



SAFETY DATA SHEET

Section 1: GENERAL INFORMATION

TRADE NAME (Common Name or Synonym)	CHEMICAL NAME	PREPARED BY
Tin/Lead Solder	Tin/Lead 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		
CONTACT	PHONE NUMBER	
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)

- H302 Harmful if swallowed
- H351 Suspected of causing cancer (lead)
- H361 Suspected of damaging fertility or the unborn child (lead)
- H373 May cause damage to organs through prolonged or repeated exposure (lead)
- H410 Very toxic to aquatic life with long lasting harmful effects

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 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician 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 contents by recycling if possible otherwise dispose of via an approved waste handler.

Classification:

- Acute toxicity, oral – Category 4
- Carcinogenicity- Category 2
- Reproductive toxicity- Category 2
- Specific target organ toxicity – repeated exposure- Category 2
- Acute aquatic toxicity – Category 1 Chronic aquatic toxicity- Category 1

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.



Section 2: HAZARDS IDENTIFICATION (Continued)

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.

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

LEAD: Prolonged exposure to vapors or fumes at higher temperatures may cause respiratory irritation and systematic lead poisoning. Symptoms of lead poisoning include headache, nausea, abdominal pain, muscle and joint pain and damage to the nervous system, blood system and kidneys.

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.

WARNING: This product contains a chemical known to the State of California to cause cancer and/or birth defects (or other reproductive harm). (Lead)

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

WARNING: This product contains lead. Lead may be harmful to your health. US Federal law prohibits the use of leaded solders in making joints or fittings in any private or public water supply system. Keep out of the reach of children.

Section 3: COMPOSITION/INFORMATION ON INGREDIENTS

Material or Substance	C.A.S. #	Wt. %
Tin	7440-31-5	59-64%
Lead	7439-92-1	41-36%

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.
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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:	361°F (182°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): Yes- reasonably anticipated to be a human carcinogen

Occupational Safety & Health Administration (OSHA): Yes- 1910.1025

U.N. International Agency for Research on Cancer (IARC): Yes

Lead and Lead compounds are listed as possible carcinogens. 2B-Group 2B- possibly carcinogenic to humans.

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

Other: Chronic Toxicity: Lead can cause potential harm to the developing fetus.

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#: Lead – OF7525000 RTECS#: Tin – XP7320000 (Registry of Toxic Effects of Chemical Substances)

Lead

reproductive toxicity – rat –inhalation reproductive toxicity – rat – oral

reproductive toxicity – mouse-oral

Teratogenicity

Developmental toxicity – rat- inhalation

Developmental toxicity- rat- oral

Suspected human reproductive toxicant

GHS- Specific target organ toxicity- repeated exposure

May cause damage to organs through prolonged or repeated exposure

Lead- OSHA Hazards- carcinogen/target organ effect/harmful by ingestion/teratogen.

Section 12: ECOLOGICAL INFORMATION

Product mixture not tested.

Lead – Toxicity to fish – mortality LOEC – rainbow trout – 1.19 mg/l – 96h. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Bioaccumulation – Oncorhynchus kisutch – 2 weeks

Bioconcentration factor (BCF): 12. Fresh fish: 0.44 mg/l LC50 96h/ 1.32 mg/l LC50 96h/water Flea: 600 ug/l EC50 = 48h

Avoid release to environment. Bioconcentration factor: BCF 12 Very toxic to aquatic life with long lasting effects.

Section 13: DISPOSAL CONSIDERATION

Waste Disposal Method: Scrap metal alloy usually has value. Contact a commercial reclaimer for recycling. Otherwise, dispose of 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

North American Emergency Guide Book – Not classified

Powder form: Only if it meets or exceeds the reportable quantity (RQ) of lead in a single package

RQ, UN 3077, Environmentally Hazardous Substance, Solid, 9, PG III (Lead)

Marine Pollutant: No



RQ (lead) = 10 lbs

Section 15: REGULATORY INFORMATION

UNITED STATES

HCS Classification: Toxic Material, Irritating material, carcinogen, target organ effects.

U.S. Federal Regulations: All ingredients comply with applicable rules or orders under US TSCA.

All components are listed or exempted.

TSCA 6 proposed risk management: LEAD.

TSCA 8(b) inventory: LEAD

TSCA 12(b) annual export notification: LEAD

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

California Prop. 65: This product contains a substance known to the State of California to cause cancer and birth defects or other reproductive harm.

WHMIS (Canada): Class D-2A: Material causing other toxic effects (very toxic). CEPA DSL: Tin, Lead.

Reach Directive: Contains Lead, a Substance 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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