

**Taracorp****NFPA****HMIS**

Tin/Copper Solder Alloys;  
Tin/Copper/Silver (< 1% Ag Content)  
AL

0  
1 0

HEALTH	1
FIRE	0
REACTIVITY	0
PPE	N

**SECTION 1 : Chemical Product and Company Identification**

**MSDS Name:** Tin/Copper Solder Alloys; Tin/Copper/Silver (< 1% Ag Content) AL

**Manufacturer Name:** Taracorp

**Address:**

1690 Lowery Street  
Winston-Salem, NC 27101

**Business Phone:** 336-777-8600

For information in North America, call: 336-777-8600

**Transportation Phone:** 800-424-9300 (Transportation/Chemtrec)

**Manufacturer MSDS Revision Date:**

March 2003

**NFPA**

Health: 1

Flammability: 0

Reactivity: 0

Other:

**HMIS**

Health Hazard: 1

Fire Hazard: 0

Reactivity: 0

**Personal Protection:**

MATERIAL SAFETY DATA SHEET

This Material Safety Data Sheet complies with the U.S. OSHA Hazard Communication Standard 29CFR 1910.1200

COMMON NAME OF SYNONYMS: Tin/Copper formulations, and Tin/Copper/Silver formulation (< 1% silver content) solders or alloys in the following forms: wire, ingot, pig, cake, rod, anodes, cast or extruded and ribbon. Includes trade name products: Dutch Boy Silver, Solder Safe® W/Ag, and Solder Safe.

NFPA/HMIS HAZARD CODES:

SPECIAL: Not applicable

0 = Minimal

- 1 = Slight  
2 = Moderate  
3 = Serious  
4 = Severe

**Product Codes:**

M/L 042



TOP

**SECTION 2 : Hazardous Ingredients/Identity Information**

Chemical Name	CAS#	% Weight	
Tin	7440-31-5	Balance	

**RTECS:**

US-NIOSH RTECS NO.: XP7320000

**OSHA PEL TWA:** 2.0 mg/m<sup>3</sup>**ACGIH TLV TWA:** 2.0 mg/m<sup>3</sup>

Other Exposure Guidelines:

US OSHA AL: NONE ESTABLISHED

Chemical Name	CAS#	% Weight	
Copper	7440-50-8	1.0-10.0%	

**RTECS:**

US-NIOSH RTECS NO.: GL5325000

**OSHA PEL TWA:** 1.0 mg/m<sup>3</sup>; (fume): 0.1 mg/m<sup>3</sup>**ACGIH TLV TWA:** 1.0 mg/m<sup>3</sup>; (fume): 0.1 mg/m<sup>3</sup>

Other Exposure Guidelines:

US OSHA AL: NONE ESTABLISHED

Chemical Name	CAS#	% Weight	
Silver	7440-22-4	< 1.0%	

**RTECS:**

US-NIOSH RTECS NO.: VW3500000

**OSHA PEL TWA:** 0.01 mg/m<sup>3</sup>**ACGIH TLV TWA:** 0.1 mg/m<sup>3</sup>

Other Exposure Guidelines:

US OSHA AL: NONE ESTABLISHED

NE=NONE ESTABLISHED

AL=ACTION LEVEL

PEL=PERMISSIBLE EXPOSURE LIMIT

TLV=THRESHOLD LIMIT VALUE



TOP

**SECTION 3 : Physical And Chemical Characteristics****Physical State/Appearance:**

Solid - metallic metal.

**Color:**

Silver to silver gray

**Odor:**

No odor

**pH:**

Not applicable

**Vapor Pressure:**

(mmHg): Not applicable

**Vapor Density:**

(AIR=1): Not applicable

**Boiling Point:**

(Deg C): Information not available

**Melting Point:**

227-250 deg F (441-482 deg F)

**Solubility:**

IN WATER: Insoluble

**Specific Gravity:**

(H2O=1): Solid - silver to silver gray metallic metal - No odor

**Evaporation Point:**

(BUTYL ACETATE=1): Not applicable

**FlashPoint:**

Non-Flammable

APPEARANCE & ODOR (AT NORMAL CONDITIONS)



TOP

#### **SECTION 4 : Fire And Explosion Hazards**

**Fire:**

FLAMMABLE LIMITS: Not Applicable

**Flash Point:**

Non-Flammable

**Extinguishing Media:**

No specific agents available

**Fire Fighting Instructions:**

SPECIAL FIRE FIGHTING PROCEDURES: If involved in fire, use full protective clothing and NIOSHA/MSHA approved self- contained breathing apparatus operated in a positive-pressure mode.

**Unusual Fire Hazards:**

The solid metal form is not a fire hazard. However, dust generated from processing operations may present a moderate fire or explosion hazard.



TOP

#### **SECTION 5 : Health Hazards**

**Applies to all ingredients:**

**Route of Exposure:**

Inhalation of dust/fume & ingestion of dust.

