

<a href="#">Copper Tin Alloy</a>	<a href="#">Pricing &gt;</a>
<a href="#">Copper Tin Alloy Spherical Powder</a>	<a href="#">Pricing &gt;</a>
<a href="#">Copper Tin Alloy Sputtering Target</a>	<a href="#">Pricing &gt;</a>
<a href="#">Copper-Tin Alloy Nanoparticles</a>	<a href="#">Pricing &gt;</a>
<a href="#">Tin Copper Alloy</a>	<a href="#">Pricing &gt;</a>

<b>Linear Formula</b>	Cu-Sn
<b>Pubchem CID</b>	15920287
<b>MDL Number</b>	MFCD00198187
<b>EC No.</b>	N/A
<b>IUPAC Name</b>	copper; tin
<b>SMILES</b>	[Cu].[Sn]
<b>Inchl Identifier</b>	InChI=1S/Cu.Sn
<b>Inchl Key</b>	KUNSUQLRTQLHQQ-UHFFFAOYSA-N

<b>Signal Word</b>	Danger
<b>Hazard Statements</b>	H228-H400
<b>Hazard Codes</b>	F, N
<b>Risk Codes</b>	R11-R50
<b>Safety Statements</b>	S61
<b>Transport Information</b>	UN 3077 9/PG 3
<b>WGK Germany</b>	3
<b>GHS Pictograms</b>	<b><u>GHS09</u></b> <b><u>Environment</u></b> 

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## SAFETY DATA SHEET

Date Accessed: 04/17/2024

## SECTION 1. IDENTIFICATION

**Product Identifiers:** All applicable American Elements product codes for CAS #158113-12-3

**Relevant identified uses of the substance:**  
Scientific research and development

Supplier details:  
American Elements  
10884 Weyburn Ave.  
Los Angeles, CA 90024  
Tel: +1 310-208-0551  
Fax: +1 310-208-0351

Emergency telephone number:  
Domestic, North America +1 800-424-9300  
International +1 703-527-3887

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## SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture  
GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)  
Combustible dust,  
Acute aquatic toxicity (Category 1), H400

2.2 GHS Label elements, including precautionary statements  
Pictogram



Signal word Warning  
Hazard statement(s)  
May form combustible dust concentrations in air  
H400 Very toxic to aquatic life.  
Precautionary statement(s)  
P273 Avoid release to the environment.  
P391 Collect spillage.  
P501 Dispose of contents/ container to an approved waste disposal plant.  
2.3 Hazards not otherwise classified (HNOC) or not covered by GHS  
Combustible dust

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## **SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

### 3.2 Mixtures

Synonyms : Bronze

Sn5Cu84

Molecular weight : 182.26 g/mol

Hazardous components

Component Classification Concentration

Copper

CAS-No.

EC-No.

7440-50-8

231-159-6

Aquatic Acute 1; H400  $\geq 90 - \leq 100$

%

Tin

CAS-No.

EC-No.

7440-31-5

231-141-8

$\geq 10 - < 20$  %

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## **SECTION 4. FIRST AID MEASURES**

### 4.1 Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Flush eyes with water as a precaution.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

### 4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

### 4.3 Indication of any immediate medical attention and special treatment needed

No data available

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## **SECTION 5. FIREFIGHTING MEASURES**

### **5.1 Extinguishing media**

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

### **5.2 Special hazards arising from the substance or mixture**

Tin/tin oxides, Copper oxides

### **5.3 Advice for firefighters**

Wear self-contained breathing apparatus for firefighting if necessary.

### **5.4 Further information**

No data available

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## **SECTION 6. ACCIDENTAL RELEASE MEASURES**

### **6.1 Personal precautions, protective equipment and emergency procedures**

Avoid dust formation. Avoid breathing Vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

For personal protection see section 8.

### **6.2 Environmental precautions**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

### **6.3 Methods and materials for containment and cleaning up**

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

### **6.4 Reference to other sections**

For disposal see section 13.

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## **SECTION 7. HANDLING AND STORAGE**

### **7.1 Precautions for safe handling**

Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible

dust formation should be taken into consideration before additional processing occurs.

Provide appropriate exhaust ventilation at places where dust is formed.

For precautions see section 2.2.

