

**CuBe2**

**1 - Identification of the article and of the company:**

**1.1 Product identifier**

Trade Name: **CuBe2**

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

Copper Beryllium alloys in form of semi-finished products according to the trade names, high conductivity and high strength alloys (depending on the trade name concerned) supplied as solid, compact and non-inhalable metal in the form of slabs or hot or cold rolled strips.

Industrial uses: Uses of substances as such or in preparations at industrial sites. Manufacture of basic metals, including alloys Manufacture of fabricated metal products, except machinery and equipment. Manufacture of computer, electronic and optical products, electrical equipment. General manufacturing, e.g. machinery, equipment, vehicles, other transport equipment. Electricity, steam, gas water supply and sewage treatment.

Application of the article: semi-finished product

**1.3 Details of the supplier of safety data sheet**

Manufacturer/Supplier:  
ROBERT LAMINAGE SA  
La Jaluse 15  
CH-2400 LE LOCLE  
Switzerland

**Phone:** +41 32 933 91 91

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E-mail/Internet: [info@robertlaminage.ch](mailto:info@robertlaminage.ch) [www.robertlaminage.ch](http://www.robertlaminage.ch)

**1.4 Information in case of emergency:**

Tox Info Suisse

From Switzerland: call 145

From abroad: call +41 44 251 51 51

Remarks for information sheet: Semi-finished products from copper and copper-alloy are articles according to Regulation (EC) No. 1907/2006 (REACH Regulation).

For articles there is no legal obligation to issue a safety data sheet. However, to be able to provide information typically included in a safety data sheet also for articles, the present information sheet for articles has been worked out.

We expressly point out that the information sheet for articles is a voluntarily issued information sheet which is not subject to the formal requirements of the REACH Regulation.

## 2 - Hazards identification

### 2.1 Classification of the substance or mixture

The mixture has been assessed and/or tested for its physical, health and environmental hazards and the following classification applies.

#### Classification according to regulation (EC) N° 1272/2008 (CLP-Regulation) as amended

Health hazards	Category	Classification
Acute toxicity, inhalation	Category 1	H334 – May cause allergic or asthma symptoms or breathing difficulties if inhaled
Skin sensitisation	Category 1	H317 – May cause an allergic skin reaction
Carcinogenicity	Category 1B	H350i – May cause cancer by inhalation
Specific target organ toxicity – repeated exposure	Category 1	H372 – Causes damage to organs (respiratory system) through prolonged or repeated exposure by inhalation

**Hazard summary:** Cancer hazard. May cause an allergic skin reaction. May cause irritation to the respiratory system. Causes damage to organs through prolonged or repeated exposure.

### 2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008: Void

#### Hazard Pictograms



**Signal Word :** Danger

#### Hazard Statements:

- H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- H317 May cause an allergic skin reaction.
- H350i May cause cancer by inhalation.
- H372 Causes damage to organs (respiratory system) through prolonged or repeated exposure by inhalation.

## Precautionary statements

### Prevention:

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breathe dust/fume.
P264	Wash thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P272	P272 Contaminated work clothing should not be allowed out of the workplace.
P280	P280 Wear protective gloves/protective clothing/eye protection/face protection.

### Response:

P302 + P350.	P302 + P350 If on skin : Wash with plenty of water.
P304 + P340	P304 + P340 If inhaled: Remove person to fresh air and keep comfortable for breathing.
P308 + P311	P308 + P311 If exposed or concerned: Call a poison center/doctor.
P333 + P313	P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.
P342 + P311	P342 + P311 If experiencing respiratory symptoms: Call a poison center/doctor.
P362 + P364	P362 + P364 Take off contaminated clothing and wash it before reuse

## Supplemental label information

Exposure to the elements listed in Section 3 by inhalation, ingestion, and skin contact can occur when melting, casting, gross handling, pickling, chemical cleaning, heat treating, abrasive cutting, welding, grinding, sanding, polishing, milling, crushing, or otherwise heating or abrading the surface of this material in a manner which generates particulate.

### 2.3 Other hazards

None known.

## 3 - Composition/information on ingredients

### 3.2. Chemical characterisation: Mixtures

Description:	Metal in compact form.
Material code (DIN):	CuBe2
Material number (DIN):	2.1247
UNS-number:	C17200

**Information:**

The classifications listed below reflect the classification of the relevant alloying constituents and are only for information. Mentioned percentages are references values.

