Copper Alloys

Safety Data Sheet

1. Product and Company Identification

Suppliers and Manufacturers

Lucas Milhaupt, Inc.
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Emergency Phone Number

Chemtrec: 800-424-9300

SDS Number: 205
Product Codes: 40-004, 40-014, 60-101, 60-102, 60-110, 60-111, 60-112, 60-113, 60-114, 60-115, 60-122, 60-985.

Product Use(s): Alloys for brazing and other metallurgical processes

2. Hazards Identification

Classification(s): None applicable

Label Symbol(s): None applicable

Label Signal Word(s): None applicable

Label Hazard Statement(s): None applicable

Label Precautionary Statement(s)

98-99.9% of the products consist of ingredient(s) of unknown acute toxicity.

3. Composition/Information on Ingredients

Ingredient Name	CAS Number	%	Impurities
Copper	7440-50-8	98-99.9	None known
Cupric oxide	1317-38-0	<0.1-1.1	None known

4. First Aid Measures

Eye

Flush affected areas with water for at least fifteen minutes. Seek medical assistance if necessary.

Skin

Remove contaminated clothing. Wash affected area with large quantities of water for at least five minutes. Seek medical attention if necessary. Launder or dry-clean clothing before reuse.

Ingestion

If subject is conscious, induce vomiting. If unconscious or convulsive, seek immediate medical assistance. Do not give anything by mouth to an unconscious or convulsive person.

Inhalation

If signs and symptoms of toxicity are observed, remove subject from area, administer oxygen, and seek medical attention. Keep the subject warm and at rest. Perform artificial respiration if breathing has stopped.

Note to Physician

None of the components are acutely toxic by ingestion, nor are they absorbed through the skin. Extensive or prolonged skin contact may cause dermatitis.

5. Fire Fighting Measures

Fire and Explosion Hazards

These products are non-flammable and non-explosive. If present in a fire or explosion, they may emit fumes of the constituent metals or their oxides.

Extinguishing Media

Use dry chemical. Do not use water.

Fire Fighting Instructions

If fighting a fire in which these products are present, wear a self-contained breathing apparatus with full facepiece operated in pressure-demand or other positive pressure mode.

6. Accidental Release Measures

Methods and Materials

If a finely-divided form of product is spilled, clean up spillage so as to minimize dispersion of dust. Either wet sweeping or vacuuming using HEPA filtration is recommended.

Personal Precautions

Avoid contact with skin, eyes, and mucous membranes.

Environmental Precautions

Prevent spills from entering sewers or contaminating soil.

7. Handling and Storage

Handling Precautions

No special handling precautions are required.

Work and Hygiene Practices

To prevent ingestion following use of the product, wash hands and face before eating, drinking, applying cosmetics, or using tobacco. Remove contaminated clothing or protective equipment before entering eating/drinking areas.

Storage Precautions

Do not store in proximity to incompatible materials (see Section #10).

8. Exposure Controls and Personal Protection

Ingredients - Exposure Limits

Copper and Cupric Oxide

ACGIH TLVs (as Cu): 0.2 mg/m3 TWA (fume); 1 mg/m3 TWA (dusts and mists)
OSHA PELs (as Cu): 0.1 mg/m3 TWA (fume); 1 mg/m3 TWA (dusts and mists)

Ingredients – Biological Limits

Copper and Cupric Oxide
No ACGIH BEI(s) or other biological limit(s)

Engineering Controls

Use dilution or local exhaust ventilation adequate to maintain concentrations of all components and their byproducts to within their applicable standards.

Eye/Face Protection

Wear eye protection adequate to prevent eye contact with finely-divided product and eye injury if products are used with a flame. Plastic-frame spectacles with side shields and filter lenses (shade #3/#4) are recommended.

Skin Protection

Wear appropriate protective gloves and clothing to prevent skin injury if these products are used with a flame and/or for prolonged or repeated contact with finely-divided forms of product. Avoid flammable fabrics.

Respiratory Protection

If an exposure level to a component(s) exceeds an applicable standard, use a NIOSH-approved respirator having a configuration (facepiece, filter media, assigned protection factor, etc.) effective for the concentration of the component(s) generated. For guidance on selection and use of respirators, consult American National Standard Z88.2 (ANSI, New York, NY 10036, USA).

9. Physical and Chemical Properties

Appearance: Copper-yellow metals, various forms
Odor: none
Odor threshold: not applicable
pH: not applicable
Melting Point: >1980F./1083C.
Freezing point: not applicable
Boiling point/boiling range: not determined
Flash Point: not applicable
Evaporation Rate: not applicable
Flammability Class: not applicable
Lower Explosive Limit: not applicable
Upper Explosive Limit: not applicable
Vapor pressure: not applicable
Vapor density: not applicable
Relative density (H2O): approx. 8.9
Solubility (H2O): insoluble
Oil-water partition coefficient: not applicable
Autoignition Point: not applicable
Decomposition temperature: not applicable
Viscosity: not applicable

10. Stability and Reactivity

Reactivity: none reasonably foreseeable

Stability: stable
Hazardous Polymerization: will not occur
Risk of Dangerous Reactions: see “Conditions to Avoid”

Conditions to Avoid

Copper can form an unstable acetylide in contact with acetylene gas.

