

# Material Safety Data Sheet

## Tin Metal, granular and mossy

ACC# 23480

### Section 1 - Chemical Product and Company Identification

**MSDS Name:** Tin Metal, granular and mossy

**Catalog Numbers:** S71214-1, T123-500, T127-500, T128-500, T131-1LB

**Synonyms:** Metallic Tin; Elemental Tin; Stannum; C.I. 77860.

**Company Identification:**

Fisher Scientific  
1 Reagent Lane  
Fair Lawn, NJ 07410

**For information, call:** 201-796-7100

**Emergency Number:** 201-796-7100

**For CHEMTREC assistance, call:** 800-424-9300

**For International CHEMTREC assistance, call:** 703-527-3887

### Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
7440-31-5	Tin	100	231-141-8

### Section 3 - Hazards Identification

#### EMERGENCY OVERVIEW

Appearance: silver white solid.

**Caution!** May cause respiratory and digestive tract irritation. May cause mechanical eye and skin irritation. Inhalation of fumes may cause metal-fume fever. May cause central nervous system effects.

**Target Organs:** Central nervous system.

#### Potential Health Effects

**Eye:** May cause eye irritation.

**Skin:** Prolonged and/or repeated contact may cause irritation and/or dermatitis.

**Ingestion:** May cause gastrointestinal irritation with nausea, vomiting and diarrhea.

Ingested inorganic tin exhibits only moderate toxicity due to poor absorption and rapid tissue turnover. Ingestion of large amounts may cause gastrointestinal irritation, nausea, cramps, vomiting and diarrhea. May interfere with various enzyme systems. Inorganic tin salts may cause systemic effects on the central nervous system, heart and liver.

**Inhalation:** Dust is irritating to the respiratory tract. Inhalation of fumes may cause metal fume fever, which is characterized by flu-like symptoms with metallic taste, fever, chills, cough, weakness, chest pain, muscle pain and increased white blood cell count. When inhaled as a dust or fume, may cause benign pneumoconiosis.

**Chronic:** Prolonged or repeated skin contact may cause dermatitis. Chronic exposure to tin oxide dusts and fumes may result in stannosis (benign pneumoconiosis).

## Section 4 - First Aid Measures

**Eyes:** Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. If irritation develops, get medical aid.

**Skin:** Get medical aid if irritation develops or persists. Wash clothing before reuse. Flush skin with plenty of soap and water.

**Ingestion:** Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Get medical aid if irritation or symptoms occur.

**Inhalation:** Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid if cough or other symptoms appear.

**Notes to Physician:** Treat symptomatically and supportively.

## Section 5 - Fire Fighting Measures

**General Information:** As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Use extinguishing media appropriate to the surrounding fire. Substance is noncombustible.

**Extinguishing Media:** Substance is noncombustible; use agent most appropriate to extinguish surrounding fire.

**Flash Point:** Not available.

**Autoignition Temperature:** 430 deg C ( 806.00 deg F)

**Explosion Limits, Lower:**Not available.

**Upper:** Not available.

**NFPA Rating:** (estimated) Health: 1; Flammability: 1; Instability: 1

## Section 6 - Accidental Release Measures

**General Information:** Use proper personal protective equipment as indicated in Section 8.

**Spills/Leaks:** Clean up spills immediately, observing precautions in the Protective Equipment section. Sweep up or absorb material, then place into a suitable clean, dry, closed container for disposal. Avoid generating dusty conditions. Provide ventilation.

## Section 7 - Handling and Storage

**Handling:** Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Avoid ingestion and inhalation.

**Storage:** Keep from contact with oxidizing materials. Store in a cool, dry, well-ventilated area away from incompatible substances. Keep containers tightly closed.

