



SAFETY DATA SHEET

Section 1: GENERAL INFORMATION

<i>TRADE NAME (Common Name or Synonym)</i>	<i>CHEMICAL NAME</i>	<i>PREPARED BY</i>
Tin/Silver Solder	Tin/Silver Solder	Metallic Resources

USED IN INDUSTRIAL SOLDERING PROCESSES
ADDRESS (No., Street, City, State, Zip Code):
Metallic Resources, Inc., 2368 East Enterprise Parkway, Twinsburg, OH 44087

<i>CONTACT</i>	<i>PHONE NUMBER</i>
Metallic Resources, Inc.:	(330) 425-3155
Chemtrec:	(800) 424-9300

or contact any emergency room within 15 minutes of your location.

Section 2: HAZARDS IDENTIFICATION

Signal Word: Warning



Hazard statement(s)

H303 May be harmful if swallowed

H335 May cause respiratory irritation

Precautionary statement(s)

P233 Keep container tightly closed

P261 Avoid breathing dust/fume/gas/mist/vapors/spray

P270 Do not eat, drink or smoke when using this product

P273 Avoid release to the environment

P280 Wear protective gloves/protective clothing/eye protection/face protection

P362 Take off contaminated clothing and wash before reuse

P301 + P314 IF SWALLOWED: Get Medical advice/attention if you feel unwell

P302 + P352 IF ON SKIN: Wash with plenty of soap and water

P304 + 341 IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing

P305 + 351 IF IN EYES: Rinse continuously with water for several minutes (15 mins)

P501 Dispose of in accordance with applicable local/state and federal regulations. Consider recycling.

POTENTIAL HEALTH EFFECTS:

Eye Contact: Contact with powdered metal alloy or fume from molten metal may cause irritation. Severe eye damage may result from hot molten metal being splashed into the eyes. Wear safety glasses and face shield when working with molten metal.

Ingestion: Ingestion of dust may cause headache, nausea, abdominal pain, fatigue and pain in the legs, arms and joints. May be harmful.

Inhalation: Inhalation of fume or dust may cause local irritation to the respiratory system. Inhalation of fume or dust may cause headache, nausea, abdominal pain, fatigue and pain in the legs, arms and joints. Inhalation can be harmful.

Skin Contact: Normal handling of solid metal should not cause any adverse health effects. Hot molten metal may cause burns to the skin. Wear protective equipment when handling molten metal. Protect skin when grinding/cutting, may cause irritation.

Section 2: HAZARDS IDENTIFICATION (Continued)

Chronic: TIN: Has been shown to increase incidence of sarcoma in animal tests. Chronic exposure may result in "stannosis" a mild form of pneumoconiosis.

Silver: Chronic skin contact or ingestion of silver dusts, salts or fume can result in a condition known as Argyria, a condition with bluish pigmentation of the skin and eyes.

Exposure to metal fumes may cause irritation to the respiratory system. Long term exposure by inhalation to metal fumes may cause illness such as metal fume fever.

Exposure to lead fume may cause harm. Sign of overexposure is anemia.

NOTE: Metallic Resources does not recommend, manufacturer, market or endorse any of its products for human consumption.

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

Material or Substance	C.A.S. #	Wt. %
Tin	7440-31-5	95-99%
Silver	7440-22-4	0.2-5.0%

Section 4: FIRST AID MEASURES

Eye Contact: Hold eyelids apart and flush eyes with plenty of tepid water for at least 15 minutes. Seek medical attention if irritation persists.

Ingestion: If patient is conscious, ONLY induce vomiting as directed by trained personnel. NEVER give anything by mouth to an unconscious person. Seek medical attention immediately.

Inhalation: Remove to fresh air. If not breathing, give artificial respiration or oxygen by trained personnel. Seek immediate medical attention.

Skin Contact: Remove contaminated clothing. Wash affected area with soap and water. Wash clothing before reuse. If irritation persists, obtain medical attention.

Section 5: FIRE FIGHTING MEASURES

Flash Point: Not established. **Method:** Not established.

Auto-ignition Temperature: Not established.

Flammable Limits: Limits not established. Massive metal is not flammable; however dust or powder may be a dust hazard.

Extinguishing Media: Use extinguishers appropriate for the surrounding fire conditions. Never add water to molten metal.

Special Fire Fighting Procedures: Firefighters must wear NIOSH approved self-contained breathing apparatus and full protective clothing.

Section 6: ACCIDENTAL RELEASE MEASURES

Spill or Leak Procedures: Contain spill. If molten, cool to allow metal to solidify. If a solid metal, wear gloves, pick up and return to process. If dust, wear recommended personal protective equipment. DO NOT SWEEP, avoid generation of dust. Ventilation required. Use a vacuum, place in barrels and return to process if applicable. Otherwise, dispose of following all Federal, State and Local regulations. In the EU refer to the Special Waste Regulations. Metal has reclaim value.

