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

1.1 Product identifier
   Trade name
   Hovadur® CB2 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 (Giftinformationszentrum Nord)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture
   Classification in accordance with Regulation (EC) No 1272/2008 (CLP)
   Acute Tox. 4; H332
   Aquatic Acute 1; H400
   Aquatic Chronic 3; H412
   Carc. 1B; H350
   Skin Sens. 1; H317
   STOT RE 2; H373
   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
   GHS07   GHS08   GHS09

   Signal word
   Danger

   Hazardous component(s) to be indicated on label:
   beryllium
cobalt

Hazard statement(s)
H317 May cause an allergic skin reaction.
H332 Harmful if inhaled.
H350 May cause cancer.
H373 May cause damage to organs through prolonged or repeated exposure
H410 Very toxic to aquatic life with long lasting effects.

Hazard statements (EU)
EUH208 Contains nickel powder; [particle diameter < 1 mm]. May produce an allergic reaction.

Precautionary statement(s)
P201 Obtain special instructions before use.
P260 Do not breathe dust.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection.
P308+P313 IF exposed or concerned: Get medical advice/attention.
P391 Collect spillage.
P501 Dispose of contents/container to a facility in accordance with local and national regulations.

Supplemental label elements
"Restricted to professional users"

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>CAS / EC / Index / REACH no</th>
<th>Classification (EC) 1272/2008 (CLP)</th>
<th>Concentration</th>
<th>%</th>
</tr>
</thead>
</table>
| 1 | copper | 7440-50-8 231-159-6 - | Aquatic Acute 1; H400 
Aquatic Chronic 3; H412 | < 100.00 | wt% |
| 2 | beryllium | 7440-41-7 231-150-7 004-001-00-7- | Acute Tox. 2*; H320 
Acute Tox. 3*; H301 
Carc. 1B; H350 
Eye Irrit. 2; H319 
Skin Irrit. 2; H315 
Skin Sens. 1; H317 
STOT RE 1; H372 
STOT SE 3; H335 | < 2.50 | wt% |
| 3 | cobalt | 7440-48-4 231-158-0 027-001-00-9- | Acute Tox. 4; H321 
Acute Tox. 2; H330 
Eye Irrit. 2; H319 
Skin Sens. 1; H317 
Resp. Sens. 1; H334 
Carc. 1B; H350 
Repr. 2; H361 | < 2.50 | wt% |
**EU safety data sheet**

**Trade name:** Hovadur® CB2 Pulver

**Current version:** 2.0.1, issued: 22.02.2021  
**Replaced version:** 2.0.0, issued: 20.02.2021  
**Region:** GB

---

### SECTION 4: First aid measures

1. **Description of first aid measures**

   **General information**
   In case of persisting adverse effects, consult a physician. Remove contaminated clothing and shoes immediately, and launder thoroughly before reusing. In case of allergic symptoms, especially respiratory tract related, seek medical help immediately.

   **After inhalation**
   Remove affected persons from dangerous area by observing suitable respiratory protection measures. Ensure supply of fresh air. Call a doctor immediately. If breathing is irregular or stopped, administer artificial respiration.

   **After skin contact**
   In case of contact with skin wash off immediately with copious amounts of water. Consult a doctor if skin irritation persists.

   **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). In case of irritation consult an ophthalmologist.

   **After ingestion**
   Rinse the mouth thoroughly with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a doctor immediately.

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

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

---

### SECTION 5: Firefighting measures

1. **Extinguishing media**

   **Suitable extinguishing media**
   Extinguishing powder; Sand; Metal fire powders

   **Unsuitable extinguishing media**
   Water; Foam; Carbon dioxide

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 section 7. Information regarding personal protective measures, see section 8. Information regarding waste disposal, see section 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. Risks inherent to handling the product must be minimised by applying the appropriate protective and preventive measures. Working processes should - so far as possible, according to the state of the art - be designed to rule out bodily contact or the release of hazardous substances.

**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. Containers which are opened must be carefully closed and kept upright to prevent leakage.

