

# Material Safety Data Sheet

<p><b>NFPA</b></p> 	<p><b>HMIS</b></p> <table border="1" style="margin: auto;"> <tr> <td style="background-color: #00FFFF;">Health Hazard</td> <td style="text-align: center; border: 1px solid black;">1</td> </tr> <tr> <td style="background-color: #FFC0CB;">Fire Hazard</td> <td style="text-align: center; border: 1px solid black;">0</td> </tr> <tr> <td style="background-color: #FFFF00;">Reactivity</td> <td style="text-align: center; border: 1px solid black;">0</td> </tr> </table>	Health Hazard	1	Fire Hazard	0	Reactivity	0	<p><b>Personal Protective Equipment</b></p>  <p>See Section 15.</p>
Health Hazard	1							
Fire Hazard	0							
Reactivity	0							

Section 1. Chemical Product and Company Identification		Page Number: 1
<b>Common Name/Trade Name</b>	Tin	<b>Catalog Number(s).</b> T1060, T1065, T1070, T1071, T1075, T1077, T1192
<b>Manufacturer</b>	SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248	<b>CAS#</b> 7440-31-5
<b>Commercial Name(s)</b>	Not available.	<b>RTECS</b> XP7320000
<b>Synonym</b>	Tin metal mossy; Tin metal shot; Tin Metal sticks; Tin Metal Foil; Tin Metal, granular	<b>TSCA</b> TSCA 8(b) inventory: Tin
<b>Chemical Name</b>	Tin	<b>CI#</b> Not available.
<b>Chemical Family</b>	Not available.	<p style="text-align: center; color: blue; margin: 0;"><b><u>IN CASE OF EMERGENCY</u></b></p> <p style="text-align: center; color: blue; margin: 0;"><b><u>CHEMTREC (24hr) 800-424-9300</u></b></p> <p style="text-align: center; margin: 5px 0 0 0;">CALL (310) 516-8000</p>
<b>Chemical Formula</b>	Sn	
<b>Supplier</b>	SPECTRUM LABORATORY PRODUCTS INC. 14422 S. SAN PEDRO STREET GARDENA, CA 90248	

Section 2. Composition and Information on Ingredients					
		<i>Exposure Limits</i>			
Name	CAS #	TWA (mg/m <sup>3</sup> )	STEL (mg/m <sup>3</sup> )	CEIL (mg/m <sup>3</sup> )	% by Weight
1) Tin	7440-31-5	2			100
<b>Toxicological Data on Ingredients</b> Not applicable.					

Section 3. Hazards Identification	
<b>Potential Acute Health Effects</b>	Slightly hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation.
<b>Potential Chronic Health Effects</b>	<p><b>CARCINOGENIC EFFECTS:</b> Not available.</p> <p><b>MUTAGENIC EFFECTS:</b> Not available.</p> <p><b>TERATOGENIC EFFECTS:</b> Not available.</p> <p><b>DEVELOPMENTAL TOXICITY:</b> Not available.</p> <p>Repeated or prolonged exposure is not known to aggravate medical condition.</p>

**Section 4. First Aid Measures**

<b>Eye Contact</b>	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.
<b>Skin Contact</b>	Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops.
<b>Serious Skin Contact</b>	Not available.
<b>Inhalation</b>	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.
<b>Serious Inhalation</b>	Not available.
<b>Ingestion</b>	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.
<b>Serious Ingestion</b>	Not available.

**Section 5. Fire and Explosion Data**

<b>Flammability of the Product</b>	Non-flammable.
<b>Auto-Ignition Temperature</b>	Not available.
<b>Flash Points</b>	Not available.
<b>Flammable Limits</b>	Not available.
<b>Products of Combustion</b>	Some metallic oxides.
<b>Fire Hazards in Presence of Various Substances</b>	Not applicable.
<b>Explosion Hazards in Presence of Various Substances</b>	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.
<b>Fire Fighting Media and Instructions</b>	Not applicable.
<b>Special Remarks on Fire Hazards</b>	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.
<b>Special Remarks on Explosion Hazards</b>	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**

<b>Small Spill</b>	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.
<b>Large Spill</b>	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/m<sup>3</sup>) from OSHA (PEL) [United States]  
 TWA: 2 (mg/m<sup>3</sup>) from ACGIH (TLV) [United States]  
 TWA: 2 (mg/m<sup>3</sup>) from NIOSH  
 TWA: 2 STEL: 4 (mg/m<sup>3</sup>) [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**

<b>Special Remarks on Reactivity</b>	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
<b>Special Remarks on Corrosivity</b>	Not available.
<b>Polymerization</b>	Will not occur.

### Section 11. Toxicological Information

<b>Routes of Entry</b>	Ingestion.
<b>Toxicity to Animals</b>	LD50: Not available. LC50: Not available.
<b>Chronic Effects on Humans</b>	Not available.
<b>Other Toxic Effects on Humans</b>	Slightly hazardous in case of skin contact (irritant), of ingestion, of inhalation.
<b>Special Remarks on Toxicity to Animals</b>	Not available.
<b>Special Remarks on Chronic Effects on Humans</b>	Not available.
<b>Special Remarks on other Toxic Effects on Humans</b>	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

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

### Section 13. Disposal Considerations

<b>Waste Disposal</b>	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.)**

Health Hazard	1
Fire Hazard	0
Reactivity	0
Personal Protection	B

**National Fire Protection Association (U.S.A.)**

Health



Flammability

Reactivity

Specific hazard

**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.

Printed 10/4/2012.

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.*