



# Safety Data Sheet

## Tin/Bismuth

### SECTION 1: PRODUCT DESCRIPTION

#### PRODUCT IDENTIFIER

Product form: Solid  
Product Name: Tin/Bismuth Alloy  
Formula: Sn/Bi

#### SUPPLIER

**NATHAN TROTTER & COMPANY**  
**241 W. STEWART HUSTON DRIVE**  
**COATESVILLE, PA 19320**  
**PH. 610-524-1440**  
**FX. 610-524-2496**

#### INTENDED USE OF PRODUCT

Use: Industrial; professional use only

#### EMERGENCY TELEPHONE NUMBER

CHEMTREC 24 HR Emergency number: 1-800-424-9300  
INTERNATIONAL CHEMTREC call: 1-703-527-3887

### SECTION 2: HAZARD IDENTIFICATION

**GHS CLASSIFICATION:** NOT CLASSIFIED AS HAZARDOUS

Not a dangerous substance according to GHS classification criteria.

No known OSHA hazards

**Signal Word:**

**N/A**

### SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

SUBSTANCE			
Name	Product Identifier	%	Classification (GHS-US)
Tin, Metal	7440-31-5	1-99	N/A
Bismuth Metal	7440-69-9	1-99	N/A

MIXTURE: Precautionary Statements: Not Applicable

### SECTION 4: FIRST AID MEASURES

**General First-aid Measures:** Under normal handling and use, exposure to solid forms of this material present few health hazards. Subsequent operations such as grinding, melting or welding may produce hazardous dust or fumes which can be inhaled or come in contact with the skin or eyes.

**INHALATION:** Remove to fresh air, keep warm and quiet, give oxygen if breathing is difficult. Seek medical attention if symptoms persist.

**INGESTION:** Rinse mouth with water. Do not induce vomiting. Seek medical attention if symptoms persist. Never induce vomiting or give anything by mouth to an unconscious person.

**SKIN:** After contact with skin, wash immediately with plenty of water. **Molten Metal:** Flush contact area to solidify and cool but do not attempt to remove encrusted material or clothing. Cover burns and seek medical attention immediately.

**EYES:** Flush eyes with lukewarm water, including under upper and lower eyelids, for at least 15 minutes. Seek medical attention.

## SECTION 5: FIRE FIGHTING PROCEDURES

**Extinguishing Media:** Use suitable extinguishing agent for surrounding materials and type of fire.

**Unsuitable Extinguishing Media:** No information available.

**Specific Hazards Arising from the Material:** This product does not present fire or explosion hazards as shipped. Fine dust from processing is a weak to moderate fire hazard if allowed to accumulate and subjected to an ignition source. When heated, fumes of bismuth oxide may be released.

**Special Protective Equipment and Precautions for Firefighters:** Full face, self-contained breathing apparatus and full protective clothing when necessary.

## SECTION 6: SPILL OR LEAK MEASURES/PROCEDURES

**Personal Precautions, Protective Equipment, and Emergency Procedures:** Wear appropriate respiratory and protective equipment specified in section 8. Avoid creating dusts. Avoid breathing dust or fume. Isolate spill area and provide ventilation.

**Methods and Materials for Containment and Cleaning Up:** For larger pieces - pick up mechanically. For chips or dust - vacuum using a HEPA filter. Place in properly labeled closed containers. Avoid creating dusts. Do not use compressed air.

**Environmental Precautions:** Do not allow to enter drains or to be released to the environment.

## SECTION 7: HANDLING AND STORAGE

**Precautions for Safe Handling:** Handle in a well-ventilated area. Avoid creating dust. Avoid exposure to high temperature. Avoid breathing dust or fumes. Avoid contact with skin and eyes. Wash thoroughly before eating or smoking. See section 8 for information on personal protection equipment.

**Conditions for Safe Storage, Including Any Incompatibilities:** Store in a sealed container. Store in a cool, dry area. Do not store together with oxidizers, acids or halogens. See section 10 for more information on incompatible materials.

## SECTION 8: PROTECTION INFORMATION

CHEMICAL NAME: Tin/Bismuth

<u>ACGIH</u>		<u>OSHA PEL</u>	
<u>TWA</u>	<u>STEL</u>	<u>TWA</u>	<u>STEL</u>
N/A	N/A	N/A	N/A
<u>ACGIH</u>		<u>OSHA PEL</u>	
<u>TWA</u>	<u>STEL</u>	<u>TWA</u>	<u>STEL</u>
2 MG/M3	N/A	2 Mg/m3	N/A

**CONTROL PARAMETERS/ ENGINEERING MEASURES:** Local exhaust ventilation or other engineering controls are normally required when handling or using this product to avoid overexposure.

**PERSONAL PROTECTIVE EQUIPMENT (PPE):** Heat resistant gloves, eye wash, safety shower.

**RESPIRATORY PROTECTION:** When potential exposures are above the occupational limits, approved respirators must be used.

**EYE PROTECTION:** Wear Safety glasses when handling this product. Have an eye wash station available.

**SKIN PROTECTION:** Avoid skin contact by wearing heat resistant gloves and other protective equipment depending upon conditions of use. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work.

