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

1.1 Product identifier
Trade name
Hovadur® CCZ Pulver

1.2 Relevant identified uses of the substance or mixture and uses advised against
Relevant identified uses of the substance or mixture
Additive Manufacturing
Uses advised against
No data available.

1.3 Details of the supplier of the safety data sheet
Address
SCHMELZMETALL DEUTSCHLAND GmbH
Raiffeisenstraße 8
97854 Steinfeld-Hausen
Telephone no. +49 9359 9740-0
e-mail sales@schmelzmetall.com
Advice on Safety Data Sheet
sdb_info@umco.de

1.4 Emergency telephone number
For medical advice (in German and English):
+49 (0)551 192 40 (GifInfInformationszentrum Nord)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture
Classification in accordance with Regulation (EC) No 1272/2008 (CLP)
Aquatic Acute 1; H400
Aquatic Chronic 3; H412
Classification information
This product is assessed and classified using the methods and criteria below referred to in Article 9 of Regulation (EC) n° 1272/2008:
Physical hazards: determined through assessment data based on the methods or standards referred to in part 2 of Annex I to CLP
Health hazards and environmental hazards: determined through toxicological and ecotoxicological assessment data based on the methods or standards referred to in Part 3, 4 and 5 of Annex I to CLP.

2.2 Label elements
Labelling according to Regulation (EC) No 1272/2008 (CLP Regulation)

Hazard pictograms

GHS09

Signal word
Warning

Hazard statement(s)
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statement(s)
P273 Avoid release to the environment.
P391 Collect spillage.
P501 Dispose of contents/container to a facility in accordance with local and national regulations.
2.3 Other hazards

PBT assessment
The study does not need to be conducted according to Annex XIII of Regulation (EC) 1907/2006 (REACH).

vPvB assessment
The study does not need to be conducted according to Annex XIII of Regulation (EC) 1907/2006 (REACH).

SECTION 3: Composition/information on ingredients

3.1 Substances
Not applicable. The product is not a substance.

3.2 Mixtures
Hazardous ingredients

<table>
<thead>
<tr>
<th>No</th>
<th>Substance name</th>
<th>Additional information</th>
</tr>
</thead>
<tbody>
<tr>
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<td></td>
<td>Classification (EC) 1272/2008 (CLP)</td>
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<tr>
<td>1</td>
<td>copper</td>
<td>Aquatic Acute 1; H400 Aquatic Chronic 3; H412</td>
</tr>
<tr>
<td>2</td>
<td>chromium</td>
<td>-</td>
</tr>
</tbody>
</table>

Full Text for all H-phrases and EUH-phrases: pls. see section 16

SECTION 4: First aid measures

4.1 Description of first aid measures

General information
Remove contaminated clothing and shoes immediately, and launder thoroughly before reusing. In case of persisting adverse effects, consult a physician. If the patient is likely to become unconscious, place and transport in stable sideways position.

After inhalation
Ensure supply of fresh air.

After skin contact
When in contact with the skin, clean with soap and water.

After eye contact
Remove contact lenses. Rinse eye thoroughly under running water keeping eyelids wide open and protecting the unaffected eye (at least 10 to 15 minutes).

After ingestion
Rinse mouth thoroughly with water. Do not induce vomiting. Never give anything by mouth to an unconscious person.

4.2 Most important symptoms and effects, both acute and delayed
No data available.

4.3 Indication of any immediate medical attention and special treatment needed
No data available.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media
Extinguishing powder; Sand; Metal fire powders

Unsuitable extinguishing media
Water; Foam; Carbon dioxide
5.2 **Special hazards arising from the substance or mixture**
In the event of fire, the following can be released: Metal oxides

5.3 **Advice for firefighters**
Use self-contained breathing apparatus. Wear protective clothing. Run-off water from fire fighting must not be discharged into drains or enter surface water.

**SECTION 6: Accidental release measures**

6.1 **Personal precautions, protective equipment and emergency procedures**
For non-emergency personnel
Refer to protective measures listed in sections 7 and 8. Avoid dust formation. Ensure adequate ventilation.

For emergency responders
Personal protective equipment (PPE) - see Section 8.

