



## SAFETY DATA SHEET

To comply with United States as well as some international laws, we have revised our MSDS to meet new SDS safety and regulatory information. Because Belmont can manufacture an infinite amount of formulas, we have developed alloy groups containing common base metals no better serve all of our customers Indium Corporation has generated one SDS for this groupings of products to be used within the contained within may not be applicable to the customer's product or individual state or country. See Chart for alloy percentages listed

### 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** BELMONT LEAD TIN SOLDER ALLOY

**Product Number:** **Belmont 5796 Alloy**

**Product Use:**

INDUSTRIAL USE (MIXTURE) - METAL ALLOY CONSISTING OF BISMUTH MIXED WITH OTHER METAL ALLOYS (SEE ALLOY TABLE SECTION #3 OF ALL MIXTURES). SOME INFORMATION IS NOT APPLICABLE TO EVERY POSSIBLE METAL COMBINATION.

**MANUFACTURER:**

**Belmont Metals Inc.**  
**330 Belmont Avenue**  
**Brooklyn, NY 11207 USA**

**EMERGENCY PHONE:**

**CHEMTREC 24 hrs.**  
**USA: 1 (800) 424-9300**  
**Outside USA: +1 (703) 527-3887**

## 2. HAZARDS IDENTIFICATION

### PRIMARY ROUTES OF ENTRY:

Eye Inhalation Skin Ingestion

### CARCINOGEN LISTED IN:

NTP  IARC  OSHA  Not Listed  
(See Section 11)

GHS:

This information is provided as basic information. Review the metal combination being used and apply the applicable information.

General:



lead

HEALTH	2
FIRE	0
REACTIVITY	0

Signal Word: Warning

#### Hazard statement(s)

H303	May be harmful if swallowed
H335	May cause respiratory irritation
H333	May be harmful if inhaled
H351	Suspected of causing cancer (lead)
H361	Suspected of damaging fertility or the unborn child (applicable to lead containing product)
H373	May cause damage to organs through prolonged or repeated exposure (applicable to lead containing product)
H410	Very toxic to aquatic life with long lasting effects (lead)
EUH201A	Warning! Contains lead (applicable only to the products listed that contain lead) Review listing.

#### Precautionary statement(s)

P261	Avoid breathing dust/fume/gas/mist/vapors/spray
P270	Do not eat, drink or smoke when using this product
P273	Avoid release to the environment
P280	Wear protective gloves/protective clothing/eye protection/face protection
P362	Take off contaminated clothing and wash before reuse
P301 + P314	IF SWALLOWED: Get Medical advice/attention if you feel unwell
P302 + P352	IF ON SKIN: Wash with plenty of soap and water
P304 + 341	IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing
P305 + 351	IF IN EYES: Rinse continuously with water for several minutes (15 MINS)

### POTENTIAL HEALTH EFFECTS:

**Eye Contact:** Contact with powdered metal alloy or fume from molten metal may cause irritation. Severe eye damage may result from hot molten metal being splashed into the eyes. Wear safety glasses and face shield when working with molten metal. Dusts are irritating to eyes.

**Ingestion:** Ingestion of dust/vapor/fume may cause irritation or harm.

**Inhalation:** Inhalation of fume or dust may cause local irritation or harm to the respiratory system.

**Skin Contact:** Normal handling of solid metal should not cause any adverse health effects. Hot molten metal may cause burns to the skin. Wear protective equipment when handling molten metal. Antimony has been known to cause dermatitis. Zinc may cause irritation.

**Chronic:** TIN: Has been shown to increase incidence of sarcoma in animal tests. Chronic exposure may result in "stannosis" a mild form of pneumoconiosis.

LEAD: Prolonged exposure to vapors or fumes at higher temperatures may cause respiratory irritation and systematic lead poisoning. Symptoms of lead poisoning include headache, nausea, abdominal pain, muscle and joint pain and damage to the nervous system, blood system and kidneys.

BISMUTH: May cause kidney damage.

ANTIMONY: Overexposure to fumes may cause metal fume fever (chills, muscle aches, nausea, fever, dry throat, cough weakness, lassitude); metallic or sweet taste; discoloration of skin and hair.

ZINC: Heated zinc may give off zinc oxide fumes. Exposure includes dry throat, injury to mucous membrane, cough, aches chills, fever, nausea, vomiting.

