



# SAFETY DATA SHEET

## Tin-Based Babbitt

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## **Danger**

### **Hazard statements**

Cause damage to respiratory system, eyes and skin.

Dust or fume may cause eye, skin and respiratory tract irritation.

Antimony causes nasal septal ulceration and stomach lining irritation.

Tin is not regarded as toxic but excessive exposure can cause fever, nausea, stomach cramps or diarrhea.

Nickel is suspected of causing cancer. Causes damage to organs through prolonged or repeated exposure (respiratory system, skin).



**Appearance:** Metallic, light grey

**Physical state:** Solid

**Odor:** Odorless

#### **Precautionary Statements – Prevention**

Obtain special instructions before use

Do not handle until all safety precautions have been read and understood

Use personal protective equipment as required

Wash face, hands and any exposed skin thoroughly after handling

Do not eat, drink or smoke when using this product

Use only outdoors or in a well-ventilated area

Do not breathe dust/fume/gas/mist/vapors/spray

#### **Precautionary Statements – Response**

IF exposed or concerned: Get medical advice/attention

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. Rinse mouth.

IF IN EYES: Rinse cautiously with water for 15 minutes. Remove contacts lenses. If eye irritation persists get medical advice/attention.

IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs get medical advice/attention. Wash contaminated clothing before reuse.

#### **Precautionary Statements – Storage**

Store in tightly closed original container in a dry, cool and well-ventilated place. Store in a closed container away from incompatible materials. Keep out of reach of children. Keep away from food, drink and animal feedings.

Store locked up.

#### **Precautionary Statements – Disposal**

Dispose of contents/container to an approved waste disposal plant

#### **Other information**

- Very toxic to aquatic life with long lasting effects
- Very toxic to aquatic life

### **3. COMPOSITION/INFORMATION ON INGREDIENTS**

<b>Material</b>	<b>% by Wt.</b>	<b>CAS #</b>	<b>OSHA EXPOSURE LIMIT</b>
Tin	87 - 96	7440-31-5	2.00 mg/m <sup>3</sup>
Antimony	7 - 10	7440-36-0	0.50 mg/m <sup>3</sup>
Copper	3 - 5	7440-50-8	0.10 mg/m <sup>3</sup>
Silver	0 - 4	7440-22-4	0.01 mg/m <sup>3</sup>
Nickel	0-1	7440-02-0	1.00 mg/m <sup>3</sup>

#### 4. FIRST AID MEASURES

##### First aid measures

<b>Eye Contact</b>	In case of eye contact, immediately flush eyes with fresh water for at least 15 minutes while holding the eyelids open. Remove contact lenses if worn. Get medical attention if irritation persists. Do not rub affected area.
<b>Skin Contact</b>	Wash off immediately with soap and plenty of water. If skin irritation persists, call a Physician.
<b>Inhalation</b>	Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical Attention immediately. If conscious, have victim clear nasal passages.
<b>Ingestion</b>	Seek immediate medical attention. Rinse mouth. Drink plenty of water. Do not induce vomiting.

##### Most important symptoms and effects, both acute and delayed

<b>Symptoms</b>	Antimony causes nasal septal ulceration and stomach lining irritation. Tin is not regarded as toxic but excessive exposure can cause fever, nausea, stomach cramps or diarrhea.
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##### Indication of any immediate medical attention and special treatment needed

<b>Note to physicians</b>	Treat symptomatically.
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#### 5. FIRE – FIGHTING MEASURES

**Suitable extinguishing media:** Dry chemical, foam or CO<sub>2</sub>.

**Unsuitable extinguishing media:** Do not use water or halogenated extinguishing media.

**Specific hazards arising from the chemical:** May give off toxic fumes in a fire, including antimony fumes.

##### Explosion data:

**Sensitivity to Mechanical Impact:** None known.

**Sensitivity to Static Discharge:** None known.

##### Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Not considered to be a fire hazard. Powder/dust is flammable when heated or exposed to flame.

