

# Tin-Silver Alloys

## Safety Data Sheet

### 1. Product and Company Identification

#### Manufacturer

Lucas Milhaupt, Inc.  
5656 South Pennsylvania Avenue  
Cudahy, WI 53110 USA  
Telephone: 414-769-6000  
www.lucasmilhaupt.com

#### Emergency Phone Number

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

SDS Number: 195

Product: SN-AG

Product Codes: 63-941 (SILVABRITE 6), 35709 (SILVABRITE 6), A00000205 (SILVABRITE 6), 63-948 (95.5 Sn/4.0 Ag/.5 Cu), 63-953 (SILVABRITE S), 28647 (SILVABRITE S), A00000068 (SILVABRITE S), 63-963 (96.0 Sn/4.0 Ag), 63-965 (SILVABRITE), 28639 (SILVABRITE), A00000067 (SILVABRITE), 63-966, 63-969 (96.15 Sn/3.5 Ag/.35 Sb), 63-971 (96.5 Sn/3.0Ag/.5 Cu), 63-975 (97.5 Sn/2.5 Ag), Handy Sol, 18-887, 20-903, 20-904, 20-928, 28-955, 29-938, 71-000

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 3-98% of the product's ingredients are unknown.

### 3. Composition/Information on Ingredients

Ingredient	CAS Number	%	Impurities
Silver	7440-22-4	2-97	None known
Tin	7440-31-5	3-98	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

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.

## 6. Accidental Release Measures (Continued)

### 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

#### Silver

ACGIH TLV: 0.1 mg/m<sup>3</sup> TWA (metal)

OSHA PEL: 0.01 mg/m<sup>3</sup> TWA

#### Tin

ACGIH TLV: 2 mg/m<sup>3</sup> TWA

OSHA PEL: 2 mg/m<sup>3</sup> TWA

### Ingredients - Biological Limits

#### Silver

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

#### Tin

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 and/or for prolonged or repeated contact with finely-divided forms of product. Avoid flammable fabrics.

## 8. Exposure Controls and Personal Protection (Continued)

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### Respiratory Protection

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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

### Respiratory Protection (Continued)

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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

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Appearance: White metals, various forms

Odor: none

Odor threshold: not applicable

pH: not applicable

Melting Point: 450-1762F./232-961C.

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 (H<sub>2</sub>O): 7.3-10.5

Solubility (H<sub>2</sub>O): insoluble

Oil-water partition coefficient: not applicable

Decomposition temperature: not applicable

Viscosity: not applicable

## 10. Stability and Reactivity

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Reactivity: none reasonably foreseeable

Stability: stable

Hazardous Polymerization: will not occur

Risk of Dangerous Reactions: silver can form an unstable acetylide in contact with acetylene gas.

### Incompatible Materials

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Acetylene; ammonia; strong acids; ethylene imine; sulfur; peroxides; chlorine trifluoride; peroxyformic acid; bromoazide; oxalic acid; tartaric acid; 1-bromo-2-propyne; permonosulfuric acid; bromine trifluoride; cupric nitrate.

### Hazardous Decomposition Products

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

## 11. Toxicological Information

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

### Ingredients - Toxicological Data

#### Silver

LD50: >2,000 mg/kg (oral/rat)                      LC50: No data available

#### Tin

LD50: No data available                              LC50: No data available

### Primary Routes(s) of Entry

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Ingestion; inhalation.

### Eye Hazards

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Eye contact with this product in finely-divided forms may cause irritation and/or argyria, a permanent gray discoloration of the eyes, skin, mucous membranes, and respiratory tract.

### Skin Hazards

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

### Ingestion Hazards

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

### Inhalation Hazards

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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). Inhalation of tin fume may cause stannosis (a benign pneumoconiosis), shortness of breath, and respiratory irritation.

### Symptoms Related to Overexposure

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

### Delayed Effects from Long Term Overexposure

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Long-term overexposure may cause argyria.

### Carcinogenicity

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

### Germ Cell Mutagenicity

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

### Reproductive Effects

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The product contains no components determined to be damaging to fertility or to the unborn child.

## 11. Toxicological Information (Continued)

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### Acute Toxicity Estimates

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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

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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

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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

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

## 15. Regulatory Information

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### United States Regulatory Information

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

SARA Hazard Classes: Chronic Health Hazard

### SARA Section 313 Notification

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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. Silver (CASRN 7440-22-4)

### Canadian Regulatory Information

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

This product has been classified in accordance with Canada's Hazardous Products Regulations (SOR/DORS/2015-17).

## 16. Other Information

### ----- HMIS Ratings (Legend) -----

Health - 1\* (slight 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 - 1      Flammability - 1      Reactivity - 0

### Preparation Information -----

Date of Preparation: 03 February 2016  
Date of Prior SDS: 2 July 2014

### Disclaimer -----

Although reasonable care has been taken in the preparation of this document, we extend no warranties and make no representations as to the accuracy or completeness of the information contained therein, and assume no responsibility regarding the suitability of this information for the user's intended purposes or for the consequences of its use. Each individual should make a determination as to the suitability of the information for their particular purpose(s).

Lucas-Milhaupt, Inc.