The classification of a pure substance is not applicable to its use as element of a copper alloy.

<b>Alloy components:</b>				
<b>Chemical Element</b>	<b>% Weight (max)</b>	<b>N° CAS</b>	<b>N° EINECS</b>	<b>Others information</b>
Cu	Bal.%	7440-50-8	231-159-6	⚠ Aquatic Chronic 2, H411
Be	1.80 – 2.00%	7440-41-7	231-150-7	⚠ Skin Sens. 1; H317; STOT SE3; H335 ☞ Carc. 1B, H350i; STOT RE 1; H372
Ni	0.0 – 1.40%	7440-02-0	231-100-4	☞ Carac. 2 H351, STOT RE 2; H373 ⚠ Skin. Sens. 1; H317, STOT SE 3 H335,
Co	0.20 – 0.35%	7440-48-4	231-158-0	⚠ Skin Sen. 1, H317; Acute Tox.4, H302 ; Resp. Sens. 1, H334 ; Aqua. Chron. 4, H413

**4 - First aid measures****4.1. Description of first aid measures****General information :**

There is no immediate medical risk associated with these alloys in massive form. If exposed or concerned: get medical attention/advice. Wash contaminated clothing before reuse.

First aid measures provided are related to particulate containing beryllium

**Inhalation :**

Breathing difficulties caused by inhalation of particulate requires immediate removal to fresh air. If breathing has stopped, perform artificial respiration and obtain medical help.

After inhalation: Supply fresh air and to be sure call for a doctor.

In case of unconsciousness place patient stably in side position for transportation.

**After skin contact :**

Cuts should be treated by normal first aid. Embedded foreign bodies must be removed. Copper beryllium that becomes lodged under the skin has the potential to induce sensitization to beryllium. If rashes or other skin effects develop, obtain medical help.

**After eye contact:**

There is no special hazard to the eyes. Avoid transferring particulate material to the eyes from the hands. Any particulate which does enter the eyes could cause damage to the eye and surrounding tissues and should be removed by copious flushing with clean water, obtain medical help

**After swallowing :**

The alloys are not toxic, but ingestion should be avoided including ingestion via hand-to-mouth activity such as eating, drinking, smoking. In case of accidental swallowing of dust or powder induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. If unconscious, obtain medical help.

**4.2. Most important symptoms and effects, both acute and delayed:**

No further relevant information available.

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

No further relevant information available.

**5 - Firefighting measures****5.1 General information**

The alloys are non-inflammable

## 5.2 Extinguishing media

**Suitable:** Do not use water in fire-fighting metal melting operations.

**Unsuitable:** To avoid risk of explosion, dry sand or other fire-fighting powders should be used.

## 5.3 Special hazards arising from the substance or mixture:

No further relevant information available.

## 5.4 Advice for firefighters:

Firefighters shall use full protective equipment. No especial measures are required.

## 6 - Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures:

In solid form this material poses no special clean-up problems. Wear appropriate protective equipment and clothing during cleanup.

### 6.2 Environmental precautions:

Avoid release to the environment. In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground

### 6.3 Methods and material for containment and cleaning up:

Collect the material and if necessary dispose it as waste according to section 13.

### 6.4 Reference to other sections:

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment. See Section 13 for disposal information.

## 7 - Handling and storage

### 7.1 Precautions for safe handling:

No special precautions are required for handling alloys in massive forms. Use local exhaust ventilation when particulate (dust, mist, fume) is present - ref. to 8.2. Use gloves when handling sharp edged alloy products, to prevent metal cuts and when particulate is present, to prevent sensitization. If necessary use disposable gloves (nitrile or vinyl) under work gloves to prevent against mechanical risks - ref. to 8.2.

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

Storage

Requirements to be met by storerooms and receptacles: No special requirements.  
Further information about storage conditions: Store in dry conditions.

### 7.3 Specific end use(s):

No further relevant information available.

