SAFETY DATA SHEET

Section 1: GENERAL INFORMATION

TRADE NAME (Common Name or Synonym)	*CHEMICAL NAME*	*PREPARED BY*
Tin Solder	Tin	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)

H319 Causes serious eye irritation (dust/powder form)
H335 May cause respiratory irritation

Precautionary statement(s)

P261 Avoid breathing dust/fume/gas/mist/vapors/spray
P270 Do not eat, drink or smoke when using this product
P271 Use only outdoors or in a well-ventilated area
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
P302 +P352 IF ON SKIN: Wash with plenty of soap and water
P305 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Continue rinsing. (15 mins)
P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P337 + P313 If eye irritation persists: Get medical advice/attention.

POTENTIAL HEALTH EFFECTS:

Eye Contact: Irritant in dust form. May cause irritation in solid form.
Ingestion: Not generally considered toxic, but large amounts may cause gastrointestinal disturbances due to local irritation.
Inhalation: Dust may cause irritation to the respiratory tract.
Skin Contact: Mechanical irritant on contact cannot be absorbed through skin. May cause irritation.
Chronic: Prolonged inhalation of dust form may cause pneumoconiosis, producing distinctive changes in the lungs with no apparent disability or complications.
NOTE: Metallic Resources does not recommend, manufacture, 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	99.3 – 100%

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: 1166F (630C) dust cloud; 806F (430C) dust layer

Flammable Limits: LEL 0.19 g/l. Fine dust could be a potential explosion hazard. Sufficient concentration in air and the presence of an ignition source is a potential dust explosion hazard. Minimum explosible concentration: 0.19 g/l particle size and air concentration determine reactivity.

Extinguishing Media: Use extinguishers appropriate for the surrounding fire conditions. Use dry sand, sodium chloride, or dolomite. Water, A/B/C extinguishers and halogenated agents are not recommended.

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

Tin is not considered to be flammable or combustible.

Section 6: ACCIDENTAL RELEASE MEASURES

Spill or Leak Procedures: Wear respirator and other personal protective clothing. (See Exposure Controls/Personal Protection Section). Extinguish or remove all sources of ignition. Ventilate area. Clean up spill without generating or dispersing dust into the air. Vacuum solids instead of sweeping using a grounded unit. Reduce airborne dust and prevent scattering by moistening with water. Place spilt material in a container and dispose of in accordance with applicable regulations.

Section 7: HANDLING AND STORAGE

Handling Precautions: Avoid breathing vapors from heated material and dusts from cutting or grinding. Avoid contact with eyes, skin and clothing. Follow routine safe handling procedures. Use with adequate ventilation. Solid material does not present a hazard. Tin in dust form must be contained. Wear gloves and a respirator may be needed during certain work tasks where there is a potential for exposure.

Storage Precautions: Keep away from heat and flame. Store in suitable, tightly capped, and labeled containers in cool dry, well-ventilated area. Empty containers may be hazardous as they contain product residue. Containers of dust product must be grounded to control potential static charge.

Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls: Local exhaust ventilation is recommended to control any airborne contaminants and to keep exposure limits to as low as possible. Ventilation is required in dust applications or when grinding or cutting.

Personal protection:

Eyes: Chemical safety glasses/goggles. Face shield for splash hazards.

Respirator: An approved or compliant air-purifying respirator with a fume/dust chemical cartridge or HEPA dust mask is recommended under certain circumstances where airborne concentrations are expected to be elevated. Warning: Air purifying respirators do not protect the worker in oxygen-deficient atmospheres. Dust mask is not recommended in high exposure areas.

Skin: Wear protective gloves when handling powder form or hot metal.

Other: Eye-wash fountain/shower in work area. Avoid the use of contact lenses in high fume and dust areas.

Work/Hygienic: 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.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Silver grey solid metal	**Boiling Point:**	Not applicable.
Odor:	Odorless	**Melting Point:**	441°F (227°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: Tin/Tin Oxides

Hazardous Polymerization: Will not occur.

Section 11: TOXICALOGICAL 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: RTECS#: Tin – XP7320000 (Registry of Toxic Effects of Chemical Substances)

Section 12: ECOLOGICAL INFORMATION

No Data Available

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. Non-hazardous under shipping regulations.

UN - none

Not dangerous goods

Section 15: REGULATORY INFORMATION

UNITED STATES

HCS Classification: Irritating material, target organ effects.

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

SARA 313	Substance Name
Form R - Reporting Requirements:	Tin (solid) is not a hazard
Supplier Notification:	Tin (solid) is not a hazard

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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