

MSDS – Tin Metal

MATERIAL SAFETY DATA SHEET (MSDS) / SAFETY DATA SHEET (SDS)

1. Identification

Product Name: Tin Metal

Chemical Name: Tin

Synonyms: Tin ingot, Tin granules, Tin powder, Sn

Chemical Formula: Sn

CAS Number: 7440-31-5

Recommended Use: Manufacturing, soldering, alloy production, laboratory use

Restrictions on Use: Not for food or pharmaceutical use unless specifically certified

Manufacturer/Supplier:

(To be completed by supplier)

Emergency Phone Number:

(To be completed by supplier)

2. Hazard(s) Identification

GHS Classification:

Not classified as hazardous in solid metallic form

GHS Label Elements:

Signal Word: None

Hazard Pictograms: None

Hazard Statements:

Tin metal in solid form presents minimal hazard.

Tin dust or fumes generated at high temperatures may cause respiratory irritation.

Precautionary Statements:

Avoid breathing dust or fumes.

Use adequate ventilation during melting or machining.

Wash hands after handling.

3. Composition / Information on Ingredients

Component	Chemical Name	CAS Number	Concentration
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Tin	Tin (Sn)	7440-31-5	≥ 99%
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4. First-Aid Measures

Inhalation:

Remove person to fresh air.

Seek medical attention if symptoms persist.

Skin Contact:

Wash with soap and water.
Seek medical attention if irritation develops.

Eye Contact:

Rinse cautiously with water for several minutes.
Remove contact lenses if present and easy to do.
Seek medical attention if irritation persists.

Ingestion:

Rinse mouth with water.
Do not induce vomiting.
Seek medical attention if large amounts are ingested.

Most Important Symptoms:

Respiratory irritation from dust or fumes
Mild mechanical irritation
5. Fire-Fighting Measures

Suitable Extinguishing Media:

Dry chemical, carbon dioxide (CO₂), sand

Unsuitable Extinguishing Media:

Water (on molten tin)

Specific Hazards:

Tin dust may form explosive mixtures with air
Fumes may be produced when molten

Protective Equipment:

Self-contained breathing apparatus (SCBA)
Full protective gear
6. Accidental Release Measures

Personal Precautions:

Avoid generating dust
Use appropriate PPE

Environmental Precautions:

Prevent entry into waterways

Clean-up Methods:

Sweep or vacuum solid material

Collect for recycling or disposal

7. Handling and Storage

Handling:

Avoid dust formation

Use local exhaust ventilation when melting

Storage:

Store in a cool, dry place

Keep away from strong acids and oxidizers

8. Exposure Controls / Personal Protection

Exposure Limits:

OSHA PEL (Tin): 2 mg/m³ (as Sn, inorganic compounds)

ACGIH TLV: 2 mg/m³

Engineering Controls:

Adequate ventilation

Personal Protective Equipment (PPE):

Safety glasses

Gloves

Respiratory protection if dust or fumes are present

9. Physical and Chemical Properties

Appearance: Silver-white solid metal

Odour: Odourless

Melting Point: ~232 °C (450 °F)

Boiling Point: ~2602 °C

Density: 7.31 g/cm³

Solubility: Insoluble in water

10. Stability and Reactivity

Reactivity: Stable under normal conditions

Chemical Stability: Stable

Conditions to Avoid:

Excessive heat

Dust generation

Incompatible Materials:

Strong acids
Strong oxidizing agents

Hazardous Decomposition Products:

Tin oxides (when heated)

11. Toxicological Information

Acute Toxicity:

Low toxicity in metallic form

Chronic Effects:

Prolonged inhalation of tin dust or fumes may cause stannosis (benign lung condition)

Carcinogenicity:

Not listed by IARC, NTP, or OSHA

12. Ecological Information

Eco toxicity:

Low toxicity

Persistence and Degradability:

Not biodegradable

Bio accumulative Potential:

Low

13. Disposal Considerations

Dispose of in accordance with local, regional, and national regulations

Recycling is recommended where possible

14. Transport Information

UN Number: Not regulated

Proper Shipping Name: Tin metal

Hazard Class: Not hazardous

Packing Group: Not applicable

15. Regulatory Information

OSHA: Not classified as hazardous

TSCA: Listed

REACH: Registered

16. Other Information

Revision Date: (Insert date)