

Silver-Copper Alloys

Safety Data Sheet

1. Product and Company Identification

----- Manufacturer

Lucas Milhaupt, Inc.
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Emergency Phone Number

CHEMTREC within the USA and Canada: 1-800-424-9300
CHEMTREC outside the USA and Canada: 1-703-741-5970

SDS Number: 83

Product: AG-CU

Product Codes: 13-000 (STERLING SILVER), A00000283 (STERLING SILVER), 13-001, 13-003, 13-930, 14-832, 14-937, 15-021, 15-100, 15-150, 15-300, 15-400 (40AG/60CU), A00000284 (40AG/60CU), 15-500, 15-720, 15-721, 15-850, 15-901 (CONSIL 901), A00000286 (CONSIL 901), 15-903, 15-950, 15-971, 15-985, 21-073, 21-093, 24-523, 24-866, 24-867, 24-932, 24-987, 27-720 (SILVALOY 721 VTG Grade 1), A00000310 (SILVALOY 721 VTG Grade 1), 27-721 (SILVALOY 721 VTG Grade 1), A00000207 (SILVALOY 721 VTG Grade 1), 28-490, 28-540, 28-721, 35716 (SILVALOY 008), 35538 (SILVALOY 035), A00000138 (SILVALOY 035), 35573 (SILVALOY 055), A00000156 (SILVALOY 055), 34347 (SILVALOY 100), A00000093 (SILVALOY 100), 24-100 (COMPO 10-90), 35630 (SILVALOY 159), 35629 (SILVALOY 179), 35549 (SILVALOY 208), 24-21 (COMPO 10-21), A00000144 (SILVALOY 208), 35220 (SILVALOY 307), A00000098 (SILVALOY 307), 13755 (SILVALOY 307), 24-47 (COMPO 10-47), A00000036 (SILVALOY 307), 35631 (SILVALOY 359), 35233 (SILVALOY 406), 35562 (SILVALOY 406), 35612 (SILVALOY 406), 24-46 (COMPO 10-46), 35574 (SILVALOY 456), 24-45 (COMPO 10-45), 32-502 (SILVALOY 502), 489 (SILVALOY 502), A00000006 (SILVALOY 502), 32-503 (SILVALOY 503 VTG Grade 2), 24778 (SILVALOY 503 VTG Grade 2), A00000316 (SILVALOY 503 VTG Grade 2), 24802 (SILVALOY 530 VTG Grade 2), A00000053 (SILVALOY 530 VTG Grade 2), 35418 (SILVALOY 564), 35370 (SILVALOY 605), 32-720 (SILVALOY 720), 1792 (SILVALOY 720), A00000009 (SILVALOY 720), 32-721 (SILVALOY 721 VTG Grade 2), 24760 (SILVALOY 721 VTG Grade 2), A00000050 (SILVALOY 721 VTG Grade 2), 32-722 (SILVALOY 721 VTG Grade 1), 28423 (SILVALOY 721 VTG Grade 1), 29603 (SILVALOY 721 VTG Grade 1), A00000066 (SILVALOY 721 VTG Grade 1), 32-723, 37-720, 37-724 (LITHOBRAZE 720), 6684 (LITHOBRAZE 720), A00000024 (LITHOBRAZE 720), 37-925 (LITHOBRAZE 925), 6668 (LITHOBRAZE 925), A00000023 (LITHOBRAZE 925), 39-053, 39-722, 69-039, 69-254 (53AG/47CU), A00000449 (53AG/47CU), 69-285 (85AG/15CU), A00000458 (85AG/15CU), 69-834, Compo Casting Grain 10-21 (24-021-GRA), Compo Casting Grain 10-46 (24-046-GRA), Compo Grain 10-47 (24-867-1047), Compo Grain 10-50 (24-860-1050), Compo Grain 10-51 (24-865-1051), Compo Grain 10-50 (24-100-1090), Compo Grain 10-90, 35-27-721-W, 35-27-721-S, 35-32-503-W, 35-32-503-S, Sterling Silver, VTG Silver, Coin Silver

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)

The acute toxicities of 1-99% of the product's ingredients are unknown.

3. Composition/Information on Ingredients

Ingredient Name	CAS Number	%	Impurities
Copper	7440-50-8	1-99	None known
Silver	7440-22-4	2-99	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. Long-term chronic exposure may cause argyria.

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

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)

Silver

ACGIH TLV: 0.1 mg/m3 TWA (metal)

OSHA PEL: 0.01 mg/m3 TWA

Ingredients - Biological Limits

Silver

No ACGIH BEI(s) or other biological limit(s)

Copper

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 product is 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 product is 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: Yellow-white metals, various forms

Odor: none

Odor threshold: not applicable

pH: not applicable

Melting Point: 1400-1435F./760-780C.

Freezing point: not applicable

Boiling point/boiling range: not determined

Flash Point: not applicable

Autoignition Point: not applicable

Flammability Class: not applicable

Lower Explosive Limit: not applicable

Upper Explosive Limit: not applicable

Vapor pressure: not applicable

Vapor density: not applicable

Evaporation Rate: not applicable

Relative density (H₂O): 8.9-10.5

Solubility (H₂O): insoluble

Oil-water partition coefficient: 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: silver and copper can form unstable acetylides in contact with acetylene gas.

Incompatible Materials

Acetylene; ammonia; azides; nitric acid; halogens; ethylene imine; ethylene oxide; chlorine trifluoride; sulfuric acid; peroxides; peroxyformic acid; oxalic acid; tartaric acid; 1-bromo-2-propyne; permonosulfuric acid; hydrazine mononitrate; hydrazoic acid; hydrogen sulfide; 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 tested for toxicology by the manufacturer.

Ingredients - Toxicological Data

Copper

LD50: No data available

LC50: No data available

Silver

LD50: >2,000 mg/kg (oral/rat)

LC50: No data available

Primary Routes(s) of Entry

Ingestion; inhalation.

Eye Hazards

Eye contact with these products in finely-divided forms may cause irritation, conjunctivitis, ulceration of the cornea, and/or argyria, a gray discoloration of the eyes, skin, mucous membranes, and respiratory tract.

Skin Hazards

Skin contact with these products, particularly in finely-divided forms, may cause irritation, argyria, 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 or to the unborn child.

Acute Toxicity Estimates

LD50 (oral): >2,000 mg/kg
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 any of 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: 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. Silver (CASRN 7440-22-4)

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)
2. Silver, elemental (CASRN 7440-22-4)

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

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: 06 June, 2016
Date of Prior SDS: 18 December 18, 2015

Disclaimer

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Lucas-Milhaupt, Inc.