### **7.2 Conditions for safe storage, including any incompatibilities**

Keep container tightly closed in a dry and well-ventilated place.  
Keep in a dry place.  
Storage class (TRGS 510): Non Combustible Solids  
7.3 Specific end use(s)  
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

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## **SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

8.1 Control parameters  
Components with workplace control parameters  
Component CAS-No. Value Control parameters  
Basis  
Copper 7440-50-8 TWA 1.000000  
mg/m<sup>3</sup>  
USA. ACGIH Threshold Limit Values (TLV)  
Remarks Irritation  
Gastrointestinal  
metal fume fever  
TWA 1.000000  
mg/m<sup>3</sup>  
USA. NIOSH Recommended Exposure Limits  
TWA 1.000000  
mg/m<sup>3</sup>  
USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants  
TWA 0.200000  
mg/m<sup>3</sup>  
USA. ACGIH Threshold Limit Values (TLV)  
Irritation  
Gastrointestinal  
metal fume fever  
TWA 0.100000  
mg/m<sup>3</sup>  
USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants  
TWA 1.000000  
mg/m<sup>3</sup>  
USA. ACGIH Threshold Limit Values (TLV)  
Irritation  
Gastrointestinal  
metal fume fever  
TWA 0.200000  
mg/m<sup>3</sup>

USA. ACGIH Threshold Limit Values  
(TLV)

Irritation

Gastrointestinal

metal fume fever

TWA 1.000000

mg/m<sup>3</sup>

USA. NIOSH Recommended

Exposure Limits

TWA 1.000000

mg/m<sup>3</sup>

USA. NIOSH Recommended

Exposure Limits

TWA 1.000000

mg/m<sup>3</sup>

USA. NIOSH Recommended

Exposure Limits

TWA 1.000000

mg/m<sup>3</sup>

USA. Occupational Exposure Limits

(OSHA) - Table Z-1 Limits for Air

Contaminants

TWA 0.100000

mg/m<sup>3</sup>

USA. Occupational Exposure Limits

(OSHA) - Table Z-1 Limits for Air

Contaminants

TWA 1 mg/m<sup>3</sup> USA. ACGIH Threshold Limit Values

(TLV)

Irritation

Gastrointestinal

metal fume fever

TWA 0.2 mg/m<sup>3</sup> USA. ACGIH Threshold Limit Values

(TLV)

Irritation

Gastrointestinal

metal fume fever

TWA 1 mg/m<sup>3</sup> USA. NIOSH Recommended

Exposure Limits

TWA 1 mg/m<sup>3</sup> USA. NIOSH Recommended

Exposure Limits

TWA 1 mg/m<sup>3</sup> USA. Occupational Exposure Limits

(OSHA) - Table Z-1 Limits for Air

Contaminants

TWA 0.1 mg/m<sup>3</sup> USA. Occupational Exposure Limits

(OSHA) - Table Z-1 Limits for Air

Contaminants

Tin 7440-31-5 TWA 2.000000

mg/m<sup>3</sup>

USA. ACGIH Threshold Limit Values

(TLV)

Pneumoconiosis (or Stannosis)

TWA 2.000000

mg/m<sup>3</sup>

USA. NIOSH Recommended

## Exposure Limits

TWA 2.000000

mg/m<sup>3</sup>

USA. Occupational Exposure Limits

(OSHA) - Table Z-1 Limits for Air

Contaminants

TWA 2 mg/m<sup>3</sup> USA. ACGIH Threshold Limit Values

(TLV)

Pneumoconiosis (or Stannosis)

TWA 2 mg/m<sup>3</sup> USA. NIOSH Recommended

Exposure Limits

TWA 2 mg/m<sup>3</sup> USA. Occupational Exposure Limits

(OSHA) - Table Z-1 Limits for Air

Contaminants

## 8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as

NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after

use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body Protection

Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and

to the specific work-place., The type of protective equipment must be selected according to the concentration

and amount of the dangerous substance at the specific workplace.

Respiratory protection

Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type

N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under

appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the

environment must be avoided.

