

# Safety Data Sheet

## S-Bond® 130 Alloy

### Section 1 - Identification

**Product Identifier:** S-Bond® 130 Alloy  
**Other Designations:** ISO designation = ISO-S-In48Sn50Ag2Ti  
**General Use:** Alloy for material joining via soldering/brazing

**Manufacturer:** S-Bond Technologies, LLC. 811 West Fifth Street, Unit 2, Lansdale, PA 19446; Phone: (215) 631-7111;  
FAX: (215) 631-7115; Hours: (0830-1700 EST)

### Section 2- Hazards Identification

**Flammability Classification:** N/A  
**Unusual Fire or Explosion Hazards:** Water on molten metal may cause steam explosion.  
**Hazardous Combustion Products:** None

### Section 3- Composition / Information on Ingredients

**Chemical Formula:** Sn-In -Ag-Ti alloy  
**CAS Numbers:** See below

Ingredient Name	CAS Number	% wt
Indium (In)	7440-74-6	45 - 55
Tin (Sn)	7440-31-5	45.- 55
Silver (Ag)	7440-22-4	1.5 – 2.8
Titanium (Ti)	7440-32-6	1.8 – 2.8
Other active elements (e.g. Ga, Ce)		0.0-0.2
Other inactive elements (e.g. Fe, Cu, Ni)		0.0-0.1

### Section 4- First Aid Measures

**Inhalation:** N/A  
**Eye Contact:** For molten alloy, rinse with water, ice, and call physician.  
**Skin Contact:** For contact with molten alloy, ice and treat as a second degree burn.  
**Ingestion:** If subject is conscious, induce vomiting. If unconscious or convulsive, seek immediate medical attention.  
*After first aid, get appropriate in-plant, paramedic, or community medical support.*  
**Note to Physicians:** None  
**Special Precautions/Procedures:** None

### Section 5- Fire Fighting Measures

**Flash Point:** None  
**Flash Point Method:** N/A  
**Burning Rate:** None  
**Auto ignition Temperature:** None  
**Flammability Classification:** N/A  
**Extinguishing Media:** Sand, dry ice, or dry chemical should be used on surrounding fire, DO NOT use water on molten metal.  
**Unusual Fire or Explosion Hazards:** Water on molten metal may cause steam explosion.  
**Hazardous Combustion Products:** None  
**Fire-Fighting Instructions:** Do not release runoff from fire control methods to sewers or waterways.  
**Fire-Fighting Equipment:** If fighting a fire where these products may be present, wear a self-contained breathing apparatus (SCBA) with a full face piece operated in pressure-demand or positive-pressure mode

## Section 6- Accidental Release Measures

**Spill /Leak Procedures:** For molten alloy, first allow the alloy to solidify. Once cooled to room temperature, collect the solids following appropriate disposal procedures for tin.

**Small Spills:** See above

**Large Spills**

**Containment:** None required

**Cleanup:** No special requirements

**Regulatory Requirements:** Follow applicable OSHA regulations (29 CFR 1910.120).

**Disposal:** Contact your supplier or a licensed contractor for detailed recommendations. Follow applicable Federal, state, and local regulations.

**Disposal Regulatory Requirements:** N/A

**Container Cleaning and Disposal:** N/A

## Section 7- Handling and Storage

**Handling Precautions:** None

**Storage Requirements:** Dry cool atmosphere to prevent excessive oxidation and do not store in close proximity to incompatible materials.

## Section 8 – Exposure Controls / Personal Protection

Ingredient	OSHA PEL	ACGIH TLV
	TWA	TWA
In	NE	0.1 mg/m <sup>3</sup>
Sn	2 mg/m <sup>3</sup>	2 mg/m <sup>3</sup>
Ag	.01 mg/m <sup>3</sup>	.1 mg/m <sup>3</sup>
Ti	20 mg/m <sup>3</sup>	None established

**Engineering Controls:** None

**Ventilation:** Provide general or local exhaust ventilation systems to maintain airborne concentrations below OSHA PELs (Sec. 2).

**Administrative Controls:** N/A

**Respiratory Protection:** Alloy is non-respirable, but always seek professional advice prior to respirator selection and use.

