

15117 Washington Highway
P. O. Box 1055 Ashland VA

Phone: (804) 227-3381
Fax: (804) 227-3404

CHEMTREC: (800) 424-9300
Poison Center: (800) 562-8236

Safety Data Sheet

Section 1: Product and Company Information

Product Name: Copper
Company: Fine Metals Corporation
15117 Washington Hwy
Ashland, VA 23005

For more information call: 1-804-227-3381
(Monday - Friday 9-4:30)

In case of emergency: Transportation (Chemtrec) 1-800-424-9300
Poison Center: 1-800-562-8236
(24 hours/day, 7 days/week)

Section 2: HAZARD IDENTIFICATION

This material is not considered hazardous and is not classified under GHS

Emergency Overview

Emergency This substance is not hazardous is is not classified under GHS.

Hazard Statements: Negligible fire or explosion hazard in form sold (bulk form) but may form explosive dust-air mixture when in powdered form.

Precautionary Statements:

Prevention: Observe good industrial hygiene practices.

Response: Wash hands after handling.

Appearance/Form:

Form: Solid
Color: Metallic
Odor: None

Hazard Summary: Toxic fumes can be produced in fire. Liquid copper explodes on contact with water. High concentrations of finely divided copper particles in the air may present an explosion hazard. Finely divided copper with finely divided halogenate may explode with heat, percussion or light friction.

Acute Health Effects

Skin: May cause skin irritation.

Eyes: May cause irritation.

Ingestion: Low ingestion hazard in normal use but ingestion of copper can cause nausea, vomiting, abdominal pain, metallic taste, and diarrhea. Ingestion of large doses may cause stomach and intestine ulceration, jaundice, and kidney and liver damage.

Inhalation: Dust or vapor irritating to respiratory tract. Inhalation of copper fumes may cause irritation of the respiratory tract, congestion of nasal mucus membranes, ulceration and perforation of the nasal septum, and pharyngeal congestion. Inhalation of copper fumes may give rise to metal fume fever (high temperature, metallic taste, nausea, coughing, general weakness, muscle aches, and exhaustion (may not become evident for several hours). Not hazardous as a solid.

Chronic Exposure: Prolonged or repeated exposure to copper can discolor skin and hair and irritate the skin; may cause mild dermatitis, runny nose, and irritation of the mucous membranes. Repeated inhalation can cause chronic respiratory disease.

Aggravated Medical Conditions: Persons with pre-existing skin disorders or impaired liver, kidney, or pulmonary function or pre-existing Wilson's disease may be more susceptible to the effects of this material.

Carcinogenicity: Not listed as a human carcinogen.

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Section 3: Composition/Information on Ingredients

Chemical Name	CAS-No.	Reach #
Copper	7440-50-8	01-2119480154-42-0051 231-159-6
		>99 wt%

Section 4: FIRST AID MEASURES

Eye Contact: Flush with plenty of water for at least 15 minutes. Consult a physician.

Skin Contact: Wash off immediately with plenty of water for at least 15 minutes. Take off contaminated clothing and shoes immediately. Wash contaminated clothing before re-use. Call a physician if irritation develops or persists.

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Use oxygen as required, provided a qualified operator is present. Call a physician.

Ingestion: Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Call a physician.

Section 5: FIRE FIGHTING MEASURES

Suitable extinguishing Media: Use dry chemicals appropriate for extinguishing metal fires.

Unsuitable extinguishing media: Do not use water.

Specific hazards during firefighting: Dusts at sufficient concentrations can form explosive mixtures with air. May form toxic metal fumes in fire.

Special protective equipment for firefighters: In the event of fire and/or explosion do not breathe fumes. Wear self-contained breathing apparatus and protective suit.

Section 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions: Ventilate area of leak or spill. Wear appropriate personal protective equipment. Spills: Sweep up and containerize for reclamation or disposal. Vacuuming or wet sweeping may be used to avoid dust dispersal. Do not use compressed air.

Environmental Precautions: This material is a water pollutant and should be prevented from contaminating soil or from entering sewage and drainage systems and bodies of water.

Methods for Cleaning Up: Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Eliminate all ignition sources if safe to do so. Avoid formation of dust. Provide appropriate exhaust ventilation where dust is formed. Avoid breathing (dust, vapor, mist, gas). Practice good chemical hygiene during and after use. Avoid release to the environment.

Section 7: HANDLING AND STORAGE

Handling: Isolate from incompatible substances. Containers of this material may be hazardous when empty since they retain product residue (dust, solids); observe all warnings and precautions listed for the product. Use of approved respirators is required for applications where adequate ventilation cannot be provided. Activities which generate dust or fume should be avoided. When melted, the temperature should be kept as low as possible.

Storage: Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Avoid exposure to air and moisture. Store away from oxidizers such as perchlorates, peroxides, permanganates, chlorates, and nitrates.

Section 8: EXPOSURE CONTROL/PERSONAL PROTECTION

Engineering Controls: Use process enclosures, local exhaust ventilation or other means to maintain employee exposure as far below limits as possible

Component Exposure Limits

Component	Location	Value
Copper	USA AGIH TLV TWA	0.2
	USA OSHA OEL TWA	0.1
	USA NIOSH REL TWA	1
	Canada- AB, BC, ON, PQ	0.2
	Europe TWA	0.2

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Austria, Denmark, Hungary,	0.1
Australia, New Zealand,	0.1
UK WEL TWA	0.2
France VLE	2
France VME	1

Engineering Controls: Local exhaust ventilation is recommended for dust and/or fume generating operations where airborne exposures may exceed permissible air concentrations.