Section 7: HANDLING AND STORAGE

Handling Precautions: Only dry metals should be added to molten bath. If working with molten metals, or exposed to fume or dust, use appropriate personal protective equipment.

Storage Precautions: Store product in a cool, dry area away from incompatible materials.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls: Exhaust ventilation is required to control any air contaminants containing lead. Control concentration of all components so that their permissible exposure limits are not exceeded.

Personal protection:

Eyes: Chemical safety glasses/goggles and face shield with molten metal.

Respirator: An authority approved or compliant marked air-purifying respirator with a fume/dust chemical cartridge is recommended under certain circumstances where airborne concentrations are expected to be elevated or if in powder form. Avoid inhalation of lead dust. Additional respiratory protection maybe required based on the work conditions.

Skin: Gloves-leather or impervious (vinyl) type. Heat resistant gloves if handling hot metal. Safety type boots. Personal protective equipment is recommended when working with molten metal to avoid burns.

Other: Lab coat, safety shower and eye-wash fountain in work area. Avoid the use of contact lenses in high fume areas.

Work/Hygienic Practices: Maintain good housekeeping. Clean up spills immediately. Good personal hygiene is essential. Avoid eating, smoking or drinking in the work area. Wash hands thoroughly with soap and water immediately upon leaving the work area. Follow standard lead work practices as established under governmental regulations.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Silver grey solid metal	Boiling Point:	Not applicable.
Odor:	Odorless	Melting Point:	423°F (217°C)
Specific Gravity:	Alloy Dependent	pH:	Not applicable
Vapor Pressure:	Not applicable.	Solubility in Water:	Insoluble
Vapor Density:	(air=1) Not applicable.	Flash point:	Not applicable

Section 10: STABILITY AND REACTIVITY

General: Stable.

Conditions to Avoid: Not established.

Incompatible Materials: Avoid contact with mineral acids.

Hazardous Decomposition / Combustion: Harmful organic fumes and toxic oxide fumes may form at elevated temperatures.

Hazardous Polymerization: Will not occur.

Section 11: TOXICOLOGICAL INFORMATION

Carcinogenicity:

National Toxicity Program (NTP): No

Occupational Safety & Health Administration (OSHA): No

U.N. International Agency for Research on Cancer (IARC): No

LD50: Not established **LC50:** Not established

Other:

Irritancy of Product: Not established

Mutagenicity: Not established

Sensitization to Product: Not established

Teratogenicity: Not established

Reproductive Toxicity: No specific data is available

Synergistic Products: Not established

RTECS#: Tin – XP7320000 (Registry of Toxic Effects of Chemical Substances)

Section 12: ECOLOGICAL INFORMATION

Product mixture not tested.

Section 13: DISPOSAL CONSIDERATION

Waste Disposal Method: Scrap metal alloy usually has value. Contact a commercial reclaimer for recycling. Otherwise, dispose in accordance with all Federal, State and Local environmental regulations. In Europe follow the Special Waste Regulations. Avoid release to the environment.

Section 14: TRANSPORT INFORMATION

Transport in accordance with applicable regulations and requirements. Not regulated under US DOT (United States Department of Transportation).

Metal solid form:

Not hazardous under shipping modes/ regulations.

UN - none

Section 15: REGULATORY INFORMATION

UNITED STATES

HCS Classification: Irritating material, target organ effects.

U.S. Federal Regulations: TSCA 5(a)2 proposed risk management: SILVER.
TSCA 5(a)2 final significant new use rules. No products were found.
TSCA 12(b) one time export. No products were found.

SARA 313	Substance Name
Form R - Reporting Requirements:	Silver
Supplier Notification:	Silver

WHMIS (Canada): Not controlled under WHMIS (Canada).

Reach Directive : This product does not contain any Substances of Very High Concern (SVHC).

Section 16: OTHER INFORMATION

ABBREVIATION TERMS:

ACGIH	American Conference of Government Industrial Hygienists	OSHA	Occupational Safety and Health Act
CAS	Chemical Abstracts Service	PEL	Permissible Exposure Limit
CEPA	Canadian Environmental Protection Act	REL	Recommended Exposure Limit
IARC	International Agency for Research on Cancer	SARA	Superfund Amendments & Reauthorization Act
NIOSH	National Institute for Occupational Safety and Health	TSCA	Toxic Substances Control Act
NTP	National Toxicology Program	N/A	Not Applicable, Not Available

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Disclaimer Notice: The information contained herein in this Safety Data Sheet is believed to be accurate. However, it provides no warranties, either express or implied, and assumes no responsibility for the accuracy or completeness of the data contained herein. The customer/user of this product assumes all liability and risk in the use of this product.