#### 6. ACCIDENTAL RELEASE MEASURES

##### Personal precautions, protective equipment and emergency procedures

<b>Personal precautions</b>	Evaluate personnel to safe areas. Avoid contact with skin, eyes and inhalation of dusts and fumes. Use personal protection recommended in Section 8.
<b>For emergency responders</b>	Wear respiratory protection. Wear proper personal protective equipment (gloves and goggles). Wear appropriate outer garment to protect clothing
<b>Environmental precautions</b>	Prevent entry into waterways, sewers, surface drainage systems and poorly ventilated areas.

## **Methods and material for containment and cleaning up**

<b>Methods for containment</b>	Avoid creating dust. Safely stop source of spill. Restrict non-essential personnel from area. All personnel involved in spill cleanup should avoid skin and eye contact by wearing appropriate personal protection equipment. Do not breathe dust.
<b>Methods for cleaning up</b>	Avoid dust formation. Clean up dusts with high efficiency particulate air (HEPA) filtered vacuum equipment or by wet cleaning.
<b>Prevention of secondary hazards</b>	Clean contaminated objects and area thoroughly observing environmental regulations.

## **7. HANDLING AND STORAGE**

### **Precautions for safe handling**

**Advice on safe handling** Use personal protection recommended in Section 8. Avoid generation of dust.

### **Conditions for safe storage, including any incompatibilities**

**Storage Conditions** Keep containers tightly closed in a dry, cool and well-ventilated place.

**Incompatible materials** Strong acids, oxidizers, reducing agents, halogens.

## **8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

### **Control parameters**

#### **Exposure Guidelines**

<b>Chemical Name</b>	<b>ACGIH TLV</b>	<b>OSHA PEL</b>	<b>NIOSH IDLH</b>
Tin 7440-31-5	TWA: 2.0 mg/m <sup>3</sup> Sn	TWA: 2.0 mg/m <sup>3</sup> Sn	IDLH: 100 mg/m <sup>3</sup> Sn TWA: 2.0 mg/m <sup>3</sup> Sn
Antimony 7440-36-0	TWA: 0.5 mg/m <sup>3</sup> Sb	TWA: 0.5 mg/m <sup>3</sup> Sb	IDLH: 0.50 mg/m <sup>3</sup> Sb TWA: 0.5 mg/m <sup>3</sup> Sb
Copper 7440-50-8	TWA: 1.0 mg/m <sup>3</sup> Cu	TWA: 1.0 mg/m <sup>3</sup> Cu	IDLH: 2000 mg/m <sup>3</sup> Cu TWA: 1.0 mg/m <sup>3</sup> Cu
Silver 7440-22-4	TWA: 0.1 mg/m <sup>3</sup> Ag	TWA: 0.01 mg/m <sup>3</sup> Ag	IDLH: 10 mg/m <sup>3</sup> Ag TWA: 0.01 mg/m <sup>3</sup> Ag
Nickel 7440-02-0	TWA: 1.0 mg/m <sup>3</sup> Ni	TWA: 1.0 mg/m <sup>3</sup> Ni	IDLH: 10 mg/m <sup>3</sup> Ni TWA: 0.015 mg/m <sup>3</sup> Ni

### **Appropriate engineering controls**

#### **Engineering Controls**

Use contained process enclosures, local exhaust ventilation or other engineering controls to maintain aerosols below the exposure limit. If user operations generate dust, fume or mist use ventilation to keep exposure to airborne contaminants below the exposure limit.

### **Individual protection measures, such as personal protective equipment**

#### **Eye/face protection**

Use safety glasses with side shields or chemical goggles.

#### **Skin and body protection**

Not normally needed.

#### **Respiratory protection**

Only required if exposure limits are exceeded. Use NIOSH/MSHS approved respirator for toxic dust and/or fume.