**PRODUCT DOES NOT CONTAIN ANY EU REPORTABLE SUBSTANCES OF VERY HIGH CONCERN (SVHC) UNLESS IT CONTAINS CADMIUM WHICH IS A LISTED SVHC. REVIEW PRODUCT NAME AND ALLOY TABLE METAL MIXTURES.**

**WARNING:** This product contains a chemical(s) known to the State of California to cause cancer and/or birth defects (or other reproductive harm). (lead) Prop 65 Safe Drinking Water Standard.

**NOTE:** Not for products for human consumption.

**WARNING:** This product contains lead. Lead may be harmful to your health. US Federal law prohibits the use of leaded solders in making joints or fittings in any private or public water supply system. Keep out of the reach of children. Not intended for household use and should not be used by children.

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

Product mixtures may contain some of the following ingredients. Review alloy table.

Components	% wt	CAS Registry #/EINECS	PEL mg/m <sup>3</sup>	TLV-TWA mg/m <sup>3</sup>	TLV-STEL mg/m <sup>3</sup>
<b>TIN</b>	> 7	7440-31-5/231-141-8			
		(US)	2	2	-
		(EU)	-	2	4
		(Singapore)	2	-	-
		(Canada)	-	2	4
<b>LEAD</b>	>78	7439-92-1/231-100-4			
		(US)	0.05	0.05	-
		(EU)	-	0.15	-
		(Canada)	-	0.05	-
		(Singapore)	0.15	-	-
		(Mexico)	-	0.15	-
		(China)	-	0.05(dust) 0.03(fume)	-
<b>BISMUTH</b>	> 2	7440-69-9/231-177-4	N.E.	N.E.	N.E.
<b>ANTIMONY</b>	> 2	7440-36-0/231-146-5			
		(US)	0.5	0.5	-
		(EU)	0.5	-	-
		(Singapore)	0.5	-	-
		(Mexico)	-	0.5	-
		(China)	-	0.5	-
(Canada)	-	0.5	1.5		
<b>ZINC</b>	> 8	7440-66-6/231-175-3	N.E.	N.E.	N.E.

N.E. = Not established

EU = European Union Occupational Exposure Limits

\*See Alloy Table

#### 4. FIRST AID MEASURES

- Eye Contact:** Hold eyelids apart and flush eyes with plenty of tepid water for at least 15 minutes. Seek medical attention if irritation persists.
- Ingestion:** If patient is conscious, ONLY induce vomiting as directed by trained personnel. NEVER give anything by mouth to an unconscious person. Seek medical attention immediately.
- Inhalation:** Remove to fresh air. If not breathing, give artificial respiration or oxygen by trained personnel. Seek immediate medical attention.
- Skin Contact:** Remove contaminated clothing. Wash affected area with soap and water. Wash clothing before reuse. If irritation persists, obtain medical attention.

**PRODUCT DOES NOT CONTAIN ANY EU REPORTABLE SUBSTANCES OF VERY HIGH CONCERN (SVHC) UNLESS IT CONTAINS CADMIUM WHICH IS A LISTED SVHC. REVIEW PRODUCT NAME AND ALLOY TABLE METAL MIXTURES.**

#### 5. FIRE FIGHTING MEASURES

- Flash Point:** Not established.      **Method:** Not established.
- Auto-ignition Temperature:** Not established.
- Flammable Limits:** Limits not established. Solid metal is not flammable; however dust or powder may be considered to be a dust hazard.
- Extinguishing Media:** Use extinguishers appropriate for the surrounding fire conditions. Do not add water to molten metal.
- Special Fire Fighting** Firefighters must wear NIOSH approved self-contained breathing apparatus and Full protective clothing.

NFPA Rating



Solid Form No Fire Hazard

Flammable when exposed to heat or flames. Heated and on contact with acids or acid fumes, metals can release hydrogen and form Stibine, (Extremely toxic gas).

Tin: Fine dust combustible when exposed to heat.

Antimony: Spontaneously flammable in fluorine, chlorine or bromine. With iodine: Reaction produces heat, which may cause flames or explosion if quantities are great enough. Dust or vapors exposed to heat or flame: Moderate fire or explosion hazard.

Lead: In contact with fire or heat source, it may melt and then if in contact with water, will cause a violent reaction. Possibility of toxic Lead vapors formation.

## 6. ACCIDENTAL RELEASE MEASURES

**Spill or Leak Procedures:** Contain spill. If molten, cool to allow metal to solidify. If a solid metal, wear gloves, pick up and return to process. If dust, wear recommended personal protective equipment including respiratory protection. **DO NOT DRY SWEEP.** Use a HEPA approved vacuum, place in barrels and return to process if applicable. Use proper ventilation. Otherwise, dispose of following all Federal, State and Local regulations. In the EU refer to the Special Waste Regulations. Metal may have reclaim value.

