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## MATERIAL SAFETY DATA SHEET

### Section 1- PRODUCT IDENTIFICATION

COMPOSITION <b>Cu</b>	PRODUCT NAME <b>Copper</b>
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### Section 2- HAZARDOUS INGREDIENTS

Note: Products under normal conditions do not represent an inhalation, ingestion or contact health hazard.

MATERIAL OR COMPONENT	CAS NUMBER	WT%	EXPOSURE LIMITS	
			OSHA PEL (Mg/M3)	ACGIH TLV(MG/M3)
<b>Cu</b>	<b>7440-50-8</b>	<b>100</b>	<b>1mg/m<sup>3</sup></b>	<b>1mg/m<sup>3</sup> (dust &amp; mist)</b>

### Section 3- PHYSICAL DATA

MATERIAL IS (AT NORMAL CONDITIONS) <input type="checkbox"/> Liquid <input type="checkbox"/> Solid <input type="checkbox"/> Gas <input type="checkbox"/> Other	APPEARANCE AND ODOR <b>Odorless reddish, orange pieces or powder.</b>
MELTING POINT (BASE METAL)  <b>1083° C</b>	SPECIFIC GRAVITY  <b>8.93gm/cc</b>

### Section 4- FIRE AND EXPLOSION

Flash Point (Method Used) <b>N/A</b>	Flammable Limits <b>N/A</b>	LEL <b>N.A.</b>	UEL <b>N.A.</b>
EXTINGUISHING MEDIA <b>Agents for metal fires such as dolomite, graphite, MET-L-X, TEC- Do not use water!</b>			
SPECIAL FIRED FIGHTING PROCEDURES <b>Wear a self-contained breathing apparatus and full protective clothing to prevent contact with skin and eyes.</b>			
UNUSUAL FIRE AND EXPLOSION HAZARDS <b>Powder below 15 micron size range is mildly explosive in air. Not easily ignited by sparks. Material may emit toxic fumes if involved in a fire.</b>			

### Section 5- REACTIVITY DATA

STABILITY <b>Stable</b>	INCOMPATABILITY (MATERIALS TO AVOID) <b>H<sub>2</sub>S, peroxides, strong acids, magnesium, acetylene &amp; acetylenic compounds.</b>
CONDITIONS TO AVOID <b>None</b>	
HAZARDOUS DECOMPOISTION PRODUCTS <b>NO<sub>2</sub> in contact with nitric acid, Cu<sub>2</sub>O</b>	

## Section 6- HEALTH HAZARD GUIDE

MAJOR EXPOSURE HAZARD

**Inhalation**  **Skin**  **Skin Absorption**  **Eye Contact**  **Ingestion**

**INHALATION:** Fumes and dusts of copper can cause irritation of the upper respiratory tract, metallic taste in mouth, nausea and mental fume fevers. May also cause nasal congestion, perforation and ulceration of the nasal septum pharyngeal congestion.

**DERMAL/EYE CONTACT:** Repeated skin contact has been reported to cause hardening of the hands. Fine powders are mild irritants. May also cause eczematous dermatitis.

**OTHER:** Ingestion of copper metal may cause G.I. disturbances, vomiting usually occurs promptly. Chronic exposure may damage brain tissue, liver and kidneys. Copper has been implicated in some forms of cancer, but studies with lab animals have not yet proven this link.

EMERGENCY & FIRST AID PROCEDURES

**INHALATION:** Remove from exposed area to fresh air. Restore and/or support breathing as required.

**INGESTION:** Give 1-2 glasses of water and induce vomiting.

**SKIN CONTACT:** Wash affected area with soap and water.

## Section 7- SPILL OR LEAK PROCEDURES

SPILL OR LEAK PROCUDRES

**Wear a self contained breathing apparatus and full protective clothing. Vacuum up spill and place in a container for proper disposal.**

WASTE DISPOSAL METHODS

**Dispose of in accordance with applicable federal, state and local regulations.**

## Section 8- SPECIAL PROTECTION

RESPIRATORY

**NIOSH approved dust-mist respirator approved for dusts with TLV's not less than 0.05mg/m<sup>3</sup>.**

VENTILATION

**Local exhaust: Maintain exposure below TLV. Mechanical ventilation not advised.**

EYE PROTECTION & PROTECTIVE CLOTHING

**Wear protective clothing to prevent skin and clothing contamination. Use neoprene gloves.**

## Section 9- SPECIAL PRECAUTIONS

**Store in closed containers away from incompatible materials. Wash hands and face thoroughly after handling and before eating or smoking.**

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