




GARDENA, CA
NEW BRUNSWICK, NJ

Material Safety Data Sheet

NFPA	HMIS	Personal Protective Equipment						
	<table><tr><td>Health Hazard</td><td>1</td></tr><tr><td>Fire Hazard</td><td>0</td></tr><tr><td>Reactivity</td><td>0</td></tr></table>	Health Hazard	1	Fire Hazard	0	Reactivity	0	<div></div> <div>See Section 15.</div>
Health Hazard	1							
Fire Hazard	0							
Reactivity	0							

Section 1. Chemical Product and Company Identification

Page Number: 1

Common Name/ Trade Name	Tin	Catalog Number(s).	T1060, T1065, T1070, T1071, T1075, T1077, T1192
Manufacturer	SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248	CAS#	7440-31-5
Commercial Name(s)	Not available.	RTECS	XP7320000
Synonym	Tin metal mossy; Tin metal shot; Tin Metal sticks; Tin Metal Foil; Tin Metal, granular	TSCA	TSCA 8(b) inventory: Tin
Chemical Name	Tin	CI#	Not available.
Chemical Family	Not available.	IN CASE OF EMERGENCY CHEMTREC (24hr) 800-424-9300 CALL (310) 516-8000	
Chemical Formula	Sn		
Supplier	SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248		

Section 2. Composition and Information on Ingredients

		Exposure Limits			
Name	CAS #	TWA (mg/m ³)	STEL (mg/m ³)	CEIL (mg/m ³)	% by Weight
1) Tin	7440-31-5	2			100

Toxicological Data
on Ingredients

Not applicable.

Section 3. Hazards Identification

Potential Acute Health Effects Slightly hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation.**Potential Chronic Health Effects****CARCINOGENIC EFFECTS:** Not available.
MUTAGENIC EFFECTS: Not available.
TERATOGENIC EFFECTS: Not available.
DEVELOPMENTAL TOXICITY: Not available.
Repeated or prolonged exposure is not known to aggravate medical condition.

Continued on Next Page

Section 4. First Aid Measures

Eye Contact	Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation occurs.
Skin Contact	Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops.
Serious Skin Contact	Not available.
Inhalation	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
Serious Inhalation	Not available.
Ingestion	Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately. Loosen tight clothing such as a collar, tie, belt or waistband.
Serious Ingestion	Not available.

Section 5. Fire and Explosion Data

Flammability of the Product	Non-flammable.
Auto-Ignition Temperature	Not available.
Flash Points	Not available.
Flammable Limits	Not available.
Products of Combustion	Some metallic oxides.
Fire Hazards in Presence of Various Substances	Not applicable.
Explosion Hazards in Presence of Various Substances	Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.
Fire Fighting Media and Instructions	Not applicable.
Special Remarks on Fire Hazards	When heated in Chlorine, Tin reacts, producing light and much heat. In the presence of water, cupric nitrate and tin foil, on prolonged intimate contact, will produce flaming and sparking. Sodium peroxide and Potassium peroxide, potassium dioxide, oxidize tin with incandescence. The reaction between tin and tellurium attains incandescence.
Special Remarks on Explosion Hazards	Tin reacts violently or explosively with fused ammonium nitrate below 200 deg. C. Contact of metallic tin with turpentine may cause fires and explosions.

Section 6. Accidental Release Measures

Small Spill	Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.
Large Spill	Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

Section 7. Handling and Storage

Precautions Do not breathe dust. Keep away from incompatibles such as oxidizing agents, acids, alkalis.

Storage Keep container tightly closed. Keep container in a cool, well-ventilated area.

Section 8. Exposure Controls/Personal Protection

Engineering Controls Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

Personal Protection Safety glasses. Lab coat. Gloves (impervious).

Personal Protection in Case of a Large Spill Splash goggles. Full suit. Boots. Gloves. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits
TWA: 2 (mg/m³) from OSHA (PEL) [United States]
TWA: 2 (mg/m³) from ACGIH (TLV) [United States]
TWA: 2 (mg/m³) from NIOSH
TWA: 2 STEL: 4 (mg/m³) [Canada]

Consult local authorities for acceptable exposure limits.

Section 9. Physical and Chemical Properties

Physical state and appearance Solid.

Odor Odorless.

Molecular Weight 118.71 g/mole

Taste Not available.

pH (1% soln/water) Not applicable.

Color Silver-white Grey.

Boiling Point 2507°C (4544.6°F)

Melting Point 231.9°C (449.4°F)

Critical Temperature Not available.

Specific Gravity 7.31 (Water = 1)

Vapor Pressure Not applicable.

Vapor Density Not available.

Volatility Not available.

Odor Threshold Not available.

Water/Oil Dist. Coeff. Not available.

Ionicity (in Water) Not available.

Dispersion Properties Not available.

Solubility
Insoluble in cold water, hot water.
Soluble in Hydrochloric Acid, Sulfuric Acid, Aqua Regia, Alkali.
Slightly soluble in dilute Nitric Acid.

Section 10. Stability and Reactivity Data

Stability The product is stable.

Instability Temperature Not available.

Conditions of Instability Excess heat, incompatible materials

Incompatibility with various substances Reactive with oxidizing agents, acids, alkalis.

