

# Copper-Tin Alloys

## Safety Data Sheet

### 1. Product and Company Identification

#### Suppliers and Manufacturers

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#### Emergency Phone Number

Chemtrec: 800-424-9300

Issue Date: 07/16/2013

Product Name: Copper-Tin Alloys

SDS Number: 213

Product Codes: 40-005; 40-018; 40-019; 40-025; 40-041; 40-045; 60-510;  
60-521; 60-524; 60-870; 60-937; 60-940; 63-970; 63-988; 69-804.

### 2. Composition/Information on Ingredients

Ingredient Name	CAS Number	%
Copper	7440-50-8	1-95
Tin	7440-31-5	5-99

### 3. Hazards Identification

#### Primary Routes(s) of Entry

Ingestion; inhalation.

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

#### Skin Hazards

Skin contact with these products, particularly 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 the components of these products is not known to present a significant risk to health when used according to instructions and with appropriate protective measures (see Section #8). Inhalation of component elements has been reported to cause one or more of the following symptoms and effects upon excessively high or prolonged exposure:

COPPER: Acute exposure may cause respiratory tract irritation, fever, muscle

ache, chills, cough, weakness, and a metallic taste.

TIN: Inhalation of tin dust or fume may cause stannosis (a benign pneumoconiosis), shortness of breath, and respiratory tract irritation.

#### 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. Seek immediate medical assistance. Never 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

Flash Point: Not Applicable (N/Appl.)

Autoignition Point: N/Appl.

Flammability Class: N/Appl.

Lower Explosive Limit: N/Appl.

Upper Explosive Limit: N/Appl.

##### Fire and Explosion Hazards

In finely-divided form, these products may ignite or react vigorously when exposed to flame or by reaction with incompatible materials (see Section #10). If present in a fire or explosion, they may emit fumes of the constituent metals or metal 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

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

## 7. Handling and Storage

### ----- Handling Precautions

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No special handling precautions are required.

### Storage Precautions

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

### Work and Hygiene Practices

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To minimize ingestion, wash hands and face before eating, drinking, applying cosmetics, or using tobacco.

## 8. Exposure Controls and Personal Protection

### ----- Engineering Controls

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Use appropriate ventilation (e.g., dilution, local exhaust) adequate to maintain concentrations of all components to within their applicable standards.

### Eye/Face Protection

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

### Skin Protection

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

### Respiratory Protection

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

## Ingredients - Exposure Limits

### ----- Copper

ACGIH TLVs: 0.2 mg/m<sup>3</sup> TWA (fume); 1 mg/m<sup>3</sup> TWA (dusts and mists)

OSHA PELs: 0.1 mg/m<sup>3</sup> TWA (fume); 1 mg/m<sup>3</sup> TWA (dusts and mists)

### Tin

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

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

## 9. Physical and Chemical Properties

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Appearance: white to yellow-white metals, various forms

Odor: no odor  
Chemical Type: alloy  
Physical State: solid  
Melting Point: not determined  
Specific Gravity: 7.3-8.9  
Solubility (H2O): insoluble

Other physical properties (odor threshold, evaporation rate, vapor pressure, vapor density, freezing point, oil-water partitioncoefficient, percent volatiles, percent VOCs) are not applicable to this product.

#### 10. Stability and Reactivity

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Stability: stable  
Hazardous Polymerization: will not occur

#### Conditions to Avoid

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

#### Incompatible Materials

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Strong oxidizers; ammonium nitrate; azides; bromates, chlorates, and iodates of alkali and alkali earth metals; inorganic and organic peroxides; chlorine trifluoride; bromine trifluoride; cupric nitrate; sulfur.

#### Hazardous Decomposition Products

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

#### 11. Toxicological Information

##### Carcinogenicity

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These products contain no chemicals classified as potential or demonstrated carcinogens by IACT, NTP, or OSHA.

##### Conditions Aggravated by Overexposure

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Pre-existing pulmonary diseases (e.g., bronchitis, asthma) may be aggravated by inhalation overexposure, particularly as fume. Chronic overexposure by inhalation and/or ingestion may aggravate pre-existing diseases of the liver, kidneys, gastrointestinal system, and nervous system.

##### Ingredients - Toxicological Data

###### Copper

LD50: No data available                      LC50: No data available

###### Tin

LD50: No data available                      LC50: No data available

#### 12. Ecological Information

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In their intended manner of use, these products should not be released into the environment, and adverse effects on ecosystems are not anticipated under recommended conditions of use, storage, and disposal.

#### 13. Disposal Considerations

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Dispose of unused or unusable product in accordance with applicable Federal,  
State/Provincial, and local regulations.

#### 14. Transport Information

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These products are not Hazardous Substances or Dangerous Goods per USDOT, TDG  
(Canada), IATA, or IMO regulations.

#### 15. Regulatory Information

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##### TSCA Information

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All components of these products are listed in the EPA's TSCA registry.

##### SARA Hazard Classes

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Acute Health Hazard; Chronic Health Hazard

##### Ingredient(s) - U.S. Regulatory Information

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These products contain the following ingredients in concentrations greater than  
1% (for carcinogens 0.1%) regulated under Section 313 of the Emergency Planning  
and Community Right-To-Know Act of 1986 or 40 CFR 372.

Copper (CASRN 7440-50-8)

##### Canadian Regulatory Information

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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

Component(s) on Ingredients Disclosure List:

1. Copper, elemental (CASRN 7440-50-8)
2. Tin, elemental (CASRN 7440-31-5)

#### 16. Other Information

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##### HMIS Ratings

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Health - 2\*      Flammability - 1      Physical Hazard - 0      PPE - see Note

Note: Lucas-Milhaupt, Inc. and Lucas-Milhaupt Toronto recommend 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  
todetermine the specific PPE required.

##### NFPA Ratings

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Health - 2      Flammability - 1      Reactivity - 0

##### Revision Information

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This SDS supersedes a previous SDS dated 01/25/2007.

Disclaimer

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Lucas Milhaupt, Inc.

Lucas-Milhaupt Toronto