Incompatible Materials

Acetylene; ammonium nitrate; halogens; ethylene oxide; chlorine trifluoride; hydrazine mononitrate; hydrazoic acid; hydrogen sulfide; peroxides; azides; bromates, chlorates, and iodates of alkali and alkali earth metals.

Hazardous Decomposition Products

Heating to elevated temperatures may liberate metal/metal oxide fumes.

11. Toxicological Information

This product has not been subject to toxicological testing by the manufacturer/supplier.

Ingredients - Toxicological Data

Copper
LD50: No data available LC50: No data available
Cupric Oxide
LD50: No data available LC50: No data available

Primary Routes(s) of Entry

Ingestion; inhalation.

Eye Hazards

Eye contact with finely-divided forms of these products may cause irritation, conjunctivitis, and/or ulceration of the cornea.

Skin Hazards

Skin contact with these products in finely-divided forms may cause irritation, discoloration, and/or contact dermatitis.

Ingestion Hazards

Ingestion of these products in finely-divided forms may cause nausea, vomiting, and gastrointestinal irritation.

Inhalation Hazards

Inhalation of toxicologically-significant quantities of the components is unlikely when the product is used in accordance with instructions and specified protective measures (see Section #8).

Symptoms Related to Overexposure

Pre-existing pulmonary diseases (e.g., bronchitis, asthma) may be aggravated by inhalation overexposure, particularly as fume.

Delayed Effects from Long Term Overexposure

Chronic overexposure by inhalation and/or ingestion may aggravate pre-existing diseases of the liver, kidneys, and gastrointestinal system.

Carcinogenicity

The product contains no chemicals classified as potential or demonstrated carcinogens by IARC, NTP, or OSHA.

Germ Cell Mutagenicity

The product contains no chemicals determined to be germ cell mutagens.

Reproductive Effects

The product contains no chemicals determined to be damaging to fertility of the unborn child.

Acute Toxicity Estimates: no data available (oral, dermal, or inhalation)
Interactive Effects of Components: no data available

12. Ecological Information

No ecological data is available for the product. Available ecological data for the components is as follows:

Copper and Cupric Oxide

No data available for Aquatic Toxicity to Fish and Invertebrates, Aquatic Toxicity to Plants and Microorganisms, Toxicity to Terrestrial Organisms, Persistence and Degradability, Bioaccumulation Potential, Mobility in Soil.

13. Disposal Considerations

Do not discharge waste product into sanitary or storm sewers or allow it to contaminate soil. Consult applicable Federal, State/ Provincial, and local regulations.

14. Transport Information

Transport is not regulated by USDOT, TDG (Canada), IATA, or IMO.

15. Regulatory Information

United States Regulatory Information

All components of this product are listed on the EPA's TSCA inventory.

SARA Hazard Classes: Chronic Health Hazard

SARA Section 313 Notification

These products contain these components subject to the requirements of Section 313 of the Emergency Preparedness and Community Right-to-Know Act (EPCRA) of 1986 and of 40CFR, Part 372:

1. Copper (CASRN 7440-50-8)

Canadian Regulatory Information

All components of these products are listed on either the Domestic Substances List (DSL) or the Nondomestic Substances List (NDSL).

WHMIS Class(es) and Division(s): D2B
Components on Ingredients Disclosure List:

1. Copper, elemental (CASRN 7440-50-8)

These products have been classified according to the hazard criteria of the CPR and this SDS contains all of the information required by the CPR.

16. Other Information

HMIS Ratings

Health – 2* (moderate chronic hazard)
Flammability – 1 (slight hazard)
Physical Hazard – 0 (minimal hazard)
PPE - see Note

Note: Lucas-Milhaupt, Inc. recommends use of protective eyewear and gloves (Personal Protection Index "B") as standard PPE. HMIS recommends that its ratings be used only in conjunction with a fully implemented HMIS program, and that specific PPE codes be created by the user, who is familiar with the

actual conditions under which the product is used. We cannot anticipate every condition of the product's use, and it is the user's responsibility to evaluate the hazards pertinent to its specific operations, and to determine the specific PPE required.

NFPA Ratings

Health - 2 Flammability - 1 Reactivity – 0

Preparation Information

Date of Preparation: 3 May 2014
Date of Prior SDS: 5 January 2012

Disclaimer

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Lucas-Milhaupt, Inc.