Corrosivity Non-corrosive in presence of glass.

Continued on Next Page

Special Remarks on Reactivity	Incompatible with bromine, bromine trifluoride, Chlorine, Chlorine trifluoride + Carbon, water + Cupric Nitrate, Sodium peroxide, water vapor + Carbon Tetrachloride, Disulfur Dichloride, fused Ammonium Nitrate, Potassium dioxide, Tellurium, Turpentine, Acids (Nitric acid, Sulfuric Acid, Hydrochloric Acid, Acetic Acid), caustic Alkali, Iodine Bromide. In the presence of water vapor, the interaction between tin and carbon tetrachloride is violent. The interaction between tin and disulfur dichloride is violent. Tin reacts violently with Iodine Bromide
Special Remarks on Corrosivity	Not available.
Polymerization	Will not occur.

Section 11. Toxicological Information

Routes of Entry	Ingestion.
Toxicity to Animals	LD50: Not available. LC50: Not available.
Chronic Effects on Humans	Not available.
Other Toxic Effects on Humans	Slightly hazardous in case of skin contact (irritant), of ingestion, of inhalation.
Special Remarks on Toxicity to Animals	Not available.
Special Remarks on Chronic Effects on Humans	Not available.
Special Remarks on other Toxic Effects on Humans	Acute Potential Health Effects: Skin: May cause skin irritation. Eyes: Material in granular form may cause eye irritation to due mechanical action. Inhalation: Not expected to be an inhalation hazard. However, if tin dust is present when working with the tin metal in granular form, Inhalation of tin dust may cause respiratory tract and mucous membrane irritation due to mechanical action. Ingestion: It is not expected to be an ingestion hazard. It is poorly absorbed from the digestive tract. It can cause gastrointestinal tract disturbances which may be from irritant or astringent action on the stomach.

Section 12. Ecological Information

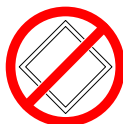
Ecotoxicity	Not available.
BOD5 and COD	Not available.
Products of Biodegradation	Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.
Toxicity of the Products of Biodegradation	The product itself and its products of degradation are not toxic.
Special Remarks on the Products of Biodegradation	Not available.







Section 13. Disposal Considerations

Waste Disposal	Waste must be disposed of in accordance with federal, state and local environmental control regulations.
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Section 14. Transport Information

DOT Classification	Not a DOT controlled material (United States).
Identification	Not applicable.
Special Provisions for Transport	Not applicable.
DOT (Pictograms)	

**Section 15. Other Regulatory Information and Pictograms**

Federal and State Regulations	Pennsylvania RTK: Tin Metal Massachusetts RTK: Tin Metal New Jersey: Tin Metal California Director's List of Hazardous Substances: Tin Metal TSCA 8(b) inventory: Tin Metal																			
California Proposition 65 Warnings	California prop. 65: This product contains the following ingredients for which the State of California has found to cause cancer which would require a warning under the statute: No products were found. California prop. 65: This product contains the following ingredients for which the State of California has found to cause birth defects which would require a warning under the statute: No products were found.																			
Other Regulations	EINECS: This product is on the European Inventory of Existing Commercial Chemical Substances (EINECS No. 231-141-8). Canada: Listed on Canadian Domestic Substance List (DSL). China: Listed on National Inventory. Japan: Not listed on National Inventory (ENCS). Korea: Listed on National Inventory (KECI). Philippines: Listed on National Inventory (PICCS). Australia: Listed on AICS.																			
Other Classifications	WHMIS (Canada)	Not controlled under WHMIS (Canada).																		
	DSCL (EEC)	This product is not classified according to the EU regulations.	Not applicable.																	
HMIS (U.S.A.)	<table><tr><td>Health Hazard</td><td>1</td></tr><tr><td>Fire Hazard</td><td>0</td></tr><tr><td>Reactivity</td><td>0</td></tr><tr><td>Personal Protection</td><td>B</td></tr></table>	Health Hazard	1	Fire Hazard	0	Reactivity	0	Personal Protection	B	National Fire Protection Association (U.S.A.)	<table><tr><td>Health</td><td></td><td>Flammability</td></tr><tr><td></td><td></td><td>Reactivity</td></tr><tr><td></td><td></td><td>Specific hazard</td></tr></table>	Health		Flammability			Reactivity			Specific hazard
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WHMIS (Canada) (Pictograms)																				
DSCL (Europe) (Pictograms)																				
TDG (Canada) (Pictograms)																				

**ADR (Europe)
(Pictograms)****Protective Equipment**

Gloves (impervious).



Lab coat.

Not applicable.
Safety glasses.**Section 16. Other Information****MSDS Code** T3644**References** Not available.**Other Special
Considerations** Not available.

Validated by Sonia Owen on 10/4/2012.

Verified by Sonia Owen.

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CALL (310) 516-8000

Notice to Reader

All chemicals may pose unknown hazards and should be used with caution. This Material Safety Data Sheet (MSDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this MSDS is based on technical data judged to be reliable, Spectrum Quality Products, Inc. assumes no responsibility for the completeness or accuracy of the information contained herein.