**General Hygiene Considerations**

Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Wear disposable gloves and eye/face protection. Wash face, hands and any exposed skin thoroughly after handling.

<b>9. PHYSICAL AND CHEMICAL PROPERTIES</b>
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**Information on basic physical and chemical properties**

<b>Physical state</b>	Solid
<b>Appearance</b>	Metallic, faint grey
<b>Odor</b>	None

<b>Property</b>	<b>Values</b>	<b>Remarks *Method</b>
<b>pH</b>	Not available	
<b>Melting point</b>	460°depending on composition	
<b>Boiling point/boiling range</b>	Not applicable	
<b>Flash Point</b>	Not applicable (high-melting point solid)	
<b>Evaporation rate</b>	Not applicable (high-melting point solid)	
<b>Flammability (solid, gas)</b>	Not combustible	
<b>Flammability Limit in Air</b>	Not combustible	
<b>Upper flammability limit:</b>	Not combustible	
<b>Lower flammability limit:</b>	Not combustible	
<b>Vapor pressure</b>	Not volatile	
<b>Vapor density</b>	Not volatile	
<b>Specific Gravity</b>	7.3 approx., depending on composition	
<b>Water solubility</b>	NIL	
<b>Partition coefficient</b>	Not applicable (inorganic)	
<b>Auto ignition temperature</b>	Not combustible	
<b>Decomposition temperature</b>	Not combustible	
<b>Kinematic viscosity</b>	Not applicable (solid)	
<b>Dynamic viscosity</b>	Not applicable (solid)	
<b>Explosive properties</b>	Not considered to be explosive	
<b>Oxidizing properties</b>	Not considered to be oxidizing	

**Other information**

<b>Softening point</b>	Not available
<b>Molecular weight</b>	Not available
<b>VOC Content (%)</b>	Not available
<b>Bulk density</b>	Not available

<b>10. STABILITY AND REACTIVITY</b>
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**Reactivity**

Stable under normal conditions.

**Chemical stability**

Stable under normal conditions.

**Possibility of Hazardous Reactions**

None under normal processing.  
Hazardous polymerization does not occur.

**Conditions to avoid** Avoid excessive exposure to heat.

**Incompatible materials** Strong acids, oxidizers and reducing agents, halogens.

**Hazardous Decomposition Products** Antimonial fumes at high temperatures.

## 11. TOXICOLOGICAL INFORMATION

### Information on likely routes of exposure

**Inhalation** Inhalation of dust and fume must be avoided. This product, when used for welding and similar applications, produces chemicals known to cause cancer and birth defects (or other reproductive harm).

**Eye contact** Dust or fume will be irritant.

**Skin contact** Not a route of entry into the body.

**Ingestion** Ingestion of dust and fume must be avoided. Antimony is toxic and dust or fume can cause nasal septal ulceration and stomach lining irritation. Tin is not regarded as toxic but excessive exposure can cause fever, nausea, stomach cramps or diarrhea.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Tin 7440-31-5	2207mg Sn/kg Rat	Not available	Not available
Antimony 7440-36-0	7500mg Sb/kg Rat	Not available	720 mg Cu/m <sup>3</sup> Rat
Copper 7440-50-8	1000 mg Cu/kg Rat	Not available	>2000 mg Cu/m <sup>3</sup> Mammal
Silver 7440-22-4	29mg Ag/kg	Not available	Not available
Nickel 7440-02-0	400 mg Ni/kg Rat	Not available	9.2 mg Ni/m <sup>3</sup> Mouse

### Information on toxicological effects

**Symptoms** Not available.

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

**Skin corrosion/irritation** Antimony metal granules or dust: May cause skin irritation by mechanical action.

**Serious eye damage/eye irritation** Antimony metal granules or dust: Can irritate eyes by mechanical action.

**Inhalation** Inhalation of dust and fumes must be avoided.





Metal powder would be relatively immobile in soils but some metal compounds may be transported with ground water.

