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

1.1 Product identifier

Trade name

Hovadur® CNBspez. 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)
Aquatic Acute 1; H400
Aquatic Chronic 3; H412
Carc. 1B; H350
Repr. 1B; H360
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:
nickel powder; [particle diameter < 1 mm]
beryllium

cobalt

Hazard statement(s)

H317	May cause an allergic skin reaction.
H350	May cause cancer.
H360	May damage fertility or the unborn child
H373	May cause damage to organs through prolonged or repeated exposure
H410	Very toxic to aquatic life with long lasting effects.

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.

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

No	Substance name		Additional information	
	CAS / EC / Index / REACH no	Classification (EC) 1272/2008 (CLP)	Concentration	%
1	**copper**			
	7440-50-8 231-159-6 - -	Aquatic Acute 1; H400 Aquatic Chronic 3; H412	< 100.00	wt%
2	**nickel powder; [particle diameter < 1 mm]**			
	7440-02-0 231-111-4 028-002-01-4 -	Aquatic Chronic 3; H412 Carc. 2; H351 Skin Sens. 1; H317 STOT RE 1; H372**	< 2.50	wt%
3	**beryllium**			
	7440-41-7 231-150-7 004-001-00-7 -	Acute Tox. 2*; H330 Acute Tox. 3*; H301 Carc. 1B; H350i Eye Irrit. 2; H319 Skin Irrit. 2; H315 Skin Sens. 1; H317 STOT RE 1; H372i STOT SE 3; H335	< 2.50	wt%
4	**cobalt**			
	7440-48-4 231-158-0 027-001-00-9 -	Skin Sens. 1; H317 Resp. Sens. 1; H334 Muta. 2; H341 Carc. 1B; H350 Repr. 1B; H360F Aquatic Chronic 4; H413	< 0.50	wt%

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

(*,**,***,****) Detailed explanation pls. refer to CLP regulation No. 1272/2008, annex VI, 1.2

No	Route, target organ, concrete effect
3	H350i inhalational; -; - H372i inhalational; -; -

SECTION 4: First aid measures

4.1 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. If the patient is likely to become unconscious, place and transport in stable sideways position. 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.

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. Collect 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

No	Substance name	CAS no.	EC no.
1	**copper**	**7440-50-8**	**231-159-6**
	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		
	Copper		
	dusts and mists Cu		
	WEL short-term (15 min reference period)	2 mg/m³	
	WEL long-term (8-hr TWA reference period)	1 mg/m³	
2	**nickel powder; [particle diameter < 1 mm]**	**7440-02-0**	**231-111-4**
	List of approved workplace exposure limits (WELs) / EH40		
	Nickel & its inorganic compounds (except nickel tetracarbonyl): water soluble nickel compounds (as Ni)		
	WEL long-term (8-hr TWA reference period)	0.1 mg/m³	
	Comments	Sk, Carc (nickel oxides and sulphides) Sen (nickel sulphate)	
	List of approved workplace exposure limits (WELs) / EH40		
	Nickel & water insoluble compounds nickel compounds (as Ni)		
	WEL long-term (8-hr TWA reference period)	0.5 mg/m³	

	Comments	Sk, Carc (nickel oxides and sulphides) Sen (nickel sulphate)
3	**Dust**	
	List of approved workplace exposure limits (WELs) / EH40	
	Dust respirable	
	WEL long-term (8-hr TWA reference period)	4 mg/m³
	Comments	see Definition 44 "Dust"
	List of approved workplace exposure limits (WELs) / EH40	
	Dust inhalable	
	WEL long-term (8-hr TWA reference period)	10 mg/m³
	Comments	see Definition 44 "Dust"
4	**beryllium**	**7440-41-7** **231-150-7**
	List of approved workplace exposure limits (WELs) / EH40	
	Beryllium & beryllium compounds (as Be)	
	WEL long-term (8-hr TWA reference period)	0.002 mg/m³
	Comments	Carc
	2004/37/EC	
	Beryllium and inorganic beryllium compounds	
	WEL long-term (8-hr TWA reference period)	0,0002 (11) mg/m³
	Skin resorption / sensibilisation Comments	dermal and respiratory sensitisation (13) Limit value 0,0006 mg/m3 until 11 July 2026
5	**cobalt**	**7440-48-4** **231-158-0**
	List of approved workplace exposure limits (WELs) / EH40	
	Cobalt & cobalt compounds (as Co)	
	WEL long-term (8-hr TWA reference period)	0.1 mg/m³
	Comments	Carc (cobalt dichloride and sulphate), Sen