**Incompatible products**

Substances to be avoided, see section 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>7440-50-6</td>
<td>231-159-6</td>
</tr>
</tbody>
</table>

List of approved workplace exposure limits (WELs) / EH40

Copper
### fume

| WEL long-term (8-hr TWA reference period) | 0.2 mg/m³ |

#### List of approved workplace exposure limits (WELs) / EH40

<table>
<thead>
<tr>
<th>Copper</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dusts and mists (Cu)</td>
</tr>
<tr>
<td>WEL short-term (15 min reference period)</td>
</tr>
<tr>
<td>WEL long-term (8-hr TWA reference period)</td>
</tr>
</tbody>
</table>

2. **beryllium**

| WEL long-term (8-hr TWA reference period) | 0.002 mg/m³ |

#### List of approved workplace exposure limits (WELs) / EH40

<table>
<thead>
<tr>
<th>Beryllium &amp; beryllium compounds (as Be)</th>
</tr>
</thead>
<tbody>
<tr>
<td>WEL long-term (8-hr TWA reference period)</td>
</tr>
</tbody>
</table>

#### List of approved workplace exposure limits (WELs) / EH40

<table>
<thead>
<tr>
<th>Dust resiprable</th>
</tr>
</thead>
<tbody>
<tr>
<td>WEL long-term (8-hr TWA reference period)</td>
</tr>
</tbody>
</table>

#### List of approved workplace exposure limits (WELs) / EH40

<table>
<thead>
<tr>
<th>Dust inhalable</th>
</tr>
</thead>
<tbody>
<tr>
<td>WEL long-term (8-hr TWA reference period)</td>
</tr>
</tbody>
</table>

4. **cobalt**

| WEL long-term (8-hr TWA reference period) | 0.1 mg/m³ |

#### List of approved workplace exposure limits (WELs) / EH40

<table>
<thead>
<tr>
<th>Cobalt &amp; cobalt compounds (as Co)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comments</td>
</tr>
</tbody>
</table>

5. **nickel powder; [particle diameter < 1 mm]**

| WEL long-term (8-hr TWA reference period) | 0.1 mg/m³ |

#### List of approved workplace exposure limits (WELs) / EH40

<table>
<thead>
<tr>
<th>Nickel &amp; its inorganic compounds (except nickel tetracarbonyl): water soluble nickel compounds (as Ni)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comments</td>
</tr>
</tbody>
</table>

#### List of approved workplace exposure limits (WELs) / EH40

<table>
<thead>
<tr>
<th>Nickel &amp; water insoluble compounds nickel compounds (as Ni)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comments</td>
</tr>
</tbody>
</table>

### 8.2 Exposure controls

#### Appropriate engineering controls

Provide adequate ventilation. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and solvent vapour below the OEL (=Occupational Exposure Limit), suitable respiratory protection must be worn.

#### 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 that workplace threshold values are not specified.

Respiratory filter (part): 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 work-station 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>State of aggregation</th>
<th>solid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form/Colour</td>
<td>Powder</td>
</tr>
<tr>
<td></td>
<td>copper colours</td>
</tr>
<tr>
<td>Odour</td>
<td>odourless</td>
</tr>
<tr>
<td>pH value</td>
<td>No data available</td>
</tr>
<tr>
<td>Boiling point / boiling range</td>
<td>No data available</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>Value 870 - 970 °C</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Flash point</td>
<td>No data available</td>
</tr>
<tr>
<td>Ignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability</td>
<td>No data available</td>
</tr>
<tr>
<td>Lower explosion limit</td>
<td>No data available</td>
</tr>
<tr>
<td>Upper explosion limit</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative vapour density</td>
<td>No data available</td>
</tr>
<tr>
<td>Relative density</td>
<td>No data available</td>
</tr>
<tr>
<td>Density</td>
<td>Value 8.3 g/cm³</td>
</tr>
<tr>
<td></td>
<td>Reference temperature 20 °C</td>
</tr>
<tr>
<td>Solubility in water</td>
<td>Comments insoluble</td>
</tr>
<tr>
<td>Solubility</td>
<td>No data available</td>
</tr>
<tr>
<td>Partition coefficient n-octanol/water (log value)</td>
<td>No data available</td>
</tr>
</tbody>
</table>
**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 hazard classes as defined in Regulation (EC) No 1272/2008**

<table>
<thead>
<tr>
<th>Acute oral toxicity (result of the ATE calculation for the mixture)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>No</strong></td>
</tr>
<tr>
<td>1</td>
</tr>
</tbody>
</table>

| Acute oral toxicity | No data available |
| Acute dermal toxicity | No data available |