**Other adverse effects** Not available.

### 13. DISPOSAL CONSIDERATIONS

#### Waste treatment methods

**Disposal of wastes** Disposal should be in accordance with applicable regional, national and local laws and regulations.

**Contaminated packaging** Disposal should be in accordance with applicable regional, national and local laws and regulations.

### 14. TRANSPORT INFORMATION

Note: This product is not regulated for domestic transport by land, air or rail.

#### DOT

**Proper shipping name** Not applicable  
**Hazard Class** Not applicable  
**Packing Group** Not applicable  
**Reportable Quantity (RQ)** Not applicable  
**Marine pollutant** Not applicable  
**Emergency Response Guide** Not applicable

### 15. REGULATORY INFORMATION

#### International Inventories

**TSCA** Complies  
**DSL/NDSL** Complies  
**EINECS/ELINCS** Complies  
**ENCS** Complies  
**IECSC** Complies  
**KECL** Complies  
**PICCS** Complies  
**AICS** Complies

#### Legend:

**TSCA** – United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDSL** – Canadian Domestic Substances List/Non-Domestic Substances List

**EINECS/ELINCS** – European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

**ENCS** – Japan Existing and New Chemical Substances

**IECSC** – China Inventory of Existing Chemical Substances

**KECL** – Korean Existing and Evaluated Chemical Substances

**PICCS** – Philippines Inventory of Chemicals and Chemical Substances

**AICS** – Australian Inventory of Chemical Substances

#### US Federal Regulations

##### SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This Product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the

Chemical Name	CAS No.	Weight - %	SARA 313 – Threshold Values %
Tin	7440-31-5	86 - 90	Not Listed
Antimony	7440-36-0	8 - 10	1.0
Copper	7440-50-8	3 - 5	1.0
Silver	7440-22-4	0 - 4	1.0
Nickel	7440-02-0	0 - 1	0.1

**SARA 311/312 Hazard Categories**

<b>Acute Health Hazard</b>	Yes
<b>Chronic Health Hazard</b>	Yes
<b>Fire Hazard</b>	No
<b>Sudden Release of Pressure Hazard</b>	No
<b>Reactive Hazard</b>	No

**CWA (Clean Water Act)**

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

Chemical Name	CWA – Reportable Quantities	CWA – Toxic Pollutants	CWA – Priority Pollutants	CWA – Hazardous Substances
Tin 7440-31-5	-	-	-	-
Antimony 7440-36-0	5000 lb.	X	X	X
Copper 7440-50-8	1 lb.	-	X	X
Silver-22-4	1000	X	X	X
Nickel 7440-02-0	100 lb.	X	X	X

**CERCLA**

This material, as supplied, contains one or more substances regulated as a hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302).

**US State Regulations**

**California Proposition 65**

This product contains a chemical known to the state of California to cause birth defects or other reproductive harm.

Chemical Name	California Proposition 65
Tin – 7440-31-5	Not Listed
Antimony – 7440-36-0	Cancer
Copper – 7440-50-8	Not Listed
Silver – 7440-22-4	Not Listed
Nickel – 7440-02-0	Cancer

**US State Right-to-Know Regulations**

<b>Chemical Name</b>	<b>New Jersey</b>	<b>Massachusetts</b>	<b>Pennsylvania</b>	<b>Illinois</b>	<b>Rhode Island</b>
Tin – 7440-31-5	X	-	X	-	-
Antimony – 7440-36-0	X	-	X	-	X
Copper – 7440-50-8	X	X	X	-	-
Silver – 7440-22-4	X	X	X	-	X
Nickel – 7440-02-0	X	X	X	-	-

**US EPA Label Information**

**EPA Pesticide Registration Number** Not available.

**16. OTHER INFORMATION**

**Issue Date** 17 - May - 2016

**Revision Date** 01 - Nov - 2020

**Revision Note** None

**Disclaimer**

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