



MATERIAL SAFETY DATA SHEET
Tin Standard Metal Solution

Section 1 - Chemical Product and Company Identification

MSDS Name: Tin Standard Metal Solution
Catalog Numbers: J/8067/05, J/8067/08, J/8067/15, J/8325/05, J/8326/08
Synonyms: Mixture
Company Identification: Fisher Scientific UK
 Bishop Meadow Road, Loughborough
 Leics. LE11 5RG
For information in Europe, call: (01509) 231166
Emergency Number, Europe: 01509 231166

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name:	%	EINECS#	Hazard Symbols:	Risk Phrases:
7440-31-5	Tin	<1.0	231-141-8		
7647-01-0	Hydrogen chloride	<5.0	231-595-7	XI	36/37/38
7732-18-5	Water	Balance	231-791-2		

Text for R-phrases: see Section 16

Hazard Symbols: None listed

Risk Phrases: None listed

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Corrosive.

Potential Health Effects

Eye: Causes severe eye burns. May cause irreversible eye injury.
Skin: Contact with liquid is corrosive and causes severe burns and ulceration.
Ingestion: Causes severe digestive tract burns with abdominal pain, vomiting, and possible death. May cause corrosion and permanent tissue destruction of the esophagus and digestive tract.
Inhalation: May cause severe irritation of the respiratory tract with sore throat, coughing, shortness of breath and delayed lung edema.
Chronic: Chronic inhalation may cause effects similar to those of acute inhalation. Repeated exposure may cause erosion of teeth.

Section 4 - First Aid Measures

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately. **SPEEDY ACTION IS CRITICAL!**
Skin: Get medical aid immediately. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
Ingestion: Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.
Inhalation: Get medical aid immediately. Remove from exposure and move to fresh air immediately.

If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

Notes to Physician:

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.

Extinguishing Media: For small fires, use dry chemical, carbon dioxide, water spray or alcohol-resistant foam.

Section 6 - Accidental Release Measures

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

Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Large spills may be neutralized with dilute alkaline solutions of soda ash (sodium carbonate, Na₂CO₃), or lime (calcium oxide, CaO). Clean up spills immediately, observing precautions in the Protective Equipment section.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Wash hands before eating. Use only in a well-ventilated area. Avoid breathing dust, vapor, mist, or gas. Do not get in eyes, on skin, or on clothing. Do not ingest or inhale. Do not allow contact with water. Use caution when opening.

Storage: Store in a cool, dry place. Store in a tightly closed container.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls:

Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Exposure Limits

CAS# 7440-31-5:

United States OSHA: 2 mg/m³ TWA
Belgium - TWA: 2 mg/m³ VLE
Germany: 2 mg/m³ TWA (inhalable fraction)
Malaysia: 2 mg/m³ TWA
Netherlands: 2 mg/m³ MAC
Spain: 2 mg/m³ VLA-ED

CAS# 7647-01-0:

United Kingdom, WEL - TWA: 1 ppm TWA (aerosol mist and gas); 2 mg/m³ TWA (aerosol mist and gas)
United Kingdom, WEL - STEL: 5 ppm STEL (aerosol mist and gas); 8 mg/m³ STEL (aerosol mist and gas)
United States OSHA: ; 5 ppm Ceiling; 7 mg/m³ Ceiling
Belgium - TWA: 5 ppm VLE; 8 mg/m³ VLE
Belgium - STEL: 10 ppm VLE; 15 mg/m³ VLE
France - VLE: 5 ppm VLE; 7.5 mg/m³ VLE
Germany: 8 mg/m³ TWA
Japan: 5 ppm Ceiling; 7.5 mg/m³ Ceiling
Malaysia: 5 ppm Ceiling; 7.5 mg/m³ Ceiling
Netherlands: 10 ppm STEL; 15 mg/m³ STEL
Netherlands: 5 ppm MAC; 8 mg/m³ MAC
Russia: 5 mg/m³ TWA
Spain: 5 ppm VLA-ED; 7.6 mg/m³ VLA-ED
Spain: 10 ppm VLA-EC; 15 mg/m³ VLA-EC

CAS# 7732-18-5:

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:** Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Physical and Chemical Properties

- Physical State:** Liquid
- Color:** colorless
- Odor:** Not available
- pH:** Not available
- Vapor Pressure:** Not available
- Viscosity:** Not available
- Boiling Point:** Not available
- Freezing/Melting Point:** Not available
- Autoignition Temperature:** Not applicable
- Flash Point:** Not applicable.
- Explosion Limits: Lower:** Not available
- Explosion Limits: Upper:** Not available
- Decomposition Temperature:** Not available
- Solubility in water:** Complete in water.
- Specific Gravity/Density:** Not available.
- Molecular Formula:** Solution
- Molecular Weight:** 0

Section 10 - Stability and Reactivity

- Chemical Stability:** Stable under normal temperatures and pressures.
- Conditions to Avoid:** Incompatible materials.
- Incompatibilities with Other Materials** Not available
- Hazardous Decomposition Products** Hydrogen chloride, hydrogen gas.
- Hazardous Polymerization** Has not been reported.

Section 11 - Toxicological Information

- RTECS#:** CAS# 7440-31-5: XP7320000
CAS# 7647-01-0: MW4025000 MW4031000
CAS# 7732-18-5: ZC0110000
- LD50/LC50:** RTECS: Not available. RTECS:
CAS# 7647-01-0: Inhalation, mouse: LC50 = 1108 ppm/1H;
Inhalation, mouse: LC50 = 20487 mg/m³/5M;
Inhalation, mouse: LC50 = 3940 mg/m³/30M;
Inhalation, mouse: LC50 = 8300 mg/m³/30M;
Inhalation, rat: LC50 = 3124 ppm/1H;
Inhalation, rat: LC50 = 60938 mg/m³/5M;
Inhalation, rat: LC50 = 7004 mg/m³/30M;
Inhalation, rat: LC50 = 45000 mg/m³/5M;
Inhalation, rat: LC50 = 8300 mg/m³/30M;
Oral, rabbit: LD50 = 900 mg/kg;

RTECS:

CAS# 7732-18-5: Oral, rat: LD50 = >90 mL/kg;

Carcinogenicity: Tin - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.
Hydrogen chloride - IARC: Group 3 (not classifiable)
Water - Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65.

Other: See actual entry in RTECS for complete information.

Section 12 - Ecological Information

Ecotoxicity: Not available

Section 13 - Disposal Considerations

Products considered hazardous for supply are classified as Special Waste and the disposal of such chemicals is covered by regulations which may vary according to location. Contact a specialist disposal company or the local authority or advice. Empty containers must be decontaminated before returning for recycling.

Section 14 - Transport Information

	IATA	IMO	RID/ADR
Shipping Name:	Not regulated as a hazardous material	Not regulated as a hazardous material	Not regulated as a hazardous material
Hazard Class:			
UN Number:			
Packing Group:			

USA RQ: CAS# 7647-01-0: 5000 lb final RQ; 2270 kg final RQ

Section 15 - Regulatory Information

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: Not available

CAS# 7647-01-0: 1

CAS# 7732-18-5: Not available

Canada

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

CAS# 7647-01-0 is listed on Canada's DSL List

CAS# 7732-18-5 is listed on Canada's DSL List

US Federal

TSCA

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

CAS# 7647-01-0 is listed on the TSCA Inventory.

CAS# 7732-18-5 is listed on the TSCA Inventory.

Section 16 - Other Information

Text for R-phrases from Section 2

R 36/37/38 Irritating to eyes, respiratory system and skin.

MSDS Creation Date: 12/12/1997

Revision #3 Date 10/03/2005

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