Copper-Zinc-Tin-Iron-Manganese-Silicon Brazing Alloy

1. Product and Company Identification

Manufacturer

Lucas-Milhaupt, Inc.
235 Kilvert Street
Warwick, RI 02886 USA
Telephone: 401-739-9550
www.lucasmilhaupt.com

Emergency Phone Number

Chemtrec: 800-424-9300

Product Code: CDA-681

Products: CDA-681 (SILVALOY CDA 681)

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

2. Hazards Identification

Classification(s)

Specific Target Organ Toxicity, Single Exposure: Hazard Category 3

Label Symbol(s): Exclamation Point

Label Signal Word(s): Warning

Label Hazard Statement(s): May cause respiratory irritation.

Label Precautionary Statement(s)

Avoid breathing dust or fume.
Use only outdoors or in a well-ventilated area. Store locked up.

IF INHALED: Remove person to fresh air and keep comfortable for breathing.
Call a Poison Control Center or doctor if you feel unwell.

Dispose of contents and container in accordance with applicable regulations.
The acute toxicity of >98% of the ingredients is unknown.

3. Composition/Information on Ingredients

Ingredient Name	CAS Number	%	Impurities
Copper	7440-50-8	50-70	None known
Iron	7439-89-6	0.1-2	None known
Manganese	7439-96-5	0.1-1	None known
Silicon	7440-21-3	0.1-1	None known
Tin	7440-31-5	0.1-5	None known
Zinc	7440-66-6	30-50	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 or Poison Control Center

None of the components are acutely toxic by ingestion, nor are they absorbed through the skin. Prolonged skin exposure may cause irritation.

5. Fire Fighting Measures

Fire and Explosion Hazards

This product is non-flammable and non-explosive. If present in a fire or explosion, it 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 this product is 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
    ACGIH TLVs: 0.2 mg/m3 TWA (fume); 1 mg/m3 TWA (dusts and mists)
    OSHA PELs: 0.1 mg/m3 TWA (fume); 1 mg/m3 TWA (dusts and mists)
Iron
    No ACGIH TLV(s) No OSHA PEL(s)
Manganese
    ACGIH TLVs: 0.02 mg/m3 TWA (respirable); 0.1 mg/m3 TWA (inhalable)
    OSHA PEL: 5 mg/m3 "Ceiling"
Silicon
    No ACGIH TLV(s)
    OSHA PELs: 15 mg/m3 TWA (Total Dust); 5 mg/m3 TWA (Respirable)
Tin
    ACGIH TLV: 2 mg/m3 TWA OSHA PEL: 2 mg/m3 TWA
Zinc
    ACGIH TLVs (as ZnO): 2 mg/m3 TWA; 10 mg/m3 STEL (respirable fractions)
    OSHA PEL: 5 mg/m3 TWA (as respirable fraction of ZnO dust or fume)

Ingredients – Biological Limits

Copper
    No ACGIH BEI(s) or other biological limit(s)
Iron
    No ACGIH BEI(s) or other biological limit(s)
Manganese
    No ACGIH BEI(s) or other biological limit(s)
Silicon
    No ACGIH BEI(s) or other biological limit(s)
Tin
    No ACGIH BEI(s) or other biological limit(s)
Zinc
    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 the product and injury if the products are used with a flame. Plastic-frame spectacles with side shields are recommended.

Skin Protection

Wear protective gloves and clothing to prevent skin injuries if the products are used with a flame. 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: Light-yellow metal, various forms
Odor: none
Odor threshold: not applicable
pH: not applicable
Melting Point: not determined
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): not determined
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: copper can form an unstable acetylide in contact with acetylene gas.

Incompatible Materials

Acetylene; ammonia; azides; nitric acid; halogens; ethylene oxide; chlorine trifluoride; bromine trifluoride; peroxides; hydrazine mononitrate; hydrogen sulfide; bromates, chlorates, and iodates of alkali and alkali earth metals; hydroxylamine; selenium; tellurium; carbon disulfide; cupric nitrate; chromic anhydride; nitric acid; performic acid; nitrogen dioxide.

Hazardous Decomposition Products

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

11. Toxicological Information

This product has not been tested for toxicology by the manufacturer.

Ingredients - Toxicological Data

Copper
- LD50: No data available
- LC50: No data available

Iron
- LD50: No data available
- LC50: No data available

Manganese
- LD50: 9,000 mg/kg (oral/rat)
- LC50: No data available

Silicon
- LD50: 3,160 mg/kg (oral/rat)
- LC50: No data available

Tin
- LD50: No data available
- LC50: No data available

Zinc
- LD50: No data available
- LC50: No data available

Primary Routes(s) of Entry

Ingestion; inhalation.

Eye Hazards

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

Skin Hazards

Skin contact with this product, particularly in finely-divided forms, may cause irritation, discoloration, and/or contact dermatitis.

Ingestion Hazards

Ingestion of this product 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

Limited evidence from human occupational exposure suggests that manganese is capable of damaging male fertility.

Acute Toxicity Estimates

LD50 (oral): no data available
LD50 (dermal): no data available
LC50: no data available

Interactive Effects of Components: no data available

12. Ecological Information

No ecological data is available for the product or its components.

Ozone Depletion Potential: This product contains no ingredients listed in the Annexes to the Montréal Protocol on Substances that Deplete the Ozone Layer.

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: Acute Health Hazard; Chronic Health Hazard

SARA Section 313 Notification

This product contains these components in concentrations >1% (>0.1% for carcinogens) subject to 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)
2. Manganese (CASRN 7439-96-5)

Canadian Regulatory Information

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

WHMIS Class(es) and Division(s): D2A, D2B
Components on Ingredients Disclosure List:
1. Copper, elemental (CASRN 7440-50-8)
2. Manganese, elemental (CASRN 7439-96-5)
2. Tin, elemental (CASRN 7440-31-5)

This product has 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 (Legend)

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

Note: Lucas-Milhaupt Warwick, LLC 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 – 1

Preparation Information

Date of Preparation: 11 December 2014
Date of Prior SDS: 1 November 2007

Disclaimer

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Lucas-Milhaupt, Inc.