## 8 - Exposure controls/personal protection

### 8.1. Control parameters

The relevant national limit specifications should be observed. **Limits of airborne substances in the place of work: Short- term Exposure Limit and Time weighted Average in accordance with SUVA (Switzerland).**

Substance	CAS-N°	Type	Value	Form
Copper	7440-50-8	VLE	0.20 mg/m <sup>3</sup>	Inhalable fraction
		VME	0.10 mg/m <sup>3</sup>	Inhalable fraction
Beryllium	7440-41-7	VME	0.006 mg/m <sup>3</sup>	Inhalable fraction
Cobalt	7440-48-4	VME	0.05 mg/m <sup>3</sup>	Inhalable fraction
Nickel	7440-02-0	VME	0.50 mg/m <sup>3</sup>	Inhalable fraction

### Biological Limit Values in Workplace (BAT-Wert) in accordance with SUVA.

Substance	CAS-N°	Type	Value	Form
Cobalt	7440-48-4	BAT-Wert	30 µg/l	Urine
Nickel	7440-02-0	BAT-Wert	45 µg/l	Urine

### 8.2. Exposure controls

#### Personal protective equipment:

#### General protective and hygienic measures:

- Keep away from foodstuffs, beverages and feed.
- Wash hands before breaks and at the end of work.
- Store protective clothing separately.
- Do not inhale dust / smoke / mist.

#### Respiratory protection:

- Any process which could generate airborne particulate (dust, mist, fume) from the alloys must be provided with proper controls to ensure that airborne levels are kept as far below the Occupational Exposure Standards as is practically possible – ref. to item 8.1.
- Control to the above standards is achieved by means of local exhaust ventilation fitted with appropriate filtration of category K1 – ref. to 8.1. Activities without full protection, such as repair and maintenance of machinery, processing equipment or ductwork, melting and casting operations, or filter change may require the use of personal respiratory protective equipment and protective over-garments. Clothing contaminated by such work must be handled in a controlled manner in order to prevent secondary exposure of workers or third parties.

- The installation and use of local exhaust ventilation and the use of respiratory equipment requires specialist advice and approval in order to ensure full protection.
- Operations which require controls include any form of abrasive machining or cutting, grinding, polishing, electro discharge machining, welding, melting and casting. Operations which may not require controls (but need risk analysis) include stamping and forming, milling, general handling and heat treatment in air below about 400 °C. Heat treatment above this temperature in air could generate loose oxide scale which might become airborne. This can be minimized by heat treating above 400 °C in inert atmosphere.

If observance of the limits cannot be guaranteed by means of exhausters, personnel should be provided with face or breathing masks with breathing filter class P3.

Particle filter P2	Particle filter P3	In combination with : - Réf. BIA <sup>1</sup>
10 times exposure limit	30 times exposure limit	Half / quarter mask or particle filtered half mask / FPP2 / FPP3
15 times exposure limit	400 times exposure limit	Full mask / mouthpiece garniture

**Protection of hands:**

Follow the standard workplace hygiene recommendations. Gloves against particulate/cuts. If necessary use disposable gloves, protection against particulate, under work gloves, protection against cuts, for example leather gloves, against mechanical risks.

**Eye protection:**

For processing the alloys, the use of safety glasses is recommended as required by the various operations, so for example safety classes with side protection, closed safety classes/goggles or face shields.

**Body protection:**

Wear suitable protective clothing, depending upon how the semis are further processed.

<sup>1</sup> Recommended by BIA (German Professional Associations' Institute for Occupational Safety).

## 9 - Physical and chemical properties

<b>9.1 Information on basic physical and chemical properties</b>	
General Information	
Appearance:	
Form:	Solid in various shapes
Colour:	Bronze (gold) / Copper
Odour:	Odourless
Odour threshold:	Not determined
Change in condition	
Melting point/freezing point:	870 - 1070 °C (Lit.)
Initial boiling point and boiling range:	Undetermined.
Flash point:	Not applicable.
Decomposition temperature:	Not determined.
Explosive properties:	Product does not present an explosion hazard.
Density at 20 °C:	8.80 g/cm <sup>3</sup> (Lit.)
Solubility in / Miscibility with water:	Not soluble.
Vapour pressure	Not applicable
Vapour density:	Not applicable
Viscosity:	Not applicable
<b>9.2 Other information</b>	No further relevant information available.

## 10 - Stability and reactivity

**10.1 Reactivity:** Not applicable.

**10.2 Chemical stability:** Not applicable, the material under normal condition is stable

Thermal decomposition / conditions to be avoided:

No decomposition if used according to specifications.

