



## SAFETY DATA SHEET

### 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Identifier:** INDALLOY WITH LV1000

**SDS Number:** SDS-57361

**Revised Date:** 22 JUNE 2018

**Product Use:** Industrial Use - Flux coated preform, ribbon or wire with 0.4-3% flux coating. See alloy table for metal mixtures using the same flux.

#### MANUFACTURER:

##### In America:

**The Indium Corporation of America®.**  
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##### In Asia:

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#### EMERGENCY PHONE:

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**USA: 1 (800) 424-9300**  
**Outside USA: +1 (703) 527-3887**

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Information: (86) 512-6283-4900

## 2. HAZARDS IDENTIFICATION

### PRIMARY ROUTES OF ENTRY:

⊕Eye    ⊕Inhalation    ⊕Skin    ⊕Ingestion    NTP

### Carcinogen listed in

IARC    OSHA    ⊕Not Listed

#### GHS:

Lead free products



Signal Word: Warning

#### Hazard statement(s)

H317            May cause an allergic skin reaction  
 H334            May cause allergy or asthma symptoms or breathing difficulties if inhaled  
 H335            May cause respiratory irritation  
 EUH208        Contains rosin. May produce an allergic reaction

#### Precautionary statement(s)

P233            Keep container tightly closed  
 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 +P364    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)

Lead containing products



Signal Word: Warning

#### Hazard statement(s)

H303            May be harmful if swallowed  
 H317            May cause an allergic skin reaction  
 H334            May cause allergy or asthma symptoms or breathing difficulties if inhaled  
 H335            May cause respiratory irritation  
 H351            Suspected of causing cancer  
 H361            Suspected of damaging fertility or the unborn child  
 H373            May cause damage to organs through prolonged or repeated exposure  
 H410            Very toxic to aquatic life with long lasting effects  
 EUH208        Contains rosin. May produce an allergic reaction

#### Precautionary statement(s)

P233            Keep container tightly closed  
 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 +P364    Take off contaminated clothing and wash before reuse  
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**Classification:**

Carcinogenicity (Category 2) (lead)  
 Reproductive toxicity (Category 2 ) (lead)  
 Skin sensitizer-Category 1B  
 Respiratory sensitizer-Category 1B  
 Eye irritation-Category 2A  
 Acute aquatic toxicity – Category 1 for lead containing products (H400)  
 Chronic aquatic toxicity – Category 1 for lead containing products (H410)

**POTENTIAL HEALTH EFFECTS:**

**Eye Contact:** Irritating to the eyes and if not removed may result in serious injury. Contact with fume from molten metal may cause irritation.

**Ingestion:** This product contains metal and organic chemicals. May cause irritation.

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

**Skin Contact:** May cause skin irritation. Exposure to rosin may cause irritation or dermatitis. ANTIMONY has been known to cause dermatitis.

**Chronic:**

SILVER: Chronic skin contact or ingestion of silver powder, salts or fume can result in a condition known as Argyria, a condition with bluish pigmentation of the skin and eyes.

TIN: Prolonged inhalation of fume may result in lung complications.

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

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.

INDIUM: May cause damage to respiratory system.

**NOTE:** The Indium Corporation does not recommend, manufacture, market or endorse any of its products for human consumption.



**WARNING:** This product can expose you to chemicals including [lead] which are known to the State of California to cause cancer, and birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

**Warning:** This product may contain 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.

**3. COMPOSITION / INFORMATION ON INGREDIENTS**

<b>Components</b>	<b>% wt</b>	<b>CAS Registry #/EINECS#</b>	<b>PEL mg/m<sup>3</sup></b>	<b>TLV-TWA mg/m<sup>3</sup></b>	<b>TLV-STEL mg/m<sup>3</sup></b>	
<b>TIN</b>	*	7440-31-5/231-141-8				
			(US)	2	2	-
			(EU)	-	2	4
			(Canada)	-	2	4
			(Singapore)	2	-	-
<b>SILVER</b>	*	7440-22-4/231-131-3				
			(US)	0.01	0.1	-
			(EU)	-	0.1	-
			(Canada)	-	0.1	0.3
			(Singapore)	0.1	-	-
	(Mexico)	-	0.1	-		
<b>COPPER</b>	*	7440-50-8/231-159-6				
			(US)	0.1 (fume)	0.2 (fume)	-
			(EU)	-	0.2 (fume)	-
			(Canada)	-	0.2 (fume)	0.6 (fume)
			(Singapore)	0.2(fume)	-	-
			(Mexico)	-	0.2(fume)	2
	(China)	-	0.2(fume)	0.6		
<b>LEAD</b>	*	7439-92-1/231-100-4				
			(US)	0.05	0.05	-
			(EU)	-	0.15	-
			(Canada)	0.05	0.05	-
			(Singapore)	0.15	-	-
			(Mexico)	N.E.	0.15	-
	(China)	-	0.05(dust) 0.03(fume)	-		
<b>INDIUM</b>	*	7440-74-6/231-180-0				
			(US)	0.1	0.1	-
	(EU)	-	0.1	0.3		