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

State of aggregation
solid

Form
Powder

Colour
copper colours

Odour
odourless

pH value
No data available

Boiling point / boiling range
No data available

Melting point/freezing point				
Value	1000	-	1030	°C

Decomposition temperature
No data available

Flash point
No data available

Ignition temperature
No data available

Flammability
No data available

Lower explosion limit
No data available

Upper explosion limit
No data available

Vapour pressure
No data available

Relative vapour density
No data available

Relative density
No data available

Density		
Value	8.85	g/cm³
Reference temperature	20	°C

Solubility in water	
Comments	insoluble

Solubility
No data available

Partition coefficient n-octanol/water (log value)
No data available

Kinematic viscosity
No data available

Particle characteristics
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 hazard classes as defined in Regulation (EC) No 1272/2008

Acute oral toxicity (result of the ATE calculation for the mixture)	
No	**Product Name**
1	**Hovadur® CNBspez. Pulver**
Comments	The result of the applied calculation method according to the European Regulation (EC) 1272/2008 (CLP), Paragraph 3.1.3.6, Part 3 of Annex I is outside the values that imply a classification / labelling of this mixture according to table 3.1.1 defining the respective categories (ATE oral > 2000 mg/kg).

Acute oral toxicity
No data available

Acute dermal toxicity
No data available

Acute inhalational toxicity (result of the ATE calculation for the mixture)	
No	**Product Name**
1	**Hovadur® CNBspez. Pulver**
Comments	The result of the applied calculation method according to the European Regulation (EC) 1272/2008 (CLP), Paragraph 3.1.3.6, Part 3 of Annex I is outside the values that imply a classification / labelling of this mixture according to table 3.1.1 defining the respective categories (ATE for inhalation: > 20.000 ppmV (gases), > 20 mg/l (vapours), > 5 mg/l (dusts/mists).

Acute inhalational toxicity
No data available

Skin corrosion/irritation
No data available

Serious eye damage/irritation
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

Results of PBT and vPvB assessment	
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).

12.6 Endocrine disrupting properties
No data available.

12.7 Other adverse effects
No data available.

12.8 Other information

Other information
Do not discharge into drains or waters and do not dispose of in public landfills.

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

Class	9
Classification code	M7
Packing group	III
Hazard identification no.	90
UN number	UN3077
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
Technical name	copper
Tunnel restriction code	-
Label	9
Environmentally hazardous substance mark	Symbol "fish and tree"

14.2 Transport IMDG

Class	9
Packing group	III
UN number	UN3077
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
Technical name	copper
EmS	F-A, S-F
Label	9
Marine pollutant mark	Symbol "fish and tree"

14.3 Transport ICAO-TI / IATA

Class	9
Packing group	III
UN number	UN3077
Proper shipping name	Environmentally hazardous substance, solid, n.o.s.
Technical name	copper
Label	9
Environmentally hazardous substance mark	Symbol "fish and tree"

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.

Regulation (EC) No 1907/2006 (REACH) Annex XVII: RESTRICTIONS ON THE MANUFACTURE, PLACING ON THE MARKET AND USE OF CERTAIN DANGEROUS SUBSTANCES, MIXTURES AND ARTICLES

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

No	Substance name	CAS no.	EC no.	No
1	**beryllium**	**7440-41-7**	**231-150-7**	**28, 75**
2	**cobalt**	**7440-48-4**	**231-158-0**	**28, 30, 75**
3	**copper**	**7440-50-8**	**231-159-6**	**75**
4	**nickel powder; [particle diameter < 1 mm]**	**7440-02-0**	**231-111-4**	**27, 75**

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:
Regulation (EC) No 1907/2006 (REACH), 1272/2008 (CLP) as amended in each case.
Directives 2000/39/EC, 2006/15/EC, 2009/161/EU, (EU) 2017/164.
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.
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.
H341	Suspected of causing genetic defects
H350i	May cause cancer by inhalation.
H351	Suspected of causing cancer.
H360F	May damage fertility.
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.
H413	May cause long lasting harmful effects to aquatic life.

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.

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

Prod-ID 758685