**Carcinogenicity:**

Not listed as a carcinogen by NTP, IARC, OSHA, and ACGIH

**Signs/Symptoms:**

SYMPTOMS & EFFECTS OF OVEREXPOSURE: Chronic (prolonged) overexposure to tin can result in benign pneumoconiosis (stannous). This form of pneumoconiosis

produces progressive x-ray changes of the lungs as long as exposure exists, but there is no distinctive fibrosis, no evidence of disability and no special complicating factors.

**Aggravation of Pre-Existing Conditions:**

Pre-existing conditions of the lungs. Wilson's Disease (Genetic Trait)

**Tin:**

**Signs/Symptoms:**

SYMPTOMS & EFFECTS OF OVEREXPOSURE:

Acute (severe short-term) overexposure to tin can cause irritation of the eyes, skin, mucous membranes and respiratory system. Acute overexposure to tin can cause irritation of the eyes, skin mucous membranes and respiratory system.

**Copper:**

**Signs/Symptoms:**

SYMPTOMS & EFFECTS OF OVEREXPOSURE:

Acute overexposure to Copper dusts or fumes can cause metal fume fever with flu-like symptoms such as sweet metal taste, dry throat, coughing, fever and chills, tight chest, dyspnea, headache, blurred vision, back pain, nausea, vomiting, fatigue. Symptoms usually disappear within 24 hours. Copper may cause skin and hair discoloration. Inhalation of copper dusts may cause changes in the gums and mucous lining of the mouth which is generally attributable to localized tissue effect rather than general toxicity.



**SECTION 6 : Emergency And First Aid Procedures**

NOTE: Exposure to the solid form of this product presents few health hazards in itself. However, normal handling or processing of this material may result in the generation of tin and copper dusts and/or fumes, which may present a health hazard.

**Eye Contact:**

Flush well with running water to remove particulate. If irritation persists get medical attention.

**Skin Contact:**

Normal hygiene procedures - wash with soap and water. If rash develops get medical attention.

**Inhalation:**

Remove from exposure. Get medical attention.

**Ingestion:**

Give water; induce vomiting in a conscious individual; medical attention.



**SECTION 7 : Reactivity Data**

**Chemical Stability:**

Stable

**Conditions to Avoid:**

Not Applicable

**Incompatibilities with Other Materials:**

Chlorine, Turpentine, Magnesium, and Acetylene Gas

**Hazardous Polymerization:**

Will not occur.

**Hazardous Decomposition Products:**

At temperatures above the melting point metal oxide fumes may be evolved.



**SECTION 8 : Precautions For Safe Handling**

**Spill Cleanup Measures:**

- 1) Material in dust form-minimize exposure. Clean up using dustless methods (i.e. Vacuum). Do not use compressed air.
- 2) Place in closed labeled containers for recycling or disposal.
- 3) Keep out of waterways.

**Other Precautions:**

Special attention is drawn to the requirements of the U.S. OSHA Respirator (1910.134) should airborne exposures exceed the U.S. OSHA PEL.

:

NOTE: Cleanup personnel should wear protective clothing and respiratory protection where significant dust/fume exposure exists.

**OTHER PROCEDURES:**

We recommend that the purchaser establish a spill prevention, control and counter measure plan. This plan should include procedures for proper storage as well as clean up of spills or leaks. The procedures should conform to safe practices and provide for proper recovery and/or disposal. Depending on the quantity spilled, notification to the U.S. National Response Center (800-424-8802) may be required in case of hazardous substances. (See USEPA and USDOT regulations: also various state and local regulations.)

**Handling:**

**PRECAUTIONS TO BE TAKEN IN HANDLING:**

Practice good housekeeping procedures to prevent dust accumulations.

**Storage:**

**PRECAUTIONS TO BE TAKEN STORING:**

Keep material dry. Avoid storage near incompatible materials (See Section 7).  
Keep product away from children and their environment.

**Hygiene Practices:**

Do not permit eating, drinking, or the use of cosmetics or tobacco products while handling or processing material or in solder work areas. Practice good oral hygiene procedures. Wash hands and face thoroughly before eating, drinking, applying cosmetics or using tobacco products. Full protective clothing is required to worn by workers exposed to concentrations of lead/dust fume above the PEL, and showering is required before changing into street clothes. Avoid inhalation and ingestion of product, and activities, which generate dust or fume. Keep melting/soldering temperatures as low as possible to minimize the generation of fumes.

**Waste Disposal:**

**WATER DISPOSAL METHODS:** May have value on a recycled basis. If disposed of, dispose of in a permitted disposal site in accordance with all federal, state and local disposal or discharge regulations

**DOT Shipping Name:**

This product is not regulated by the USDOT as shipped.

