

**Product name:** Copper, >99.9% pure in various forms  
**Document Nr.:** SDS00170CU5704

**Date:** October 5<sup>th</sup>, 2022  
**Version:** 4.0

Page 1 of 10

## Section 1: Identification of the substance or mixture and the company

### 1.1. Product Identifier

Copper, >99.9% pure in various manufactured forms. EC #: 231-159-6 CAS #: 7440-50-8  
The substances do not require registration according to regulation (EC) N. 1907/2006 (REACH).

### 1.2 Relevant applications of the material and uses advised against

Copper target material, evaporation wire for vacuum deposition. Powder for mixing with epoxies.

### 1.3. Company details

Rave Scientific  
100 Franklin Square Dr.  
Suite 101  
Somerset, NJ 08873  
Telephone: 1-732-898-3828  
Email: [info@ravescientific.com](mailto:info@ravescientific.com)  
Web: [www.ravescientific.com](http://www.ravescientific.com)

### 1.4 Emergency telephone number

Rave Scientific: 1-732-898-3828

## Section 2: Hazards identification

### 2.1. Classification of the substance or mixture according to Regulation EC Nr. 1272/2008

This substance is not classified as hazardous in accordance with regulation Nr. 1272/2008/EC

### 2.2 Labeling elements

#### Labelling accordance to Regulation EC. Nr 1272/2008

Not needed

(Contd. on page 2)

**Product name:** Copper, >99.9% pure in various forms  
**Document Nr.:** SDS00170CU5704

**Date:** October 5<sup>th</sup>, 2022  
**Version:** 4.0

Page 2 of 10

(Contd. of page 1)

## 2.3 Other hazards

### Results of PBT and vPvB assessment

According to the results of its assessment, the substance is not a PBT or a vPvB

## Section 3: Composition / information on components

### 3.1. Substances

Copper, >99.9% pure in various manufactured forms. EC #: 231-159-6 CAS #: 7440-50-8

### 3.2 Mixtures

Not applicable

## Section 4: First aid measures

### 4.1. Description of first aid measures

Contact with eyes:	Rinse cautiously with water for several minutes. If possible, remove contact lenses. Continue rinsing.
Contact with skin:	Brush off loose particles from skin. Rinse skin with water/shower.
Inhalation:	Provide fresh air. There is no major dust generation possible.
Ingestion:	Rinse mouth. Seek medical assistance if you feel unwell

### 4.2. Important symptoms and effects, either immediate or delayed

No effects known to date.

### 4.3. Indication of any immediate medical attention and special treatment

**General advice:** If you feel unwell, seek medical advice; show product label if possible  
If symptoms persist, always call a doctor

(Contd. on page 3)

**Product name:** Copper, >99.9% pure in various forms  
**Document Nr.:** SDS00170CU5704

**Date:** October 5<sup>th</sup>, 2022  
**Version:** 4.0

Page 3 of 10

---

(Contd. of page 2)

## **Section 5: Firefighting Measures**

### **5.1. Extinguishing media**

Water, foam, dry extinguishing powder, ABC powder. Do not use water jet.

### **5.2 Special hazards arising from the substance or mixture**

Metal oxide fumes

### **5.3 Advice to firefighters**

Fight fire from a safe distance, with adequate cover.  
Do not move the load if exposed to heat.  
In case of fire: do not breathe fumes.  
Wear self-contained breathing apparatus for fire fighting

## **Section 6: Accidental release measures**

### **6.1. Personal precautions, protective equipment and emergency procedures**

No special measures are necessary.

### **6.2 Environmental precautions**

Do not allow to enter public sewers and waterways

### **6.3 Methods and material for containment and clean up**

Pick up mechanically

### **6.4 Reference to other sections**

For further information see section 7, 8 and 13.

(Contd. on page 4)

**Product name:** Copper, >99.9% pure in various forms  
**Document Nr.:** SDS00170CU5704**Date:** October 5<sup>th</sup>, 2022  
**Version:** 4.0

Page 4 of 10

(Contd. of page 3)

**Section 7: Handling and storage****7.1. Precautions for safe handling**

No special measures are necessary.

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

Store in a cool dry place

**7.3 Specific end uses(s)**

Not required

**Section 8: Exposure control and personal protection****8.1. Control parameters****Occupational exposure limits (OEL)**

Ingredient	Material Name	Source	TWA	STEL	Ceiling -C	Notes
Cu powder	Copper	EU	1 mg/m <sup>3</sup>	2 mg/m <sup>3</sup>		

**8.2 Exposure controls**

Control procedures: Avoid creating or accumulating dust or fine particles  
Wash hands before breaks and at the end of the work  
Maintain appropriate working environment

Personal protection: Protective work clothing

Inhalation: Use suitable respirator when high concentrations are present

Hands and skin: Hand protection is not required

Eyes: Wear safety goggles with side protection or full-face protection

(Contd. on page 5)



**Product name:** Copper, >99.9% pure in various forms  
**Document Nr.:** SDS00170CU5704

**Date:** October 5<sup>th</sup>, 2022  
**Version:** 4.0

Page 6 of 10

(Contd. of page 5)

## 10.4 Conditions to avoid

Avoid creating dust or accumulating dust or fine particles

## 10.5 Incompatible materials

Sulfuric acid, Chlorine, Oxidising agents, Fluorine, Nitrides, Halogen compounds, Alkali oxides.