6.2 **Environmental precautions**
Do not discharge into the drains/surface waters/groundwater. In case of entry into waterways, soil or drains, inform the responsible authorities.

6.3 **Methods and material for containment and cleaning up**
Avoid raising dust. Take up mechanically. Send in suitable containers for recovery or disposal.

6.4 **Reference to other sections**
Information regarding safe handling, see chapter 7. Information regarding personal protective measures, see chapter 8. Information regarding waste disposal, see chapter 13.

**SECTION 7: Handling and storage**

7.1 **Precautions for safe handling**

Advice on safe handling
Provide good ventilation at the work area (local exhaust ventilation, if necessary). Avoid the formation and deposition of dust.

General protective and hygiene measures
Do not eat, drink or smoke during work time. Keep away from foodstuffs and beverages. Wash hands before breaks and after work. Do not inhale dust.

Advice on protection against fire and explosion
Dust can form an explosive mixture with air. Keep away from sources of heat and ignition. Avoid formation of dust.

7.2 **Conditions for safe storage, including any incompatibilities**

Technical measures and storage conditions
Keep container tightly closed in a cool, well-ventilated place.

Requirements for storage rooms and vessels
Always keep in containers of same material as the original one. Containers which are opened must be carefully closed and kept upright to prevent leakage.

Incompatible products
Substances to be avoided, pls. See chapter 10.

7.3 **Specific end use(s)**
No data available.

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

8.1 **Control parameters**

**Occupational exposure limit values**

<table>
<thead>
<tr>
<th>No</th>
<th>Substance name</th>
<th>CAS no.</th>
<th>EC no.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>copper</td>
<td>7440-50-8</td>
<td>231-159-6</td>
</tr>
</tbody>
</table>

List of approved workplace exposure limits (WELs) / EH40
Copper fume
8.2 Exposure controls

Appropriate engineering controls
Ensure adequate ventilation, local exhaust at the work station if necessary.

Personal protective equipment

Respiratory protection
If workplace exposure limits are exceeded, a respiration protection approved for this particular job must be worn. In case of dust formation, take appropriate measures for breathing protection in the event workplace threshold values are not specified.

Respiratory filter (part): P2-P3

Eye / face protection
Tightly fitting safety glasses (EN 166).

Hand protection
Sufficient protection is given wearing suitable protective gloves checked according to i.e. EN 374, in the event of risk of skin contact with the product. Before use, the protective gloves should be tested in any case for its specific workstation suitability (i.e. mechanical resistance, product compatibility and antistatic properties). Adhere to the manufacturer’s instructions and information relating to the use, storage, care and replacement of protective gloves. Protective gloves shall be replaced immediately when physically damaged or worn. Design operations thus to avoid permanent use of protective gloves.

Other
Chemical-resistant work clothes.

Environmental exposure controls
No data available.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
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</thead>
<tbody>
<tr>
<td>Form/Colour</td>
<td>Powder</td>
</tr>
<tr>
<td>Odour</td>
<td>odourless</td>
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<tr>
<td>Odour threshold</td>
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</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>WEL long-term (8-hr TWA reference period)</td>
<td>0.2 mg/m³</td>
</tr>
<tr>
<td>WEL short-term (15 min reference period)</td>
<td>2 mg/m³</td>
</tr>
<tr>
<td>WEL long-term (8-hr TWA reference period)</td>
<td>1 mg/m³</td>
</tr>
<tr>
<td>chromium (7440-47-3)</td>
<td>231-157-5</td>
</tr>
<tr>
<td>WEL long-term (8-hr TWA reference period)</td>
<td>0.5 mg/m³</td>
</tr>
<tr>
<td>chromium (7440-47-3)</td>
<td>231-157-5</td>
</tr>
<tr>
<td>WEL long-term (8-hr TWA reference period)</td>
<td>4 mg/m³</td>
</tr>
<tr>
<td>Dust respirable</td>
<td>see Definition 44 &quot;Dust&quot;</td>
</tr>
<tr>
<td>WEL long-term (8-hr TWA reference period)</td>
<td>10 mg/m³</td>
</tr>
<tr>
<td>Dust inhalable</td>
<td>see Definition 44 &quot;Dust&quot;</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form/Colour</td>
<td>Powder</td>
</tr>
<tr>
<td>Odour</td>
<td>odourless</td>
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<tr>
<td>Odour threshold</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>odourless</td>
<td></td>
</tr>
</tbody>
</table>
pH value
No data available