**GLOVES:** Heat resistant gloves.

## SECTION 9: PHYSICAL DATA

**FORMULA:** Sn

**MOLECULAR WEIGHT:** 118.69

**APPEARANCE:** Grey Metallic Solid

**ODOR:** None

**PHYSICAL STATE:** Solid

**pH:** No data available

**MELTING POINT:** 450° F (232°C)

**BOILING POINT:** 4717° F (2603°C )

**FREEZING POINT:** No data available

**FLAMMABILITY:** No data Available

**FLASH POINT:** No data available

**AUTO IGNITION TEMPERATURE:** No data available

**DECOMPOSITION TEMPERATURE:** No data available

**VAPOR PRESSURE :** 1.3332 hPa at 1492°C

**SPECIFIC GRAVITY:** 7.28 ( Water = 1)

**RELATIVE VAPOR DENSITY AT 20°C:** No data available

**FORMULA:** Bi

**MOLECULAR WEIGHT:** 829.4 g/mol

**APPEARANCE:** Silver gray, metallic

**ODOR:** Odorless

**PHYSICAL STATE:** Solid

**pH:** No data available

**MELTING POINT:** 520 °F (271°C)

**BOILING POINT:** 2840°F (1560°C)

**FREEZING POINT:** No data available

**FLAMMABILITY:** No data Available

**FLASH POINT:** No data available

**AUTO IGNITION TEMPERATURE:** No data available

**DECOMPOSITION TEMPERATURE:** No data available

**VAPOR PRESSURE :** 1mm Hg at 1870°F (1021°C)

**SPECIFIC GRAVITY:** 9.8 g/cc

**Insoluble in water**

## SECTION 10: REACTIVITY DATA

**REACTIVITY:** No data.

**CHEMICAL STABILITY:** Stable under recommended handling and storage conditions. (see section 7)

**POSSIBILITY OF HAZARDOUS REACTIONS:** Hazardous polymerization will not occur.

**CONDITIONS TO AVOID:** Avoid creating or accumulating fines or dusts. Avoid high temperatures.

**INCOMPATIBLE MATERIALS:** Strong acids, strong oxidizers, halogens and inter-halogen compounds.

**HAZARDOUS DECOMPOSITION PRODUCTS:** N/A

## SECTION 11: TOXICITY DATA

**Likely Routes of Exposure:** Inhalation, skin, eyes. Product as shipped does not present an inhalation hazard; however subsequent operations may create dusts or fumes which could be inhaled.

**Symptoms of Exposure:** May cause irritation.

**Acute and Chronic Effects:** Prolonged inhalation of bismuth dusts may cause mental changes, nervousness, blood changes, lymphocytosis and bone marrow depression. Ingestion of bismuth compounds may cause nausea, vomiting, diarrhea, and pigmentation of the skin and mucous membranes.

**Acute Toxicity:** No data

**Carcinogenicity:**

**NTP:** Not identified as carcinogenic

**IARC:** Not identified as carcinogenic

To the best of our knowledge the chemical, physical and toxicological characteristics of the substance are not fully known.

## SECTION 12: ECOLOGICAL DATA

**OVERVIEW:** No data available. Do not allow material to be released into the environment.

**MOBILITY:** N/A

**PERSISTANCE:** N/A

**CHEMICAL NAME:**  
TIN, METAL

**CAS NUMBER**  
7440-31-5

**ECO TOXICITY**  
N/A

**BIOACCUMULATION:** N/A

**DEGRADABILITY:** N/A

**CHEMICAL NAME:**  
BISMUTH, METAL

**CAS NUMBER**  
7440-31-5

**ECO TOXICITY**  
N/A

**OTHER ADVERSE EFFECTS:** N/A

## SECTION 13: DISPOSAL INFORMATION

**DISPOSAL METHODS:** Dispose in accordance with all applicable Federal, State and Local regulations. Always contact a permitted waste disposer (TSD) to assure compliance

**WASTE DISPOSAL CODE(S):** Not determined

## SECTION 14: TRANSPORT INFORMATION

**GROUND– DOT PROPER SHIPPING NAME:**

Not regulated for ground transport by IATA

**AIR– IATA PROPER SHIPPING NAME:**

Not regulated for air transport by IATA.

## SECTION 15: REGULATORY INFORMATION

**TSCA STATUS:** All components in this product are on the TSCA Inventory.

CHEMICAL NAME:	CAS NUMBER	§ 313 NAME	§ 313 RQ	CERCLA RQ	§ 302 TPQ	CAA 112(2) TQ
Tin, Metal	7440-31-5	Tin	No	No	No	No
CHEMICAL NAME:	CAS NUMBER	§ 313 NAME	§ 313 RQ	CERCLA RQ	§ 302 TPQ	CAA 112(2) TQ
Bismuth, Metal	7440-69-9	Bismuth	No	No	No	No

## SECTION 16: ADDITIONAL INFORMATION

**REVISED: MAY 2015**

The information provided in this (Material) Safety Data Sheet represents a compilation of data drawn directly from various sources available to us. Nathan Trotter & Co. Inc. makes no representation or guarantee as to the suitability of this information to a particular application of the substance covered in the (Material) Safety Data Sheet.

### GLOSSARY:

**ACGIH:** American Conference of Governmental Industrial Hygienists

**CAS:** Chemical Abstract Service Number

**CERCLA:** Comprehensive Environmental Response, Compensation, and Liability Act

**DOT:** U.S. Department of Transportation

**IARC:** International Agency for Research on Cancer

**N/A:** Not Available

**NTP:** National Toxicology Program

**OSHA:** Occupational Safety and Health Administration

**PEL:** Permissible Exposure Limit

**PPM:** Parts per million

**RCRA:** Resource Conservation and Recovery Act

**SARA:** Superfund Amendments and Reauthorization Act

**TLV:** Threshold Limit Value

**TSCA:** Toxic Substances Control Act

**IDLH:** Immediately dangerous to life and health