) : 448
Packing instruction (LQ) : Y441
Packing group : II
Labels : Flammable Solid

IATA (Passenger)
Packaging instruction : 445
(passerger aircraft)
Packaging instruction (LQ) : Y441
Packing group : II
Labels : Flammable Solid

14.5 Environmental hazards

ADR
Environmentally hazardous : yes

IMDG
Marine pollutant : yes

14.6 Special precautions for user
Not applicable

14.7 Transport in bulk according to Annex II of Marpol and the IBC Code
Not applicable for product as supplied.

SECTION 15: Regulatory information

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

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59):
Not applicable

15.2 Chemical safety assessment

This information is not available.

SECTION 16: Other information

Full text of H-Statements

H302 : Harmful if swallowed.
H319 : Causes serious eye irritation.
H400 : Very toxic to aquatic life.
H410 : Very toxic to aquatic life with long lasting effects.

Full text of other abbreviations

Acute Tox. : Acute toxicity
Aquatic Acute : Acute aquatic toxicity
Aquatic Chronic : Chronic aquatic toxicity
Eye Irrit. : Eye irritation
Further information

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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