Follow OSHA respirator regulations (29 CFR 1910.134) and, if necessary, wear a MSHA/NIOSH-approved respirator. Select respirator based on its suitability to provide adequate worker protection for given working conditions, level of airborne contamination, and presence of sufficient oxygen. For emergency or non-routine operations (cleaning spills, reactor vessels, or storage tanks), wear an SCBA. *Warning! Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.* If respirators are used, OSHA requires a written respiratory protection program that includes at least: medical certification, training, fit testing, periodic environmental monitoring, maintenance, inspection, cleaning, and convenient, sanitary storage areas.

**Protective Clothing/Equipment:** Wear thermally protective gloves, boots, aprons and gauntlets to prevent skin contact with the molten alloy. Wear protective eyeglasses or chemical safety goggles, per OSHA eye- and face-protection regulations (29 CFR 1910.133). Contact lenses are not eye protective devices. Appropriate eye protection must be worn instead of, or in conjunction with contact lenses.

**Safety Stations:** No special systems required, but make emergency eyewash stations, safety/quick-drench showers and washing facilities available in work area.

**Contaminated Equipment:** No special requirements

**Comments:** Never eat, drink or smoke in work areas. Practice good personal hygiene after using this material, especially before eating, drinking, smoking, using the toilet, or applying cosmetics.

## Section 9 - Physical and Chemical Properties

<p><b>Physical State:</b> Metallic Solid  <b>Appearance and Odor:</b> Metallic Gray/Silver - No odor  <b>Odor Threshold:</b> N/A  <b>Vapor Pressure:</b> N/A  <b>Vapor Density (Air=1):</b> N/A  <b>Formula Weight:</b> N/A  <b>Density:</b> 7.8 g/cc  <b>Specific Gravity (H<sub>2</sub>O=1, at 4 °C):</b> N/A  <b>pH:</b> N/A</p>	<p><b>Water Solubility:</b> Insoluble  <b>Other Solubilities:</b> N/A  <b>Boiling Point:</b> Not established (&gt; than 1800°C ( 3270°F))  <b>Freezing/Melting Point:</b> 120C-130°C  <b>Viscosity:</b> N/A  <b>Refractive Index:</b> N/A  <b>Surface Tension:</b> N/A  <b>% Volatile:</b> None  <b>Evaporation Rate:</b> N/A</p>
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## Section 10 - Stability and Reactivity

**Stability:** Stable at room temperature in closed containers under normal storage and handling conditions.  
**Polymerization:** Hazardous polymerization cannot occur.  
**Chemical Incompatibilities:** Strong acids and bases  
**Conditions to Avoid:** Do not add water to molten metal, resultant steam may cause an 'explosion'  
**Hazardous Decomposition Products:** Thermal oxidative decomposition produces no hazardous byproducts. Oxidation will produce indium oxides, titanium dioxide, tin oxide, or silver oxide.

## Section 11 – Toxicological Information

**Primary Entry Routes:** Ingestion  
**Target Organs:** N/A  
**Acute Effects**  
**Inhalation:** N/A.  
**Eye:** May cause irritation. Direct contact with molten alloy can cause burns.  
**Skin:** Molten alloy will burn unprotected skin.  
**Ingestion:** May irritate stomach lining.  
**Carcinogenicity:** IARC, NTP and OSHA do not list S-Bond 130 (or any of its material components) as a carcinogen.  
**Medical Conditions Aggravated by Long-Term Exposure:** None  
**Chronic Effects:** None

## 12 – Ecological Information

**Ecological Information:** None

**EPA Regulations:**

SARA 311/312 Codes:  
SARA Toxic Chemical (40 CFR 372.65):

CAS #	Chemical Name	% of Alloy
7440-22-4	Silver	4.5 max.

SARA EHS (Extremely Hazardous Substance) (40 CFR 355): Not listed, Threshold Planning Quantity (TPQ)

**OSHA Regulations:**

Air Contaminant (29 CFR 1910.1000, Table Z-1, Z-1-A): Not listed  
OSHA Specifically Regulated Substance: Not listed

**State Regulations:** N/A

**13 – Disposal Information**

None

**Section 14 – Transport Information****DOT Transportation Data (49 CFR 172.101):****Shipping Name:** S-Bond 130 Alloy**Shipping Symbols:** None**Hazard Class:** None\*\* Shipment is not controlled by  
USDOT/IATA/ICAO/IMO regulations.**15 – Regulatory Information**

None

**16 – Other Information****Prepared By:** RW Smith**Date of Preparation:** 03/21/2016**Revision Notes:** None

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