**10.3 Possibility of hazardous reactions:** No dangerous reactions known.

**10.4 Conditions to avoid:** Avoid dust/ small particles formation. Contact with acids. Contact with alkalis.

**10.5 Incompatible materials:** Strong acids, alkalis and oxidizing agents.

**10.6 Hazardous decomposition products:** No dangerous decomposition products known.

## 11 - Toxicological information

**11.1 General information:**

Occupational exposure to the substance or mixture may cause adverse effects.

The solid product does not pose a health hazard if handled properly.

**Inhalation :** May cause damage to organs (respiratory system) through prolonged or repeated exposure

**Effect on the skin :** The alloys are classified as potential sensitizer by skin contact (Xi; R43), based its beryllium content.

**Effect on eyes :** No effects due to the product form.

**Sensitization:** Due to the nickel content avoid direct and prolonged skin contact.

**Ingestion :** No effects due to the product form.

## 11.2 Information of toxicological effects

### Acute toxicity :

**Skin corrosion / irritation :** No effects due to the product form.

### Serious damage / eye :

**Irritation :** No effects due to the product form.

**Ingestion :** No effects due to the product form.

**Respiratory sensitisation :** May cause allergy or asthma symptoms or breathing difficulties if inhaled.

**Skin sensitisation :** May cause allergic skin reaction.

**Germ cell mutagenicity :** Not applicable

**Reproductive toxicity :** Not applicable

**Carcinogenicity :** Cancer hazard

**Other information :** Symptoms may be delayed

## 12 - Ecological information

### 12.1 Toxicity

#### Aquatic toxicity:

Substance	CAS-N°	Aquatic		Species	Test Results
Beryllium	-	Acute		-	
		Fish	LC50	0.0326 mg/l, 96 hours estimated	-
Copper	7440-50-8	Acute		-	
		Crustacea	EC50	Blue crab (callinectes Spidus)	0.0031 mg/l
		Fish	LC50	Fathead minnow (Pimephales Promelas)	0.0219 – 0.0446 mg/l, 96 hours

**12.2 Persistence and degradability:** No further relevant information available.

**12.3 Bioaccumulative potential:** No further relevant information available.

**12.4 Mobility in soil:** No further relevant information available.

### 12.5 Results of PBT and vPvB assessment

PBT: Not applicable to metals.

vPvB: Not applicable to metals.

**12.6 Other adverse effects:** No further relevant information available.

### 13 - Disposal considerations

#### 13.1 Waste treatment methods

Recommendation: Contact manufacturer for recycling information.

Waste disposal key:

12 01 03: Non-Ferrous metal filings and turnings

16 01 18: Non-Ferrous metal for non-contaminated waste

### 14 - Transport information

<b>14.1 UN-Number</b> ADR, ADN, IMDG, IATA	Not regulated as dangerous goods
<b>14.2 UN proper shipping name</b> ADR, ADN, IMDG, IATA	Not regulated as dangerous goods
<b>14.3 Transport hazard class(es)</b> ADR, ADN, IMDG, IATA · Class	Not regulated as dangerous goods
<b>14.4 Packing group</b> ADR, IMDG, IATA	Not regulated as dangerous goods
<b>14.5 Environmental hazards:</b>	Not regulated as dangerous goods
<b>14.6 Special precautions for user:</b>	Not regulated as dangerous goods
<b>14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:</b>	Not regulated as dangerous goods

### 15 - Regulatory information

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

##### EU regulations:

**Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry, as amended**

Copper (CAS 7740-50-8)

##### Restrictions on use

**Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended**

Beryllium (CAS 7440-41-7)

**Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work, as amended.**

Not listed

##### Other EU regulations

**Directive 2012/18/EU on major accident hazards involving dangerous substances, as amended**

Beryllium (CAS 7440-41-7)

Copper (CAS 7740-50-8)



### **Other regulations**

Young people under 18 years old are not allowed to work with this product according to EU Directive 94/33/EC on the protection of young people at work. Pregnant women should not work with the product, if there is the least risk of exposure. The product is classified and labelled in accordance with Regulation (EC) 1272/2008 (CLP Regulation) as amended.

### **16 - Other information**

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific article features and shall not establish a legally valid contractual relationship.