## Section 8 - Exposure Controls, Personal Protection

**Engineering Controls:** Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

### Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Tin	2 mg/m <sup>3</sup> TWA	2 mg/m <sup>3</sup> TWA 100 mg/m <sup>3</sup> IDLH	none listed

**OSHA Vacated PELs:** Tin: 2 mg/m<sup>3</sup> TWA

### Personal Protective Equipment

**Eyes:** Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

**Skin:** Wear appropriate protective gloves to prevent skin exposure.

**Clothing:** Wear appropriate protective clothing to prevent skin exposure.

**Respirators:** A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

## Section 9 - Physical and Chemical Properties

**Physical State:** Solid  
**Appearance:** silver white  
**Odor:** none reported  
**pH:** Not applicable.  
**Vapor Pressure:** 1 mm Hg @ 1492 deg  
**Vapor Density:** Not available.  
**Evaporation Rate:**Not applicable.  
**Viscosity:** Not applicable.  
**Boiling Point:** 2507 deg C  
**Freezing/Melting Point:**231.9 deg C  
**Decomposition Temperature:**Not applicable.  
**Solubility:** Slightly soluble in hot water.  
**Specific Gravity/Density:**7.31  
**Molecular Formula:**Sn  
**Molecular Weight:**118.69

## Section 10 - Stability and Reactivity

**Chemical Stability:** Stable under normal temperatures and pressures.  
**Conditions to Avoid:** Incompatible materials, dust generation, excess heat.  
**Incompatibilities with Other Materials:** Halogens, nitric acid, sodium peroxide, sulfur, copper nitrate, hydrochloric acid, tin chloride, potassium peroxide.  
**Hazardous Decomposition Products:** Irritating and toxic fumes and gases, tin/tin oxides.  
**Hazardous Polymerization:** Will not occur.

## Section 11 - Toxicological Information

**RTECS#:**  
**CAS#** 7440-31-5: XP7320000  
**LD50/LC50:**  
Not available.

**Carcinogenicity:**  
CAS# 7440-31-5: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

**Epidemiology:** Tumors were observed at the site of application when implanted into in rats (TDLo=395 mg/kg) and mice (TDLo=840 gm/kg), according to RTECS.  
**Teratogenicity:** No information found  
**Reproductive Effects:** No information found  
**Mutagenicity:** No information found

**Neurotoxicity:** No information found  
**Other Studies:**

## Section 12 - Ecological Information

No information available.

## Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

**RCRA P-Series:** None listed.

**RCRA U-Series:** None listed.

## Section 14 - Transport Information

	US DOT	Canada TDG
<b>Shipping Name:</b>	Not Regulated	Not Regulated
<b>Hazard Class:</b>		
<b>UN Number:</b>		
<b>Packing Group:</b>		

## Section 15 - Regulatory Information

### US FEDERAL

#### TSCA

CAS# 7440-31-5 is listed on the TSCA inventory.

#### Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

#### Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

#### Section 12b

None of the chemicals are listed under TSCA Section 12b.

**TSCA Significant New Use Rule**

None of the chemicals in this material have a SNUR under TSCA.

**CERCLA Hazardous Substances and corresponding RQs**

None of the chemicals in this material have an RQ.

**SARA Section 302 Extremely Hazardous Substances**

None of the chemicals in this product have a TPQ.

**Section 313** No chemicals are reportable under Section 313.

**Clean Air Act:**

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depletors.

This material does not contain any Class 2 Ozone depletors.

**Clean Water Act:**

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

**OSHA:**

None of the chemicals in this product are considered highly hazardous by OSHA.

**STATE**

CAS# 7440-31-5 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

**California Prop 65**

California No Significant Risk Level: None of the chemicals in this product are listed.

**European/International Regulations**

**European Labeling in Accordance with EC Directives**

**Hazard Symbols:**

Not available.

**Risk Phrases:**

**Safety Phrases:**

**WGK (Water Danger/Protection)**

CAS# 7440-31-5: No information available.

**Canada - DSL/NDSL**

CAS# 7440-31-5 is listed on Canada's DSL List.

**Canada - WHMIS**

This product has a WHMIS classification of D2B.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

**Canadian Ingredient Disclosure List**

CAS# 7440-31-5 is listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information

**MSDS Creation Date:** 5/04/1999

**Revision #8 Date:** 2/13/2008

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