## 7. HANDLING AND STORAGE

**Handling** Only dry metals should be added to molten bath. If working with molten metals, or exposed to fume or dust, use appropriate personal protective equipment.

**Storage Precautions:** Store product in a cool, dry area away from incompatible materials.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Engineering Controls:** Exhaust ventilation is recommended to control any air contaminants. Control concentration of all components so that their exposure levels are not exceeded. Use ventilation for example especially during heating, grinding, cutting, sanding, melting and any other types of work where exposure is possible.

### Personal protection:

**Eyes:** Chemical safety glasses/goggles and face shield with molten metal.

**Respirator:** An authority approved or compliant marked air-purifying respirator with a fume/dust chemical cartridge is recommended under certain circumstances where airborne concentrations are expected to be elevated. Additional respiratory protection may be required based on the work performed and the area in which the work is performed. Lead or cadmium work requires protection from exposure.

- Skin:** Gloves-leather or impervious (vinyl) type. Heat resistant gloves if handling hot metal. Safety type boots. Personal protective equipment is recommended when working with molten metal to avoid burns.
- Other:** Lab coat, safety shower and eye-wash fountain in work area. Avoid the use of contact lenses in high fume areas. Follow OSHA guidelines for lead and cadmium workers.
- Work/Hygienic** Maintain good housekeeping. Clean up spills immediately. Good personal hygiene is essential. Avoid eating, smoking or drinking in the work area. Wash hands thoroughly with soap and water immediately upon leaving the work area.

Follow standard lead work practices when applicable.

Name	CAS-No.	Percentage (%)	TVL-TWA (mg/m <sup>3</sup> )	PEL-TWA (mg/m <sup>3</sup> )	TWAEV (mg/m <sup>3</sup> )
Tin	7440-31-5	< 1	2 (Sn)	2 (metal, compounds)	2 (metal)
Antimony	7440-36-0	< 7	0.5 (Sb, compounds Sb)	0.5 (Sb, compounds)	0.5 (Sb, compounds)
Lead	7439-92-1	> 93	0.05 (Pb, inorganic compounds Pb)	0.05 (Pb, Pb)	0.05 (Pb, inorganic compounds Pb)

**NOTE:** Tin: ACGIH TLV TWA: Metal, oxide, inorganic compounds (Sn) except SnH. OSHA PEL-TWA: Metal, inorganic compounds (Sn) except oxides, NIOSH REL-TWA ( $\leq 10$  hours): 2 mg/m<sup>3</sup> (except oxides); IDLH: 100 mg/m<sup>3</sup>.  
 Antimony: ACGIH TLV-TWA: Elemental and compounds. NIOSH REL-TWA ( $\leq 10$  hours): 0.5 mg/m<sup>3</sup>; IDLH: 50 mg/m<sup>3</sup>.  
 Lead: ACGIH TLV TWA: 0.05 mg/m<sup>3</sup> (Lead and inorganic compounds). NIOSH REL-TWA ( $\leq 10$  hours): 0.05 mg/m<sup>3</sup> ; REL also applies to other lead compounds (as Pb) ; ; IDLH : 100 mg/m<sup>3</sup> (metal ; compounds). OSHA PEL-TWA: PEL also applies to other lead compounds (as Pb).

*Consult local authorities for acceptable exposure limits*

- Engineering Controls : Use process enclosures, local exhaust ventilation or other engineering controls to keep airborne levels below recommended exposure limits.
- Individual protection : Safety goggles. Coverall. Work gloves and boots. Dust respirator. Be sure to use a NIOSH approved respirator or equivalent when concentrations exceed occupational exposure limits.



## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance:</b>	Silver grey solid metal	<b>Boiling Point:</b>	Not applicable.
<b>Odor:</b>	Odorless	<b>Melting Point:</b>	> 875 F
<b>Specific Gravity:</b>	See Table	<b>pH:</b>	Not applicable
<b>Vapor Pressure:</b>	Not applicable.	<b>Solubility in Water:</b>	Insoluble
<b>Vapor Density:</b>	(air=1) Not applicable.	<b>Flash Point:</b>	Not applicable

## 10. STABILITY AND REACTIVITY

<b>General:</b>	Stable.
<b>Conditions to Avoid:</b>	Not established.
<b>Incompatible Materials:</b>	Avoid contact with mineral acids.
<b>Hazardous Decomposition / Combustion:</b>	Harmful organic fumes and toxic oxide fumes may form at elevated temperatures.
<b>Hazardous Polymerization:</b>	Will not occur.