**DOT UN Number:**

NOT APPLICABLE

**DOT Hazard Class:** NOT APPLICABLE

**DOT Subpart E Labeling Requirement:** NOT APPLICABLE



TOP

## SECTION 9 : Control Measures

### Ventilation System:

Ventilation, as described in Industrial Ventilation, A Manual of Recommended Practice, by the American Conference of Governmental Industrial Hygienists, is recommended to maintain exposure levels below the permissible exposure limits (PEL's) or threshold limit values (TLV's) specified by US-OSHA or other local or state regulations.

### Hand Protection Description:

PROTECTIVE GLOVES: Recommended for prolonged contact/heat. Required above the lead PEL.

### Eye/Face Protection:

Safety glasses or goggles are recommended where the possibility exists of getting dust particles in the eyes. Safety glasses with face shield are recommended around molten metal.

### Respiratory Protection:

Respiratory protection is required where airborne exposures exceed US-OSHA/ACGIH permissible air concentrations. Respirator selection shall be made in accordance with the US OSHA Respiratory Protection Standard, 29CFR 1910.134.

### Other Protective:

Safety equipment should be worn as appropriate for the work environment. Full protective clothing and shoes are required for employee exposure above the lead PEL. Other safety equipment should be worn as appropriate for the work environment. Keep work clothing separate from street clothes.

WORK/HYGIENIC PRACTICES: Do not permit eating, drinking, or the use of cosmetics or tobacco products while handling or processing material or in solder work areas. Practice good oral hygiene procedures. Wash hands and face thoroughly before eating, drinking, applying cosmetics or using tobacco products. Full protective clothing is required to be worn by workers exposed to concentrations of lead/dust fume above the PEL, and showering is required before changing into street clothes. Avoid inhalation and ingestion of product, and activities, which generate dust or fume. Keep melting/soldering temperatures as low as possible to minimize the generation of fumes.



TOP

## SECTION 10 : Other Information

### Applies to All Ingredients:

**Section 302 Extremely Hazardous Substances (TPQ):** EHS TPQ (LBS): (\*2) Not Applicable

**Section 302 Extremely Hazardous Substances (RQ):** EHS RQ (LBS): (\*1) Not Applicable

**Section 312 Hazard Category:**

311-312: (\*5) H-1

**Acute:** Yes

**Section 313 Toxic Release Form:**

This product/mixture contains the following toxic chemical(s) subject to the reporting requirements of Section 313 of title III of the U.S. Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372. The percent by weight of each toxic chemical and its associated chemical abstract system (CAS) number are to be found in Section 2 of this Material Safety Data Sheet.

SEC.313: (\*3) Yes

### **Copper:**

#### **Section 302:**

This product/mixture contains the following chemicals subject to the release reporting of Section 302.:

CHEMICAL NAME: Copper

RQ (LBS) (\*1): 5000

-FOOTNOTES-

\*1= Reportable quantity (RQ) under CERCLA Section 302. Spills to the environment exceeding the reportable quantity in any 24- hour period must be reported to the U.S. National Response Center (800) 424-8802. No reporting of releases of the hazardous substance(s) is required if the diameter of the pieces of the solid metal(s) released is equal to or exceeds 100 micrometers (0.004 inches).

#### **Section 313 Toxic Release Form:**

313 CATEGORY: (\*4) Copper

#### **Comments:**

-FOOTNOTES-:

\*1= Reportable quantity of extremely hazardous substance, Section 302.

\*2= Threshold planning quantity, extremely hazardous substance, Section 302.

\*3= Toxic chemical list, Section 313

\*4= Chemical category as required by Section 313 (40 CFR 372.42). Subject to annual release reporting requirements.

\*5= Hazard category for SARA Section 311/312 reporting:

Health:

H-1=Immediate (ACUTE) Health Hazard

H-2=Delayed (CHRONIC) Health Hazard

Physical:

P-3= Fire Hazard

P-4= Sudden Release of Pressure Hazard

P-5= Reactive Hazard

#### **HMIS:**

**Health Hazard:** 1 = Slight

**Fire Hazard:** 0 = Minimal

**Reactivity:** 0 = Minimal

**Personal Protection:** Not Applicable

#### **NFPA:**

**Fire Hazard:** 0 = Minimal

**Health:** 1 = Slight

**Reactivity:** 0 = Minimal

**Specific Hazard:** Not Applicable

**MSDS Revision Date:**

March 2003

**Disclaimer:**

This Material Safety Data Sheet is offered solely for your information, consideration and investigation. Taracorp, Inc. provides no warranties, either express or implied, and assumes no responsibilities for the accuracy or completeness of the data contained in this document. The data in this Material Safety Data Sheet relates only to this product and does not relate to use in combination with any other material or in any process.

**NFPA/HMIS HAZARD CODES:**

0 = Minimal  
1 = Slight  
2 = Moderate  
3 = Serious  
4 = Severe

**ADDITIONAL INFORMATION:**

NO ADDITIONAL INFORMATION

**Abbreviations:**

NE=NONE ESTABLISHED  
AL=ACTION LEVEL  
PEL=PERMISSIBLE EXPOSURE LIMIT  
TLV=THRESHOLD LIMIT VALUE

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