Boiling point / boiling range
No data available

Melting point / melting range
Value: 1075 - 1085 °C

Decomposition point / decomposition range
No data available

Flash point
No data available

Auto-ignition temperature
No data available

Oxidising properties
No data available

Explosive properties
No data available

Flammability (solid, gas)
The product is non-flammable.
Method: UN N.1
Source: supplier

Lower flammability or explosive limits
No data available

Upper flammability or explosive limits
No data available

Vapour pressure
No data available

Vapour density
No data available

Evaporation rate
No data available

Relative density
No data available

Density
Value: 8.9 g/cm³
Reference temperature: 20 °C

Solubility in water
Comments: insoluble

Solubility(ies)
No data available

Partition coefficient: n-octanol/water
No data available

Viscosity
No data available

9.2 Other information

Other information
No data available.

SECTION 10: Stability and reactivity
10.1 Reactivity
No data available.

10.2 Chemical stability
Stable under recommended storage and handling conditions (See section 7).

10.3 Possibility of hazardous reactions
Dangerous reactions are not to be expected when handling product according to its intended use.

10.4 Conditions to avoid
Avoid formation of dust.

10.5 Incompatible materials
Acids; Bases; Oxidizing agents

10.6 Hazardous decomposition products
No data available.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

<table>
<thead>
<tr>
<th>Effect</th>
<th>Data availability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute oral toxicity</td>
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<tr>
<td>Acute dermal toxicity</td>
<td>No data available</td>
</tr>
<tr>
<td>Acute inhalational toxicity</td>
<td>No data available</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>No data available</td>
</tr>
<tr>
<td>Serious eye damage/irritation</td>
<td>No data available</td>
</tr>
<tr>
<td>Respiratory or skin sensitisation</td>
<td>No data available</td>
</tr>
<tr>
<td>Germ cell mutagenicity</td>
<td>No data available</td>
</tr>
<tr>
<td>Reproduction toxicity</td>
<td>No data available</td>
</tr>
<tr>
<td>Carcinogenicity</td>
<td>No data available</td>
</tr>
<tr>
<td>STOT - single exposure</td>
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</tr>
<tr>
<td>STOT - repeated exposure</td>
<td>No data available</td>
</tr>
<tr>
<td>Aspiration hazard</td>
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SECTION 12: Ecological information

12.1 Toxicity

<table>
<thead>
<tr>
<th>Effect</th>
<th>Data availability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxicity to fish (acute)</td>
<td>No data available</td>
</tr>
<tr>
<td>Toxicity to fish (chronic)</td>
<td>No data available</td>
</tr>
<tr>
<td>Toxicity to Daphnia (acute)</td>
<td>No data available</td>
</tr>
</tbody>
</table>
No data available

<table>
<thead>
<tr>
<th>Toxicity to Daphnia (chronic)</th>
<th>No data available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Toxicity to algae (acute)</td>
<td>No data available</td>
</tr>
<tr>
<td>Toxicity to algae (chronic)</td>
<td>No data available</td>
</tr>
<tr>
<td>Bacteria toxicity</td>
<td>No data available</td>
</tr>
</tbody>
</table>

### 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

<table>
<thead>
<tr>
<th>Results of PBT and vPvB assessment</th>
<th>The study does not need to be conducted according to Annex XIII of Regulation (EC) 1907/2006 (REACH).</th>
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<tbody>
<tr>
<td>PBT assessment</td>
<td>The study does not need to be conducted according to Annex XIII of Regulation (EC) 1907/2006 (REACH).</td>
</tr>
<tr>
<td>vPvB assessment</td>
<td></td>
</tr>
</tbody>
</table>

### 12.6 Other adverse effects
No data available.

### 12.7 Other information

| Other information                  | Do not discharge into the drains or waters and do not store on public depositories. |

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

**Product**
Dispose of according to all applicable regulations upon consultation of the local competent authorities and the disposer in a suitable and authorised disposal facility.
Allocation of a waste code number, according to the European Waste Catalogue, should be carried out in agreement with the regional waste disposal company.