## 11. TOXICOLOGICAL INFORMATION

### Carcinogenicity: National Toxicity Program (NTP):

#### Occupational Safety & Health Administration

(OSHA): Lead is listed. 1910.1025 Yes

### U.N. International Agency for Research on Cancer (IARC):

Lead and Lead compounds are listed as carcinogens. Yes

toxicological effects : Ingestion. Inhalation. Eyes and skin contact.

- Route of entry  
- Carcinogenicity

:  
Lead: POSSIBLE (Group 2B, IARC) (EPA) ; CARCINOGEN (Animal, A3 ACGIH).  
Tin : NOT A CARCINOGEN (IARC, OSHA, NTP) ; NOT LISTED (ACGIH).  
Antimony: NOT LISTED (IARC, ACGIH).

- Mutagenicity  
- Teratogenicity

:  
Lead: Cytogenetic analysis ; DNA. (RTECS).  
Lead: SUSPECTED (OSHA). Effects on embryo or foetus, fertility (RTECS).

- Acute toxicity

: Tin: UNREPORTED ROUTE acute (LoTD) : 250 mg/kg (Human). (RTECS).

Antimony: ORAL acute (LD50) : 7 000 mg/kg (Rat).  
INTRAPERITONEAL acute (LD50) : 100 mg/kg (Rat) ; 80 mg/kg (Mouse). (RTECS).

- Acute effects

: Solid form: No health hazards. Conditions and work practices which generate dust or fumes should be avoided or controlled. Other forms: Dangerous (ingestion, inhalation).

Lead: Absorption is easier by inhalation and symptoms develop more quickly than by ingestion. Symptoms: Loss of appetite, anemia, insomnia, headache, muscle and joint pain. Toxicity by ingestion compared to those by inhalation, requires greater concentrations before symptom onset.

- Chronic effects

: Non-controlled repeated or prolonged exposure: Possibility of target organ damages (Blood, kidneys, liver, lungs; nervous and reproductive systems). Repeated exposure: Possibility of a general health deterioration by an accumulation in one or many organs.

Tin: Low toxicity for humans. Chronic inhalation of oxide (Dust, fume) may cause stannosis (Benign pneumoconiosis) without any pulmonary functional impairment. Other sensitive organs: Kidneys, central nervous system.

Antimony: The principal toxicological properties mimic those of arsenic such as: abdominal cramps, nausea, vomiting, watery diarrhea which may be bloody. Possibility of dermatitis called antimony spots: Papules and pustules around sweat and sebaceous glands (Generally on the forearms) which resemble chicken pox and are transient in nature. Some people may develop an allergy to antimony metal. Inhalation (Antimony and compounds): Possibility of pneumoconiosis which can lead to some obstructive lung disease. There is some evidence that antimony may have some effect on the heart.



Bismuth – LD50 oral-rat 5,000 mg/kg

Antimony - LD50 oral – rat 7,000 mg/kg

Lead – Suspected human reproductive toxicant. May cause damage to organs through prolonged or repeated exposure. Reproductive toxicity – rat –inhalation, oral/ effects on newborn.

## 12. ECOLOGICAL INFORMATION

Product mixtures not tested.

Antimony –. Toxicity to fish – mortality NOEC (sheepshead minnow) 6.2 mg/l – 96h. Toxic to aquatic organisms, may cause long term adverse effects in the aquatic environment.

Lead – Toxicity to fish – mortality LOEC – rainbow trout – 1.19 mg/l – 96h. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Bioaccumulation – Oncorhynchus kisutch – 2 weeks Bioconcentration factor (BCF): 12

Contains substances that are harmful to the aquatic environment.

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal of metal mixtures. Review product used and the alloy table. Recycle when possible.

### 12.1. Toxicity

- Ecotoxicity : Heavy metals: Harmful to aquatic life.
- 
- Toxicity to animals : Tin: UNREPORTED ROUTE acute (LoTD|) : 250 mg/kg (Human). (RTECS).
- 
- Lead: ORAL acute (LoLD) : 155 mg/kg (Human) ; 0.2 mg/kg (Rat).  
INHALATION acute (LoTC) : 10 µg/m3 (Human). INTRAPERITONEAL acute (LoLD) : 1 g/kg (Rat. (RTECS).

### 12.2. Mobility in soil

: Not applicable

### 12.3. Persistence and degradability

: Not applicable.

### 12.4. Bioaccumulation

: Not applicable.

### 12.5. Biodegradation products

: Not biodegradable.

### - Biodegradation products (Toxicity)

: Not applicable.