<table>
<thead>
<tr>
<th>Acute inhalational toxicity (result of the ATE calculation for the mixture)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>No</strong></td>
</tr>
<tr>
<td>1</td>
</tr>
</tbody>
</table>

| Acute inhalational toxicity | No data available |
| Skin corrosion/irritation | No data available |
| Serious eye damage/irritation | |
EU safety data sheet

Trade name: Hovadur® CB2 Pulver

No data available

Respiratory or skin sensitisation
No data available

Germ cell mutagenicity
No data available

Reproduction toxicity
No data available

Carcinogenicity
No data available

STOT - single exposure
No data available

STOT - repeated exposure
No data available

Aspiration hazard
No data available

11.2 Information on other hazards

Endocrine disrupting properties
No data available.

Other information
No data available.

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish (acute)
No data available

Toxicity to fish (chronic)
No data available

Toxicity to Daphnia (acute)
No data available

Toxicity to Daphnia (chronic)
No data available

Toxicity to algae (acute)
No data available

Toxicity to algae (chronic)
No data available

Bacteria toxicity
No data available

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>
</tr>
</thead>
<tbody>
<tr>
<td>PBT assessment</td>
</tr>
<tr>
<td>The study does not need to be conducted according to Annex XIII of Regulation (EC) 1907/2006 (REACH).</td>
</tr>
</tbody>
</table>
12.6 Endocrine disrupting properties
No data available.

12.7 Other adverse effects
No data available.

12.8 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
Disposal of the product should be carried out in accordance with all applicable regulations following consultation with the responsible local authority and the disposal company in an authorised and suitable 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
Residues 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 of in the form of disposal specified by the regional disposer.

SECTION 14: Transport information

14.1 Transport ADR/RID/ADN

<table>
<thead>
<tr>
<th>Class</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classification code</td>
<td>M7</td>
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<tr>
<td>Packing group</td>
<td>III</td>
</tr>
<tr>
<td>Hazard identification no.</td>
<td>90</td>
</tr>
<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>Tunnel restriction code</td>
<td>-</td>
</tr>
<tr>
<td>Label</td>
<td>9</td>
</tr>
<tr>
<td>Environmentally hazardous substance mark</td>
<td>Symbol “fish and tree”</td>
</tr>
</tbody>
</table>

14.2 Transport IMDG

<table>
<thead>
<tr>
<th>Class</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Packing group</td>
<td>III</td>
</tr>
<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>EmS</td>
<td>F-A, S-F</td>
</tr>
<tr>
<td>Label</td>
<td>9</td>
</tr>
<tr>
<td>Marine pollutant mark</td>
<td>Symbol “fish and tree”</td>
</tr>
</tbody>
</table>

14.3 Transport ICAO-TI / IATA

<table>
<thead>
<tr>
<th>Class</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Packing group</td>
<td>III</td>
</tr>
<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>9</td>
</tr>
<tr>
<td>Environmentally hazardous substance mark</td>
<td>Symbol “fish and tree”</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 Maritime transport in bulk according to IMO instruments
Not relevant

SECTION 15: Regulatory information

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

EU regulations

Regulation (EC) No 1907/2006 (REACH) Annex XIV (List of substances subject to authorisation)
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.

The product contains following substance(s) that are considered being subject to REACH regulation (EC) 1907/2006 annex XVII.

<table>
<thead>
<tr>
<th>No</th>
<th>Substance name</th>
<th>CAS no.</th>
<th>EC no.</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>beryllium</td>
<td>7440-41-7</td>
<td>231-150-7</td>
<td>28</td>
</tr>
<tr>
<td>2</td>
<td>nickel powder; [particle diameter &lt; 1 mm]</td>
<td>7440-02-0</td>
<td>231-111-4</td>
<td>27, 27</td>
</tr>
</tbody>
</table>

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 section.

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

H301  Toxic if swallowed.
H302  Harmful if swallowed.
H315  Causes skin irritation.
H319  Causes serious eye irritation.
H330  Fatal if inhaled.
H334  May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335  May cause respiratory irritation.
H350i May cause cancer by inhalation.
H351  Suspected of causing cancer.
H361  Suspected of damaging fertility or the unborn child.
H372  Causes damage to organs through prolonged or repeated exposure.
H372i  Causes damage to organs through prolonged or repeated exposure if inhaled.
H400  Very toxic to aquatic life.
H412  Harmful to aquatic life with long lasting effects.

Creation of the 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.

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Prod-ID    758687