

# Hillsdale Terminal

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## MATERIAL SAFETY DATA SHEET

### I PRODUCT IDENTIFICATION

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<b>Trade Name:</b>	Copper	<b>Synonym:</b>	Copper Metal
<b>Chemical Nature:</b>	Metallic Element	<b>Formula:</b>	Cu
<b>CAS#:</b>	7440-50-8	<b>Formula Weight:</b>	63.55

### II HAZARDOUS INGREDIENTS

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<u>Hazardous Components</u>	<u>%</u>	<u>OSHA/PEL</u>	<u>ACGIH/TLV</u>
Copper	0-100	1 mg/m <sup>3</sup> (dust); 0.1 mg/m <sup>3</sup> (fume)	1 mg/m <sup>3</sup> (dust); 0.2 mg/m <sup>3</sup> (fume)

**HMIS Ratings (Powder):** Health: 1      **Flammability :** 2      **Reactivity:** 1

**HMIS Ratings (Solid):** Health: 0      **Flammability :** 0      **Reactivity:** 0

### III      PHYSICAL DATA

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<b>Boiling Point 760 mm Hg :</b>	2595 °C	<b>Melting Point:</b>	1083 °C
<b>Specific Gravity :</b>	8.94 g/cc	<b>Vapor Density:</b>	N/A
<b>% Volatiles by Weight :</b>	N/A	<b>Solubility in H<sub>2</sub>O:</b>	Insoluble
<b>Appearance and Odor:</b>	Reddish color, no odor		

### IV      FIRE AND EXPLOSION HAZARDS DATA

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**Flash Point (Method used):** N/A

**Autoignition Temperature:** N/A

**Flammable Limits :** Upper: N/A Lower: N/A

**Extinguishing Media :** (Powder) Do not use water. Use special powder for metal fires. (Solid) Product is not flammable. Use suitable extinguishing media for surrounding materials and type of fire.

**Special Firefighting Procedures :** Firefighters must wear full face, self-contained breathing apparatus with full protective clothing to prevent contact with skin and eyes.

**Unusual Fire & Explosion Hazard :** Dust may form explosive mixture with air. Fire may release toxic metal oxide fume.

## V HEALTH HAZARD INFORMATION

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### Effects of Exposure:

To the best of our knowledge the acute and chronic toxicity of copper is not fully known.

In animals, inhalation of copper dust has caused hemolysis of the red blood cells, deposition of hemofuscin in the liver and pancreas, and injury to the lung cells; injection of the dust has caused cirrhosis of the liver and pancreas, and a condition closely resembling hemochromatosis or bronzed diabetes (Sax, Dangerous Properties of Industrial Materials, eighth edition).

Copper compounds may be irritatin to the skin, eyes and respiratory tract. They may cause metal fume fever, hemolysis of the red blood cells and injury to the liver, lungs, kidneys and pancreas. Ingestion may also cause vomiting, gastric pain, dizziness, anemia, cramps, convulsions, shock, coma and death. Copper solutions may cause sensitization reactions.

### Acute Effects:

**Inhalation:** If inhaled, can cause sneezing, nausea, weakness, and fever.

**Ingestion:** Can cause nausea, vomiting, and diarrhea.

**Skin:** Contact can cause irritation and dermatitis.

**Eye:** Contact can cause irritation.

**Carcinogenicity :** NTP: No, IARC: No, Z List: No, OSHA Reg: No

### Reproductive Effects

**Target Organs:** Respiratory system, lungs, skin, liver, kidneys.

**Medical Conditions Generally Aggravated by Exposure :** Wilson's disease

**Primary Routes of Entry:** Inhalation, ingestion, skin contact, eye contact

## **EMERGENCY AND FIRST AID PROCEDURES**

**INHALATION:** Remove to fresh air, keep warm and quiet, give oxygen if breathing is difficult. Seek immediate medical advice.

**INGESTION:** Consult a physician immediately.

**SKIN:** (Powder) Wash affected skin with soap and water for 15 minutes. Seek medical advice. Solid generally does not irritate the skin.

**EYE**

## **VI REACTIVITY DATA**

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**Stability:** Stable

**Conditions to Avoid:** Heat, dusting

**Incompatibility (Material to Avoid) :** Strong acids, bromates iodates .

**Hazardous Decomposition Products :** Nitrogen oxide if reacted with nitric acid. Copper fumes.

**Hazardous Polymerization :** Will not occur.

## **VII SPILL OR LEAK PROCEDURES**

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**Steps to Be Taken in Case Material Is Released or Spilled:** Wear protective clothing, goggles and a NIOSH approved respirator. Sprinkle moderately with damp sand and collect for disposal avoiding dust clouds as much as possible.

**Waste Disposal Method**

**VIII SPECIAL PROTECTION INFORMATION**

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**Respiratory Protection (Specify Type):** Use supplied air respiratory protection in confined or enclosed spaces if needed.

**Ventilation:** Local exhaust; minimum face velocity of 60 fpm

**Protective Gloves :** Chemical resistant gloves.

**Eye Protection :** Safety Glasses

**Other Protective Clothing or Equipment:** Apron

**IX SPECIAL PRECAUTIONS**

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**Precautions to Be Taken in Handling and Storage**

creating dust clouds. Keep ignition sources away. Protect against electrostatic charges. Fumes can combine with air to form an explosive mixture. Do not store together with oxidizing and acidic materials.

**Work Practices** : Implement engineering and work practice controls to reduce and maintain concentration of exposure at low levels. Use good housekeeping and sanitation practices. Do not use tobacco or food in work area. Wash thoroughly before eating and smoking. Do not blow dust off clothing or skin with compressed air. Maintain eyewash capable of sustained flushing, safety drench shower and facilities for washing.

**SARA Title III Hazard Categories**: Acute: Yes    Chronic: Yes    Flammability : No    Pressure: No    Reactivity: No

**Extremely hazardous Substance** : No

**CERCLA Hazardous Substance**: Yes (contains Cu RQ=5000 lbs)

**SARA 313 Toxic Chemicals**: Yes

**TSCA Inventory**: Yes

The above information is believed to be correct, but does not purport to be all inclusive and shall be used only as a guide. Hillsale Terminal shall not be held liable for any damage resulting from handling or from contact with the above product.

Date: January 2014