Materials Safety Data Sheet

Copper Powder

1. Product and Company Identification

Product Name: Copper
Formula: Cu
CAS: 7440-50-8
EC No.: 231-159-6
Synonyms: None

Recommended Use: Laboratory chemicals, Scientific research
Uses advised against: No specific uses advised against have been identified.

Supplier: UltraPurMat Group Co., Ltd
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Tel: +86-29-88993870
Email: sales@ulpmat.com
Website: www.ulpmat.com

24-Hour Emergency Contact: +86-13572830939

2. Hazards Identification

Classification of the substance or mixture
Classification according to Regulation (EC) No 1272/2008 (CLP).
Flammable solids Category 1 (H228)
Acute aquatic toxicity Category 1 (H400)
Chronic aquatic toxicity Category 1 (H410)

GHS Label elements, including precautionary statements
Pictogram:



Signal Word: Danger
Hazard statement(s):
H228 Flammable solid.
H400: Very toxic to aquatic life.
H410: Very toxic to aquatic life with long lasting effects.
Precautionary Statement(s):
P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ventilating/lighting/equipment.
P273 Avoid release to the environment.
P280 Wear protective gloves/eye protection/face protection.
P370+P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
P391 Collect spillage.
P501 Dispose of contents/container to an approved waste disposal plant.

Other hazards:
This product does not contain any known or suspected endocrine disruptors.

3. Composition

Components	CAS	Classification (H)	Concentration
Copper (Cu)	7440-50-8	H228, H400, H410	⩽100%

4. First Aid Procedures

Description of first aid measures
General Treatment: If symptoms persist, call a physician.
Inhalation: Remove victim to fresh air. If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions.
Ingestion: Make victim drink water (two glasses at most). Seek medical attention if you feel unwell.
Skin: Take off immediately all contaminated clothing. Rinse skin with water/shower. Seek medical attention.
Eyes: Rinse with pure water for at least 15 minutes. Remove contact lenses, if present and easy to do. Seek medical attention.
Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11.
Indication of any immediate medical attention and special treatment needed
No data available

5. Firefighting Measures

Extinguishing media

Extinguishing Media: Dry sand, Class D dry powder.

Unsuitable extinguishing media: Carbon dioxide (CO_2), water, ABC dry powder.

Special hazards arising from the substance or mixture

Copper oxides.Flammable. Ambient fires may release harmful vapors.

Advice for firefighters

Use full-face, self-contained breathing apparatus with full protective clothing to prevent contact with skin and eyes. See section 10 for decomposition products.

Further information

No data available

6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid dust formation. Avoid breathing Vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.

For personal protection see section 8.

Environmental precautions

Prevent product from contacting water or entering drains.

Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal. Remove all ignition sources. Avoid generating dust clouds. Use non-sparking tools for collection.

Reference to other sections

For disposal see section 13.

7. Handling and Storage

Precautions for safe handling

Ensure adequate ventilation. Avoid ingestion and inhalation. Avoid formation of dust. Do not get in eyes, on skin, or on clothing. Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. For precautions see section 2.

Conditions for safe storage, including any incompatibilities

Store in a cool, dry and well-ventilated place in a tightly sealed container. Store under dry, inert atmosphere if feasible.

Storage class Class 4.1B

Store apart from materials and conditions listed in section 10.

Specific end use(s)

Apart from the uses mentioned in section 1 no other specific uses are stipulated

8. Exposure Controls/Personal Protection

Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Protective gloves (The selected protective gloves have to satisfy the specifications of Regulation (EU) 2016/425 on personal protective equipment and the standard EN 374 derived from it.)

Body Protection

Protective work clothing. Wear close-toed shoes and long sleeves/pants.

