

LEAD PRODUCTS COMPANY, INC.

MATERIAL SAFETY DATA SHEET

SECTION I - PRODUCT IDENTIFICATION & USE

Product Name: Tin

Common Name or Synonyms: Metallic tin, tin flakes, tin metal, or tin powder.

Intended Use: Industrial and Commercial

Manufacturer / Vendor Information: Lead Products Company, Inc. **Phone numbers:** (713) 224 – 9546
P. O. Box 1341 (800) 433 – 5323
Houston, TX 77251-1341

SECTION II - COMPOSITION

INGREDIENTS	CAS NO.	OSHA PEL	ACGIH TLV	APPROX. WT. %
Tin - inorganic oxide	7440-31-5	2.0 mg/m ³ NA	2.0 mg/m ³ 2.0 mg/m ³	> 99.5

SECTION III – HAZARDS IDENTIFICATION

Emergency Overview: 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 lead dusts and /or fumes, which may present a potential health hazard.

**Acute Exposure:
(Severe Short-Term)** Acute overexposure to tin can cause irritation of the eyes, skin, mucous membranes and respiratory system.

**Chronic Exposure:
(Prolonged)** Chronic overexposure to tin can result in benign pneumoconiosis (stannosis). 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.

SECTION III – HAZARDS IDENTIFICATION (continued)

Carcinogenicity:	NTP: No	IARC: No	OSHA: No
Eye:	Dust, vapor and/or fume may cause irritation.		
Skin Contact:	Dust, vapor and/or fume may cause irritation.		
Skin Absorption:	Dust, vapor and/or fume are not readily absorbed through the skin.		
Inhalation:	Dust, vapor and/or fume may be irritating to the respiratory system, and can result in both acute and chronic overexposure.		
Ingestion:	Dust, vapor and/or fume may be absorbed through the digestive system, and can result in both acute and chronic overexposure.		

SECTION IV- EMERGENCY AND FIRST AID PROCEDURES

Eye:	Flush well with running water to remove particulate (s). If irritation persists, get medical attention.
Skin Contact:	Follow normal hygiene & first aid procedures - wash with soap and water.
Inhalation:	Remove from exposure. Get medical attention if experiencing effects of overexposure. See Section III.
Ingestion:	Give water; induce vomiting only in a conscious non-convulsing individual; obtain immediate medical attention.

SECTION V- FIRE AND EXPLOSION HAZARD INFORMATION

Flash point:	Non-flammable in solid form. Tin dust or fine powder may ignite under some conditions.
Flammable limits:	Not applicable
Extinguishing media:	Dry chemical, CO2 should be used on surrounding fire. Do not use water on fires where molten metal is present.
Special fire fighting procedures:	Use approved full-face piece self-contained breathing apparatus & full protective clothing if involved in fire.
Unusual fire & explosion hazards:	Molten metals produce fume/dust/mist that may be toxic &/or respiratory irritants. Products or dust can react vigorously w/strong oxidizing agents.

SECTION VI – ACCIDENTAL RELEASE MEASURES

Spill or Leak Procedures:	<ol style="list-style-type: none">1) Material in dust form - minimize exposure. Clean-up using dustless methods (e.g., HEPA vacuum). Do not use compressed air.2) Place in closed labeled containers for recycling or disposal.3) Keep out of waterways. <p>Note: Response personnel should wear protective clothing & respiratory protection where dust/fume exposure exists.</p>
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SECTION VI – ACCIDENTAL RELEASE MEASURES (continued)

Other Procedures: For large product users or operations involving large product quantities, we recommend that the purchaser establish a Spill Prevention, Control and Countermeasures (SPCC) Plan. The SPCC 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 National Response Center (800-424-8802) may be required in case of hazardous substances. (See U.S. EPA and U.S. DOT regulations; also various state and local regulations.)

SECTION VII – HANDLING & STORAGE

Handling Information: Practice good housekeeping procedures to prevent dust accumulations. Keep material dry, where accidental contact with acids is not possible. Avoid storage near incompatible materials (see Section X). Avoid skin contact and keep away from children & their environment, feed products, food products and domestic animals.