## 10.6 Hazardous decomposition products

Metal oxide fumes

## Section 11: Toxicological information

### 11.1. Information on toxicological effects

#### Information hazard classes as defined in Regulation (EC) Nr. 1272/2008

<b>Inhalation:</b>	Not classified
<b>Skin contact:</b>	Not classified
<b>Eye contact:</b>	Powder – irritant effect
<b>Sensitisation:</b>	Not classified
<b>Germ cell mutagenicity:</b>	Not classified
<b>Carcinogenicity:</b>	Not classified
<b>Reproductive toxicity:</b>	Not classified
<b>Specific target organ toxicity – single exposure:</b>	Not classified
<b>Specific target organ toxicity – repeated exposure:</b>	Not classified

#### Toxicological data:

No toxicological data available

#### Symptoms related to the physical, chemical and toxicological characteristics

<b>If swallowed:</b>	Data are not available
<b>If in eyes:</b>	Dust can cause eye irritation
<b>If inhaled:</b>	Data are not available
<b>If on skin:</b>	Data are not available
<b>Other information:</b>	Health effects are not known

(Contd. on page 7)

**Product name:** Copper, >99.9% pure in various forms  
**Document Nr.:** SDS00170CU5704

**Date:** October 5<sup>th</sup>, 2022  
**Version:** 4.0

Page 7 of 10

---

(Contd. of page 6)

**11.2. Endocrine disrupting properties**

Not listed

**11.3. Information on other hazards**

There is no additional information

**Section 12: Ecological information****12.1. Aquatic toxicity**

Shall not be classified as hazardous to the aquatic environment.

**12.2 Persistence and degradability**

No data available

**12.3 Bio-accumulative potential**

No data available

**12.4 Mobility in soil**

No data available

**12.5 Results of PBT and vPvB assessment**

No data available

**12.6 Endocrine disrupting properties**

Not listed

**12.7 Hazardous decomposition products**

No information available

(Contd. on page 8)

**Product name:** Copper, >99.9% pure in various forms  
**Document Nr.:** SDS00170CU5704

**Date:** October 5<sup>th</sup>, 2022  
**Version:** 4.0

Page 8 of 10

(Contd. of page 7)

## Section 13: Disposal considerations

### 13.1. Waste treatment methods

**Product:** This material and its container must be disposed of in a safe way. Do not discharge into drains or the environment, dispose to an authorised waste collection point.

**National regulations:** Disposal should be in accordance with local, state or national legislation.

## Section 14: Transport information

### 14.1. UN number

UN-number: N/A

### 14.2 UN proper shipping name

Proper shipping name: N/A

### 14.3 Transport hazard class(es)

**Class:** N/A  
**ADR/RID-Classification code:** N/A

### 14.4 Packing group

Packing: N/A

### 14.5 Incompatible materials

**ADR/RID- Environmentally hazardous:** N/A  
**IMDG-Marine pollutant:** N/A  
**IATA/ICAO-Environmentally hazardous:** N/A

### 14.6 Special precautions for user

ADR/RID-Tunnel code: N/A

(Contd. on page 9)



**Product name:** Copper, >99.9% pure in various forms  
**Document Nr.:** SDS00170CU5704

**Date:** October 5<sup>th</sup>, 2022  
**Version:** 4.0

Page 9 of 10

IMDG-Ems: N/A  
IATA/ICAO-PAX: N/A  
IATA/ICAO-CAO: N/A

(Contd. of page 8)

## 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC code

Not applicable

## Section 15: Regulatory information

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

**Regulation 649/2023/EA concerning the export/import of hazardous chemicals (PIC):** Not listed

**Regulation 1005/2009/EC on substances that deplete the ozone layer (ODS):** Not listed

**Regulation 850/2004/EC on persistent organic pollutants:** Not listed

**Restrictions according to REACH, Annex XVII:** Not listed

**Restrictions according to REACH, Title VIII:** None

**List of substances subject to authorization (REACH, Annex XIV)/SVHC – candidate list:** Not listed

### 15.2 Chemical safety assessment

No information available

## Section 16: Other information

### RoHS Directive Compliant

This product is fully compliant with the directive 2100/65/EU Annex II (RoHS). It does not contain any lead, cadmium, mercury, hexavalent chromium, PBB's or PBDE's.

### WEEE

This product is not a piece of electrical or electronic equipment, and it therefore not governed by Directive 2002/96/EC on waste electrical and electronic equipment (WEEE)

### Abbreviations:

Asp. Tox	Aspiration hazard
Carc.	Carcinogenicity
Exp.	Exposure

(Contd. on page 10)

# Safety Data Sheet

Regulation EC Nr. 1907/2006 Art.31

**Product name:** Copper, >99.9% pure in various forms

**Date:** October 5<sup>th</sup>, 2022

**Document Nr.:** SDS00170CU5704

**Version:** 4.0

Page **10** of **10**

(Contd. of page 9)

Flam.	Flammable
GHS	Global Harmonised System of Classification of Labelling Chemicals
Irrit.	Irritant
N/A	Not applicable
N/E	Not estimated
NOEC	No observed effect concentration
LC50	Lethal dose single exposure to causing 50% lethality
LD50	Lethal dose 50% corresponds to causing 50% lethality during a specific time
PBT	Persistent Bio-accumulative and Toxic
WEL	Workplace Exposure Limit
Repr.	Reproductive toxicant
RoHS	Restriction of Hazardous Substance
vPvB	very Persistent and very Bio-accumulative
WEEE	Waste Electrical and Electronic Equipment

This product should be stored, handled and used in accordance with good industrial hygiene practices and in accordance with any legal regulation.

The information contained herewith is based on the present state of our knowledge and is intended to describe the product from the point of view of safety requirements. It does not guarantee any specific properties.

It is the responsibility of the user to query and verify any information seeming suspect or where doubt on the validity may exist. The buyer assumes all responsibility of using and handling the product in accordance with local, state, federal and international regulations.

End of document