Respiratory Protection: Where airborne exposures may exceed OSHA/ACGIH permissible air concentrations, the minimum respiratory protection recommended is a negative pressure air purifying respirator with cartridges that are NIOSH/MSHA approved against dust, fumes and mists having a TWA not less than 0.05 mg/m3.

Eye/Face: Wear safety glasses or goggles as appropriate to the task performed.

Skin Protection: Protective clothing is recommended for jobs with heavy dust exposure to prevent skin irritation. Contaminated clothing should be removed before leaving plant premises and washed before reuse.

Work Hygienic Practices: Practice good chemical hygiene during and after use.

Comments: None

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Solid

Odor: None

Color: Reddish orange

Melting Point: 1083° C

Boiling Point: 2595° C

Vapor Pressure: 1 @ 1628° C

Vapor Density (air = 1): N/A

Evaporation Rate: N/A

Solubility In Water: Insoluble

Specific Gravity (water = 1): 8.96

Atomic Weight: 63.55

% Volatility By Volume: Finely divided powder reacts violently on contact with oxidizing agents. Hazardous polymerisation does not occur.

Density: 8.96

Section 10: STABILITY AND REACTIVITY

Stability: Stable under ordinary conditions of use and storage. Exposure to moist air results in the formation of a green base carbonate coating.

Incompatible Materials: Contact with hydrogen peroxide may cause violent reactions, contact with acetylene may form unstable acetylides. Copper is incompatible with oxidizers, alkalis, acetylene, chlorine plus oxygen difluoride, phosphorus, nitric acid, potassium peroxide, 1-bromo-2-propyne, sulfur plus chlorates. Reacts violently with ammonium nitrate, bromates, iodates, chlorates, ethylene oxide, hydrozoic acid, potassium oxide, dimethyl sulfoxide plus trichloroacetic acid, hydrogen peroxide, sodium peroxide, sodium azide, sulfuric acid, hydrogen sulfide plus air, and lead azide. A potentially explosive reaction occurs with acetylenic compounds. Copper ignites on contact with chlorine, fluorine (above 121C), chlorine trifluoride, and hydrazinum nitrate (above 70C). An incandescent reaction occurs with potassium dioxide.

Hazardous Decomposition Products: At temperatures above the melting point, metal oxide fumes may be evolved. Reacts with acids and some caustic solutions to form hydrogen.

Possibility of Hazardous Reactions: Finely divided powder reacts violently on contact with oxidizing agents. Hazardous polymerisation does not occur.

Section 11: TOXICOLOGICAL INFORMATION

Acute Toxicity: LD50 and LC50 not available. Inhalation of copper fumes may give rise to metal fume fever (high temperature, metallic taste, nausea, coughing, general weakness, muscle aches, and exhaustion (may not become evident for several hours). Not hazardous as a solid.

Chronic Toxicity: Not hazardous as a solid.

Reproductive Toxicity: Not available

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Mutagenicity: Not available

Carcinogenicity: Not listed as a carcinogen

Other: None

Section 12: ECOLOGICAL INFORMATION

Ecotoxicity: Copper and its compounds have a high acute and chronic toxicity to aquatic life. No data are available on the long or short term effects of copper to plants, birds, or land animals. Copper and its salts are highly soluble in water. The LC50 for copper in the fathead minnow is 12 mg/L. Acid solutions promote mobility and solubility of copper.

Persistence/Degradability: Copper is highly persistent in water, with a half-life greater than 200 days.

Bioaccumulation/Accumulation: Copper bioaccumulates in living organisms.

Mobility in Environment: Acid solutions promote mobility and solubility of copper.

Section 13: DISPOSAL CONSIDERATIONS

Waste Classification: Recycle if possible.

All disposal activities must comply with federal, state, provincial and local regulations.

Section 14: TRANSPORT INFORMATION

US DOT (ground): Not regulated.

ICAO/IATA (air): Not regulated.

IMO/IMDG (water): Not regulated.

Special Provisions: Not regulated.

Section 15: REGULATORY INFORMATION

UNITED STATES

SARA Title III (Superfund Amendments and Reauthorization Act) 313 Reportable Ingredients: No

TSCA (Toxic Substance Control Act) status: Not regulated.

STATE REGULATIONS

The following components appear in one or more of the following states hazardous substances

Component	CAS #	CA	MA	MN	NJ
Copper	7440-50-8	No	Yes	Yes	Yes

California Proposition 65: This product is not known to contain any components for which the State of California has found to cause cancer, birth defects or other reproductive harm.

CANADA

WHMIS (Workplace Hazardous Materials Information System): Not regulated.

Domestic Substance List (Inventory): All components of this product are included in inventory, exempt, or notified.

GENERAL COMMENTS

None

Section 16: OTHER INFORMATION

Information Contact: sds@finemetalscorp.com

Issue Date: 7/3/1999

Revision Date: 1/1/2015

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HMIS® (II)		NFPA	
Health:	0		
Flammability:	0	0	
Reactivity:	0	0	0
PPE:	B		

Ratings range from 0 (no hazard) to 4 (severe hazard)

The information contained in this SDS is believed to be correct, but is not all inclusive and shall be used only as a guide. Fine Metals Corporation shall not be liable for any damage resulting from handling or from contact with the product listed in the SDS. Any comments or questions should be directed to:

Safety Manager
Fine Metals Corporation
15117 Washington Highway
P O Box 1055
Ashland VA 23005
(804) 227-3381