### 12.6. Other adverse effects

- Remarks on environment : Due to the product's composition, particular attention must be taken :  
Substances potentially toxic to aquatic life include Lead. Run-off water may become acidic and may be harmful to flora and fauna.
- BOD5 and COD : Not available.

## 13. DISPOSAL CONSIDERATION

**Waste Disposal Method:** Scrap metal alloy usually has value. Contact a commercial reclaimer for recycling. Otherwise, dispose of in accordance with all Federal, State and Local environmental regulations.

## 14. TRANSPORT INFORMATION

Transport in accordance with applicable regulations and requirements.

Not regulated under US DOT (United States Department of Transportation).

Solid metal mixtures are not hazardous under shipping regulations (ground/air/sea).

UN – none

Marine Pollutant: No

Shipping of metal powders that contain lead or cadmium may be considered to be an environmental hazard.

Reportable spill quantity (RQ) in case of spill for lead is 10 lbs.

Reportable spill quantity (RQ) in case of spill for zinc is 1000 lbs

Reportable spill quantity (RQ) in case of spill for antimony is 5000 lbs.

UN – none

Marine Pollutant: No

Review the product being shipped. Consult the alloy table.

## 15. REGULATORY INFORMATION

The information in this Safety Data Sheet meets the requirements of the United States Occupational Safety and Health Act and regulations promulgated hereunder (29 CFR 1910.1200 ET. SEQ.).

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulation (CPR).

Canadian WHMIS: D2A – Materials Causing Other Toxic Effects – Very Toxic Material (Chronic) (Lead).  
D2B Materials Causing Other Toxic Effects (irritant).



Tin, Antimony, Zinc, Bismuth: Uncontrolled product according to WHMIS classification criteria.

This product has been classified in accordance with the guidelines set by the Dept. of Industrial Health of the Republic of Singapore.

This product has been classified using the Chinese Occupational Exposure Limit for Hazardous Agents in the Workplace,

California PROP 65 (Safe Drinking Water Standard): WARNING : This product contains a chemical(s) known to the state of California to cause cancer and/or birth defects (or other reproductive harm). (lead)

SARA 313 Listing – 40 CFR 372.65: Lead CAS# 7439-92-1, Silver CAS# 7440-22-4, Cadmium CAS# 7440-43-9  
Copper CAS# 7440-50-8, Antimony CAS# 7440-36-0, Zinc CAS# 7440-66-6

All ingredients are listed on the US EPA TSCA Inventory.

All ingredients are listed on the Canadian Domestic Substance List, the Chinese Chemical Inventory, the Philippines Inventory of Chemicals, the Korea Inventory of Existing Chemicals, the European Inventory of Existing

Commercial Chemical Substances, the New Zealand Inventory of Chemicals and the Australian Inventory of Chemicals.

EPA Genetic Toxicology Program – Lead CAS# 7439-92-1, Cadmium CAS# 7440-43-9

EC Classification, Packaging and Labeling Requirements:

Hazard Classification of Product

**Risk Phrases:**

R20/22 Harmful by inhalation and if swallowed (lead/cadmium)

R36/37/38 Irritating to eyes, respiratory system and skin

R33 Danger of cumulative effects (lead)

R61 May cause harm to the unborn child (lead)

R40 Limited evidence of carcinogenic effect (lead)

R48 Danger of serious damage to health by prolonged exposure (lead)

R50/53 Very toxic to aquatic organisms and may cause long-term adverse effects in the aquatic environment (lead)

**Safety Phrases:**

S20/21 When using do not eat, drink or smoke

S22 Do not breathe dust

S23 Do not breathe fumes

S24/25 Avoid contact with skin and eyes

S27 Take off immediately all contaminated clothing

S28 After contact with skin wash immediately with plenty of soap and water

S36/37/39 Wear suitable protective clothing, gloves and eye/face protection

S60 This material and its container must be disposed of as hazardous waste  
( if it contained lead)

S61 Avoid release to the environment. Refer to special instruction/safety data sheets

S62 If swallowed, do not induce vomiting seek medical advice immediately and show container or label

## **16. OTHER INFORMATION**

### **MANUFACTURER DISCLAIMER:**

Ney Metals & Alloys believes that the information contained in this Safety Data Sheet (SDS) is accurate as of the "Date of Last Revision" specified on this SDS. As the condition or methods of use are beyond our control, we do not assume any responsibility and expressly disclaims any liability for any use of this material. The information relates only to typical properties of the product. Do not use the information for product performance or specification purposes. The information is for use by technically skilled persons at their own risk whom must determine the conditions of safe use of the products.

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