

MSDS – Copper Metal Powder

MATERIAL SAFETY DATA SHEET (MSDS) / SAFETY DATA SHEET (SDS)

1. Identification

Product Name: Copper Metal

Synonyms: Copper, Cu, Copper Sheet, Copper Wire, Copper Granules

Chemical Formula: Cu

CAS Number: 7440-50-8

Recommended Use: Electrical conductors, alloys, manufacturing, research, construction

Supplier: Generic / Not specified

Emergency Contact: Local emergency services

2. Hazard(s) Identification

GHS Classification:

Not classified as hazardous in solid metallic form

Potential Hazards:

Copper dusts or fumes (from cutting, welding, grinding, or melting) may be hazardous if inhaled

Molten copper may cause severe thermal burns

GHS Label Elements (Dust/Fume Exposure):

Signal Word: Warning

Hazard Statements:

May cause respiratory irritation

Harmful if swallowed in large amounts

Precautionary Statements:

Avoid breathing dust/fumes

Wash hands after handling

Use appropriate ventilation

3. Composition / Information on Ingredients

Component CAS Number Concentration

Copper (Cu) 7440-50-8 ≥ 99%

4. First-Aid Measures

Inhalation:

Remove person to fresh air

Seek medical attention if symptoms persist

Skin Contact:

Wash with soap and water

For molten copper burns, seek immediate medical attention

Eye Contact:

Rinse cautiously with water for several minutes

Remove contact lenses if present

Ingestion:

Rinse mouth

Do not induce vomiting

Seek medical advice if large amounts are ingested

5. Fire-Fighting Measures

Suitable Extinguishing Media:

Dry chemical, sand, or Class D fire extinguisher (for metal fires)

Unsuitable Media:

Water on molten copper

Special Hazards:

Copper fumes may form at high temperatures

Protective Equipment:

Self-contained breathing apparatus (SCBA)

6. Accidental Release Measures

Personal Precautions:

Avoid dust generation

Use protective equipment

Cleanup Methods:

Collect mechanically (sweeping or vacuuming)

Avoid dispersing dust into the air

7. Handling and Storage

Handling:

Avoid creating dust or fumes

Use local exhaust ventilation when machining

Storage:

Store in a dry, well-ventilated area

Keep away from strong acids and oxidizers

8. Exposure Controls / Personal Protection

Exposure Limits:

OSHA PEL (Copper dusts & mists): 1 mg/m³

OSHA PEL (Copper fumes): 0.1 mg/m³

Engineering Controls:

Local exhaust ventilation

Personal Protective Equipment (PPE):

Respiratory protection if dust/fumes present

Safety glasses

Protective gloves

9. Physical and Chemical Properties

Appearance: Reddish-brown solid metal

Odour: Odourless

Melting Point: 1085 °C (1985 °F)

Boiling Point: 2562 °C (4644 °F)

Density: 8.96 g/cm³

Solubility: Insoluble in water

10. Stability and Reactivity

Stability: Stable under normal conditions

Reactivity:

Reacts with strong acids and oxidizers

Hazardous Decomposition Products:

Copper oxides

11. Toxicological Information

Routes of Exposure: Inhalation, ingestion

Acute Effects:

Inhalation of fumes may cause metal fume fever (flu-like symptoms)

Chronic Effects:

Prolonged exposure to copper dusts may cause respiratory irritation

12. Ecological Information

Toxic to aquatic organisms in large quantities

Not biodegradable

13. Disposal Considerations

Dispose of in accordance with local, regional, and national regulations

Recycling is strongly recommended

14. Transport Information

Not regulated as a hazardous material for transport

15. Regulatory Information

OSHA: Regulated for airborne exposure

TSCA: Listed

16. Other Information

Prepared Date: 12th August 2025

Disclaimer: This MSDS is provided for informational purposes only and is based on general data for copper metal. It does not represent a guarantee of product properties.