**Packaging**
Residuals must be removed from packaging and when emptied completely disposed of in accordance with the regulations for waste removal. Incompletely emptied packaging must be disposed off in the form of disposal specified by the regional disposer.

## SECTION 14: Transport information

### 14.1 Transport ADR/RID/ADN

<table>
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<td>UN number</td>
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<tr>
<td>Proper shipping name</td>
<td>ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.</td>
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<tr>
<td>Technical name</td>
<td>copper</td>
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<td>Tunnel restriction code</td>
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<tr>
<td>Label</td>
<td>9</td>
</tr>
<tr>
<td>Environmentally hazardous substance mark</td>
<td>Symbol &quot;fish and tree&quot;</td>
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</table>
14.2 Transport IMDG

<table>
<thead>
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<td>Packing group</td>
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<tr>
<td>UN number</td>
<td>UN3077</td>
</tr>
<tr>
<td>Proper shipping name</td>
<td>ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.</td>
</tr>
<tr>
<td>Technical name</td>
<td>copper</td>
</tr>
<tr>
<td>Label</td>
<td>F-A, S-F</td>
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<tr>
<td>Marine pollutant mark</td>
<td>Symbol &quot;fish and tree&quot;</td>
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</table>

14.3 Transport ICAO-TI / IATA

<table>
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<th>Class</th>
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</thead>
<tbody>
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<tr>
<td>UN number</td>
<td>UN3077</td>
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<tr>
<td>Proper shipping name</td>
<td>Environmentally hazardous substance, solid, n.o.s.</td>
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<tr>
<td>Technical name</td>
<td>copper</td>
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<tr>
<td>Label</td>
<td>9</td>
</tr>
<tr>
<td>Environmentally hazardous substance mark</td>
<td>Symbol &quot;fish and tree&quot;</td>
</tr>
</tbody>
</table>

14.4 Other information

No data available.

14.5 Environmental hazards

Information on environmental hazards, if relevant, please see 14.1 - 14.3.

14.6 Special precautions for user

No data available.

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

Not relevant

SECTION 15: Regulatory information

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

**EU regulations**


According to the data available and/or specifications supplied by upstream suppliers, this product does not contain any substances considered as substances requiring authorisation as listed on Annex XIV of the REACH regulation (EC) 1907/2006.

**REACH candidate list of substances of very high concern (SVHC) for authorisation**

According to available data and the information provided by preliminary suppliers, the product does not contain substances that are considered substances meeting the criteria for inclusion in annex XIV (List of Substances Subject to Authorisation) as laid down in Article 57 and article 59 of REACH (EC) 1907/2006.


According to the data available and/or specifications supplied by upstream suppliers, this product does not contain any substances requiring authorisation as listed on Annex XVII of the REACH regulation (EC) 1907/2006.

**Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances**

This product is subject to Part I of Annex I, risk category: E1

15.2 Chemical safety assessment

A chemical safety assessment has not been carried out for this mixture.

SECTION 16: Other information

**Sources of key data used to compile the data sheet:**

National Threshold Limit Values of the corresponding countries as amended in each case.
Transport regulations according to ADR, RID, IMDG, IATA as amended in each case.
The data sources used to determine physical, toxic and ecotoxic data, are indicated directly in the corresponding chapter.

**Full text of the H- and EUH- phrases drawn up in sections 2 and 3 (provided not already drawn up in these sections)**

- **H400** Very toxic to aquatic life.
- **H412** Harmful to aquatic life with long lasting effects.

**Department issuing safety data sheet**
UMCO GmbH
Georg-Wilhelm-Str. 187, D-21107 Hamburg
Tel.: +49 40 / 555 546 300   Fax: +49 40 / 555 546 357   e-mail: umco@umco.de

This information is based on our present knowledge and experience. The safety data sheet describes products with a view to safety requirements. It does not however, constitute a guarantee for any specific product properties and shall not establish a legally valid contractual relationship.

Alterations/supplements:
Alterations to the previous edition are marked in the left-hand margin.

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Prod-ID   758610