Other Precautions: Special attention is drawn to the requirements of the U.S. OSHA Respirator Standard (29 CFR 1910.134) should airborne exposures exceed the U.S. OSHA Action Level (AL) or PEL.

SECTION VIII – EXPOSURE CONTROLS / PERSONAL PROTECTION

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

Ventilation: Good general dilution ventilation or ventilation, as described in “industrial ventilation, a manual of recommended practice”, by the American Conference of Governmental Industrial Hygienists (ACGIH), is recommended in order to maintain exposure levels below the Threshold Limit Values (TLV’s) specified by U.S. OSHA or other local or state regulations.

Protective Gloves: Recommended for prolonged contact/heat.

Eye Protection: Safety glasses or goggles are recommended where the possibility of getting dust particles in the eyes exists. A face shield is recommended in areas around molten metal.

Other Protective Equipment: Other safety equipment should be worn as appropriate for the work environment.

Work/Hygienic Practices: Do not permit eating, drinking, or the use of cosmetics or tobacco products while handling or processing material or while in work areas. Practice good personal hygiene procedures. Wash hands and face thoroughly before eating, drinking, applying cosmetics, or using tobacco products. Full protective clothing is to be worn by workers and showering is required before changing into street clothes. Work clothes and equipment should remain in designated areas and never taken home or laundered with personal clothing. Avoid inhalation and ingestion of product, and activities which generate dust or fume. Keep melting temperatures as low as possible to minimize the generation of fumes.

SECTION IX – PHYSICAL/ CHEMICAL CHARACTERISTICS

Appearance At Normal Conditions:	Gray to almost silver-white solid.
Odor At Normal Conditions:	No Detectable Odor
Specific Gravity (H₂O = 1):	5.8 – 7.3
Melting Point (Degrees F):	> 449° F
Boiling Point (Degrees F):	> 4545° F
Solubility In Water:	Insoluble
Evaporation Rate	Not Applicable
Vapor Density:	Not Applicable
Vapor Pressure:	Not Applicable
pH:	Not Applicable

SECTION X – STABILITY & REACTIVITY

Stability:	Stable
Conditions To Avoid:	Accidental contact with acids or strong oxidizers
Incompatibility:	Chlorine, turpentine, acids, or alkalis. Never mix molten metal with water - it will explode.
Hazardous Decomposition By Products:	Heavy metal oxide fumes, vapor, and/or dust may be generated at high temperatures.
Hazardous Polymerization:	Will not occur

SECTION XI – DISPOSAL CONSIDERATIONS

Waste disposal methods: May have value if recycled. Dispose of toxic substances & hazardous wastes in accordance with all federal, state and/or local disposal or discharge regulations. Under the Resource Conservation and Recovery Act (RCRA), it is the responsibility of the user of the product to determine, at the time of disposal, whether the product falls under the RCRA as a hazardous waste. This is because product uses, transformations, synthesis, mixtures, etc. may cause the resulting end-product to be classified as hazardous.

SECTION XII – TRANSPORTATION INFORMATION

U.S. DOT Shipping Name:	Not regulated by U.S. DOT as shipped
Hazard Class:	Not Applicable
UN / ID No.	Not Applicable
U.S. DOT Label (s)	Not Applicable

SECTION XIII – REGULATORY INFORMATION

Federal Drinking Water Standards: Tin: Not Established

EPRA, SARA Title III, Section 313: No, see Title 40 CFR Part 372

For chemicals subject to reporting requirements (see Section II for percent by weight of each toxic chemical and its associated Chemical Abstract System (CAS) number).

CERCLA Hazardous Substances: No, see Title 40 CFR Part 302
Reporting Quantity (RQ)

Tin: Not Established

U.S. DOT: See Section XII

Lead Products Company, Inc. and its affiliates assume no responsibility for injury to anyone caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Additionally, Lead Products Company, Inc. assumes no responsibility for injury to anyone caused by abnormal use of the material even if reasonable safety procedures are followed. Furthermore, vendee and third persons assume the risk in their use of the material.

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Prepared by: LPCO

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