		(Canada)	-	0.1	0.3
		(Mexico)	-	0.1	0.3
		(Singapore)	0.1	-	-
		(China)	-	0.1	0.3
<b>ANTIMONY</b>	*	7440-36-0/231-146-5			
		(US)	0.5	0.5	-
		(EU)	0.5	-	-
		(Canada)	N.E.	0.5	1.5
		(Singapore)	0.5	-	-
		(Mexico)	0.5	-	-
		(China)	-	0.5	-
<b>ROSIN MIX</b>	0.5-3.0	65997-05-9 (US)	N.E.	N.E.	N.E.
		(EU)	0.05	N.E.	0.15 (sensitiser)

N.E. = Not established

**ALLOY TABLE**

0.4-3% flux

<b><u>Indalloy Mixture</u></b> <b><u>(%Metal)</u></b>	<b>%TIN</b> <b>Sn</b>	<b>%SILVER</b> <b>Ag</b>	<b>%COPPER</b> <b>Cu</b>	<b>%LEAD</b> <b>Pb</b>	<b>%INDIUM</b> <b>In</b>	<b>%ANTIMONY</b> <b>Sb</b>	<b>RoHS 2/3</b> <b>Compliance*</b>
<b>7</b> (50In/50Pb)	-	-	-	48.5-49.8	48.5-49.8	-	No
<b>104</b> (Sn62/Pb36/Ag2)	60-61.7	1.94-1.99	-	34.9-35.8	-	-	No
<b>106</b> (Sn63/Pb37)	59.9-62.7	-	-	35-36.8	-	-	No
<b>121</b> (96.5Sn/3.5Ag)	93.6-96.1	3.4-3.49	-	-	-	-	Yes
<b>159</b> (90Pb/10Sn)	9.7-9.96	-	-	87.3-89.6	-	-	Yes
<b>241</b> SAC 387 (95.5Sn/3.8Ag/0.7Cu)	92.6-95.1	3.7-3.78	0.68-0.697	-	-	-	Yes
<b>246</b> (SAC405) (95.5Sn/4Ag/0.5Cu)	92.6-95	3.88-3.98	0.485-0.498	-	-	-	Yes

<b>Indalloy Mixture (%Metal)</b>	<b>%TIN Sn</b>	<b>%SILVER Ag</b>	<b>%COPPER Cu</b>	<b>%LEAD Pb</b>	<b>%INDIUM In</b>	<b>%ANTIMONY Sb</b>	<b>RoHS 2/3 Compliance*</b>
<b>256</b> SAC 305 (96.5Sn/3Ag/0.5Cu)	93.6-96.1	2.91-2.99	0.485-0.498	-	-	-	Yes
<b>258</b> (SACM0510) (98.5Sn/0.5Ag/1Cu)	97.5-98	0.485-0.498	0.97-0.996	-	-	-	Yes
<b>259</b> (90Sn/10Sb)	87.3-89.6	-	-	-	-	9.7-9.96	Yes
(96.3Sn/3.7Ag)	93.4-95.9	3.59-3.69	-	-	-	-	Yes

\*RoHS 2 = Restriction of Hazardous Substances (2011/65/EU)

\*RoHS 3- products do not contain any listed phthalates

#### 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.

#### 5. FIRE FIGHTING MEASURES

**Flash Point:** Not established. **Method:** Not established.

**Auto-ignition Temperature:** Not established.

**Flammable Limits:** Limits not established.

**Extinguishing Media:** Use extinguishers appropriate for the surrounding fire conditions.

**Special Fire Fighting Procedures:** Firefighters must wear NIOSH approved self-contained breathing apparatus and full protective clothing.