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## **SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

### 9.1 Information on basic physical and chemical properties

- a) Appearance Form: powder
  - b) Odor No data available
  - c) Odor Threshold No data available
  - d) pH No data available
  - e) Melting point/freezing point  
No data available
  - f) Initial boiling point and boiling range  
No data available
  - g) Flash point N/A
  - h) Evaporation rate No data available
  - i) Flammability (solid, gas) May form combustible dust concentrations in air
  - j) Upper/lower flammability or explosive limits  
No data available
  - k) Vapor pressure No data available
  - l) Vapor density No data available
  - m) Relative density No data available
  - n) Water solubility No data available
  - o) Partition coefficient: octanol/water  
No data available
  - p) Auto-ignition temperature  
No data available
  - q) Decomposition temperature  
No data available
  - r) Viscosity No data available
  - s) Explosive properties No data available
  - t) Oxidizing properties No data available
- 9.2 Other safety information  
No data available
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## **SECTION 10. STABILITY AND REACTIVITY**

### 10.1 Reactivity

No data available

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions



No data available  
10.4 Conditions to avoid  
No data available  
10.5 Incompatible materials  
Strong bases, Strong oxidizing agents, Strong acids,  
Acid chlorides, Sulphur compounds, Halogens  
10.6 Hazardous decomposition products  
Other decomposition products - No data available  
In the event of fire: see section 5

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## **SECTION 11. TOXICOLOGICAL INFORMATION**

11.1 Information on toxicological effects  
Acute toxicity  
No data available  
No data available  
Skin corrosion/irritation  
No data available  
Serious eye damage/eye irritation  
No data available  
Respiratory or skin sensitisation  
No data available  
Germ cell mutagenicity  
No data available  
Carcinogenicity  
IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.  
NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.  
OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.  
Reproductive toxicity  
No data available  
No data available  
Specific target organ toxicity - single exposure  
No data available  
Specific target organ toxicity - repeated exposure  
No data available  
Aspiration hazard  
No data available  
Additional Information  
RTECS: Not available  
sneezing, Nausea, Weakness, Symptoms of systemic copper poisoning may include: capillary damage, headache, cold  
sweat, weak pulse, and kidney and liver damage, central nervous system excitation followed by depression, jaundice,

convulsions, paralysis, and coma. Death may occur from shock or renal failure. Chronic copper poisoning is typified by hepatic cirrhosis, brain damage and demyelination, kidney defects, and copper deposition in the cornea as exemplified by humans with Wilson's disease. It has also been reported that copper poisoning has lead to hemolytic anemia and accelerates arteriosclerosis.

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## **SECTION 12. ECOLOGICAL INFORMATION**

### 12.1 Toxicity

No data available

### 12.2 Persistence and degradability

No data available

### 12.3 Bioaccumulative potential

No data available

### 12.4 Mobility in soil

No data available

### 12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

### 12.6 Other adverse effects

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Very toxic to aquatic life.

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## **SECTION 13. DISPOSAL CONSIDERATIONS**

### 13.1 Waste treatment methods

Product

Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging

Dispose of as unused product.

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## **SECTION 14. TRANSPORT INFORMATION**

DOT (US)

Not dangerous goods

IMDG

UN number: 3077 Class: 9 Packing group: III EMS-

No: F-A, S-F

Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Copper)

Marine pollutant:yes

IATA

UN number: 3077 Class: 9 Packing group: III  
Proper shipping name: Environmentally hazardous  
substance, solid, n.o.s. (Copper)  
Further information  
EHS-Mark required (ADR 2.2.9.1.10, IMDG code  
2.10.3) for single packagings and combination  
packagings containing  
inner packagings with Dangerous Goods > 5L for  
liquids or > 5kg for solids.

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## **SECTION 15. REGULATORY INFORMATION**

### SARA 302 Components

No chemicals in this material are subject to the  
reporting requirements of SARA Title III, Section 302.

### SARA 313 Components

The following components are subject to reporting  
levels established by SARA Title III, Section 313:

Copper

CAS-No.

7440-50-8

Revision Date

2007-07-01

No SARA Hazards

### Massachusetts Right To Know Components

Copper

CAS-No.

7440-50-8

Revision Date

2007-07-01

Tin 7440-31-5 1994-04-01

### Pennsylvania Right To Know Components

Copper

CAS-No.

7440-50-8

Revision Date

2007-07-01

Tin 7440-31-5 1994-04-01

### New Jersey Right To Know Components

Copper

CAS-No.

7440-50-8

Revision Date

2007-07-01

Tin 7440-31-5 1994-04-01

### California Prop. 65 Components

This product does not contain any chemicals known to  
State of California to cause cancer, birth defects, or  
any other  
reproductive harm.

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## 16. OTHER INFORMATION

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH). The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. American Elements shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. COPYRIGHT 1997-2022 AMERICAN ELEMENTS. LICENSED GRANTED TO MAKE UNLIMITED PAPER COPIES FOR INTERNAL USE ONLY.

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