Respiratory protection

Use a particle filter respirator (P2 or P3 according to EN 143) when dust is generated, as a backup to engineering controls. Risk assessment should be performed to determine if purifying respirators are appropriate. Only use equipment tested and approved under appropriate government standards

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

9. Physical and Chemical Characteristics

Information on basic physical and chemical properties

Appearance

Form: Powder

Colour:Reddish-brown

Odor: Odorless

pH: No data available

Melting point/range: 1083 °C

Boiling point/range: 2567 °C

Flash point: No data available

Evaporation rate: No data available

Flammability (solid, gas):No data available

Upper/lower flammability or explosive limits: No data available

Vapor pressure: No data available

Relative density: 8.94 g/cm^3

Water solubility: 0.001 g/l at 30°C - insoluble

Partition coefficient: n-octanol/water: not relevant (inorganic)

Auto-ignition temperature: No data available

Decomposition temperature: No data available

Viscosity: No data available

Other information

Molecular formula:Cu

Molar weight: 63.546 g/mol

10. Stability and reactivity

Reactivity

Fine powder may form combustible dust-air mixtures under certain conditions.

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

No data available.

Conditions to avoid

Heat, flames and sparks.

Incompatible materials

Oxidizing agents.

Hazardous decomposition products

In the event of fire: see section 5.

11. Toxicological Information

Information on toxicological effects

Acute toxicity

Oral: LD50 - rat (male/female) - 300-500 mg/kg bw.

Dermal: LD50 - rat (male/female) - >2000 mg/kg bw.

Inhalation: LC50 - rat (male/female) - >5.11 mg/L air.

Skin corrosion/irritation

No data available

Serious eye damage/eye irritation

No data available

Respiratory or skin sensitisation

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

No data available.

Reproductive toxicity

No data available

Specific target organ toxicity -single exposure

No data available

Specific target organ toxicity -repeated exposure

No data available

Aspiration hazard

No data available

Additional Information

Endocrine Disrupting Properties: Assess endocrine disrupting properties for human health. This product does not contain any known or suspected endocrine disruptors.

12. Ecological Information

Toxicity

Toxicity to fish: LC50 - Pimephales promelas - 0.193 mg/L - 96h.

Toxicity to daphnia and other aquatic invertebrates: EC50 - Daphnia - 0.033-0.792 mg/L - 48h.

Toxicity to algae: ErC50 - Chlorella vulgaris (Freshwater algae) - 0.06-0.9 mg/L - 72h.

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Results of PBT and vPvB assessment

In accordance with Annex XIII of the REACH Regulation, inorganic substances do not require assessment.

Other adverse effects

This product does not contain any known or suspected endocrine disruptors.

13. Disposal Considerations

Waste treatment methods

Dispose of in accordance with all applicable local and national regulations. Use recovery/recycling where feasible.Disposal by licensed waste contractor in accordance with local regulations. Empty containers may contain hazardous residues. Do not cut, puncture or weld on or near to the container. Labels should not be removed from containers until they have been cleaned. Contaminated containers must not be treated as household waste.

14. Transportation Information

ADR

UN Number: UN 3089

Proper Shipping Name: Metal powders, flammable, n.o.s. (Copper Powder)

Hazard Class: 4.1

Packing Group: III

IMDG

UN Number: UN 3089

Proper Shipping Name: Metal powders, flammable, n.o.s. (Copper Powder)

Hazard Class: 4.1

Packing Group: III

IATA

UN Number: UN 3089

Proper Shipping Name: Metal powders, flammable, n.o.s. (Copper Powder)
Hazard Class: 4.1
Packing Group: III

15. Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture
Regulation (EC) 1907/2006, REACH, Annex XIV list of substances subject to authorisation: Not applicable
Regulation (EC) 1907/2006, REACH, Annex XVII restrictions on the manufacture, placing on the market and use of certain dangerous substances: Not applicable
Regulation (EC) 1005/2009 on substances that deplete the ozone layer: Not applicable
Regulation (EU) 2019/1021 on persistent organic pollutants (POPs): Not applicable, subject to confirmation of regulatory applicability.
Chemical Safety Assessment
No Chemical Safety Assessment has been carried out for this substance

16. Other information

Revision Date
2026-09-29
Version
1.0

Disclaimer
The information of this safety data sheet is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products.