#### 6. ACCIDENTAL RELEASE MEASURES

**Spill or Leak Procedures:** Pick up solids and put in container for reuse or recycling. Do not sweep powder or small particulate. Use vacuum. Reduce airborne dust and prevent scattering by moistening with water. Dispose of following all Federal, State and Local regulations.

## 7. HANDLING AND STORAGE

**Handling** Keep containers tightly closed when not in use. Use care to avoid spills. Always thoroughly wash your hands after handling this product. DO NOT touch or rub eyes until hands are washed.

**Storage Precautions:** Refer to product label for specific storage temperature requirements. Rotate stock to ensure use before expiration date on the label.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Engineering Controls:** Exhaust ventilation is recommended to keep exposures below established limits and protect operators especially during heating of material.

### Personal protection:

**Eyes:** Chemical safety glasses/goggles. Faceshield for splash hazards or particulate.

**Respirator:** An authority approved or compliant marked air-purifying respirator with a fume/organic/particulate chemical cartridge is recommended under certain circumstances where airborne concentrations are expected to be elevated or exceed exposure limits.

**Skin:** Compatible chemical resistant gloves may be required for certain applications. Hot gloves as needed for melting applications. Nitrile disposable or other chemical resistant gloves. Latex is not recommended for most handling situations.

**Other:** Lab coat, eye-wash fountain in work area. Avoid the use of contact lenses in high fume or particulate areas.

**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. When applicable, follow proper lead work procedures.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Appearance:</b>	metal	<b>Boiling Point:</b>	Not applicable.
<b>Odor:</b>	Odorless		
<b>Melting Point:</b>	Not available, see product data sheet		
<b>Specific Gravity:</b>	Not available, see product data sheet		
<b>pH:</b>	Not applicable		
<b>Vapor Pressure:</b>	Not available	<b>Solubility in Water:</b>	Insoluble
<b>Vapor Density:</b>	(air=1) Not available.		

## 10. STABILITY AND REACTIVITY

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

**11. TOXICOLOGICAL INFORMATION**

**Carcinogenicity:**        **NTP:** No  
                                   **OSHA:** No  
                                   **IARC:** No

**LD50:**                      Not established.                      **LC50:**                      Not established.

**Other:** Chronic Toxicity: Prolonged or repeated exposure to rosin flux fume may cause workers to develop occupational asthma.

**12. ECOLOGICAL INFORMATION**

Product not tested. No information 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 international regulations and requirements. Not regulated under US DOT (United States Department of Transportation. Not hazardous under shipping regulations (USDOT/IATA/IMDG).

UN – none.

Non hazardous- (ground/IATA/IMDG)

**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.).

SARA 313 Listing - 40 CFR 372.65  
                                   Silver    Copper    Lead    Antimony

All ingredients are listed on the EPA TSCA Inventory.

EPA Genetic Toxicology Program – Lead CAS# 7439-92-1



**WARNING:** This product can expose you to chemicals including [lead] which are known to the State of California to cause cancer, and birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

Malaysia:

This product has been classified in accordance with: Malaysian – OCCUPATIONAL SAFETY AND HEALTH (CLASSIFICATION, LABELING AND SAFETY DATA SHEET OF HAZARDOUS CHEMICALS) REGULATION OCTOBER 2013 – (CLASS). (GHS)

In China:

Decree No. 591: Regulations on the Control over Safety of Hazardous Chemicals  
 GB 30000.2-29-2013, Rules for classification and labeling of chemicals. (GHS)  
 GB/T 16483-2008, GB/T 17517-2013



This product has been classified using the Chinese Occupational Limit for Hazardous Agents in the Workplace, GBZ2-2007.

This product has been classified in accordance with the Mexican regulations NOM-018-STPS-2015 and NOM-010-STPS-2014.

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

Canadian WHMIS: D2B Materials Causing Other Toxic Effects -irritant



D2A-Materials Causing Other Toxic Effects-Very Toxic Material (Chronic) (lead)

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

## 16. OTHER INFORMATION

<b>HMIS Hazard Rating:</b>	<b>Health:</b>	2
	<b>Fire:</b>	1
	<b>Reactivity:</b>	0

**Revised Date:** 22 JUNE 2018

**Prepared by:** Nancy Swarts, Indium Corporation of America

**Approved by:** Nancy Swarts, Indium Corporation of America

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