STANFORD ADVANCED MATERIALS

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Stanford Advanced Materials
We not only sell products, we provide satisfactions.
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Current Version: 2.0
Revision Date: Sep 5, 2012

Material Safety Data Sheet

Identity: Copper Formula: Cu

SECTION I - GENERAL INFORMATION

Manufacturer: Stanford Advanced Materials (SAM)

The information below is believed to be accurate and represents the best information available to SAM. However, SAM makes no warranty, expressed or implied with respect to such information and assumes no liability resulting from its use.

SECTION II - HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

Molecular weight: 63.546

CAS #	OSHA PEL	ACGIH TLV	%
7440-50-8	1.0mg/m3	1.0mg/m3	>98.75%

SECTION III – PHYSICAL/CHEMICAL CHARACTERISTICS

Physical States: Solid

Boiling Point: 2595.0 ℃
Melting Point: 1083.0 ℃
Evaporation Rate: N/A
Solubility in water: Insoluble

Density: 8.954
Vapor Pressure (vs. air or mmHg): 1mmHg at 1628 ℃
Vapor Density (vs. air=1): Not volatile

Appearance and odor: Reddish powder and pieces, odorless

SECTION IV - FIRE AND EXPLOSION HAZARD DATA:

Flash Point: Above 700 ℃ *Method Used*: Non-flammable *Explosive Limits*: LEL: N/A UEL: N/A

Extinguishing Media: Graphite, dolomite, or sodium chloride DO NOT USE WATER

Special Fire Fighting Procedures:

Firefighters must wear full face, self-contained breathing apparatus with full protective clothing to prevent contact with skin and eyes. Fumes from fire are hazardous. Isolate runoff to prevent environmental pollution.

Unusual Fire and Explosion Hazards: None recorded

SECTION V - REACTIVITY DATA

Stability: Stable until ignition temperature of 700 ℃
Conditions to Avoid (stability): None specified
Incompatibility: Explosively incompatible with sodium azide; dusts may react with acetylene gas to form copper acetlyides, which are sensitive to shock; copper mists may react with magnesium to form flammable hydrogen

Hazardous Decomposition or Byproducts: None identified
Hazardous Polymerization: Will not occur

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Conditions to avoid (hazardous polymerization): None identified

SECTION VI - HEALTH HAZARD DATA

Copper is an essential element of mammalian metabolism. Copper metal has little of no serious toxicity. The most common adverse effect associated with copper is the acute inhalation of copper fume during refining or welding. Results of overexposure usually appear within 4 to 8 hours and last only about 24 to 48 hours/

Health Hazards (Acute and Chronic):

Inhalation: Mechanical irritation expected. May cause metal fume fever with chills and nausea coupled with respiratory irritation

Ingestion No significant health hazards however nausea and vomiting may occur if large quantities are ingested

Skin: May cause irritation and redness

Eye: May cause irritation, redness and watering

Carcinogenicity: NTP? No IARC Monographs? No OSHA Regulated? No

Medical Conditions Aggravated by Exposure: May irritate pre-existing reparatory disorder or allergies

Emergency and First Aid Procedures:

Inhalation: Remove victim to fresh air, keep warm and quiet, and give oxygen if breathing is difficult; seek medical attention

Ingestion: Give 1-2 glasses of milk or water and induce vomiting, seek medical attention. Never induce vomiting or give anything by mouth to an unconscious person

Skin: Remove contaminated clothing, brush material off skin, wash affected area with mild soap and water, and seek medical attention if symptoms persist

Eye: Flush eyes with lukewarm water, lifting upper and lower eyelids for at least 15 minutes and seek medical attention

SECTION VII - PRECAUTIONS FOR SAFE HANDLING AND USE

Steps to be taken in case material is released or spilled:

Wear appropriate respiratory and protective equipment specified in section VIII. Isolate spill area, provide ventilation and extinguish sources of ignition. Collect powder in a manner that minimizes further dust generation, such as using a high efficiency particulate absolute (HEPA) air filter and place in a closed container for proper disposal. Liquids containing powder should be absorbed in vermiculite, dry sand, or earth before disposal.

Waste disposal method:

Keep out of sewers and waterways. Dispose of in accordance with state, local, and federal regulations.

Hazard Label Information:

Store in cool, dry area of -18 °to 83 ℃ and in tightly sealed container. Wash thoroughly after handling.

SECTION VIII - CONTROL MEASURES

Protective Equipment Summary (Hazard Label Information):

NIOSH approved respirator, impervious gloves, dust proof safety glasses, clothes to prevent contact.

Ventilation:

Local Exhaust: To maintain concentration at low exposure levels.

Mechanical (General): Recommended.

Work/Hygienic/Maintenance 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 or smoking. Do not blow dust off clothing or skin with compressed air.

Please be advised that N/A can either mean Not Applicable or No Data Has Been Established