



## SAFETY DATA SHEET

This safety data sheet represents a family grouping of all metal mixes that are blended with the same flux. A table is provided that lists all metal groupings. To better serve all of our customers and reduce paperwork Indium Corporation has generated one SDS, for this product, to be used within the United States as well as internationally. Some of the regulatory information contained within may not be applicable to the customer's individual state or country. Unless otherwise stated the health and safety information provided within is applicable to all products.

### 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Identifier:** INDALLOY WITH CW 901 ACID CORE FLUX

**SDS Number:** SDS- 5821

**Revised Date:** 17 SEPTEMBER 2018

**Product Use:** Industrial Use - Flux Cored Wire and other designs for soldering applications

#### MANUFACTURER:

##### In America:

The Indium Corporation of America®.  
34 Robinson Rd., Clinton, NY 13323  
Information: (315) 853-4900  
[nswarts@indium.com](mailto:nswarts@indium.com)

The Indium Corporation of America®.  
Chicago Materials Division  
80 Scott Street  
Elk Grove Village, Illinois 60007  
(847) 439-9135

##### In Europe:

The Indium Corporation of America® (European Operations)  
7 Newmarket Ct  
Kingston, Milton Keynes, UK, MK 10 OAG  
Information: +44 [0] 1908 580400

##### In Asia:

Indium Corporation of America  
Asia-Pacific Operations-Singapore  
29 Kian Teck Avenue  
Singapore 628908  
Information: +65 6268-8678

#### EMERGENCY PHONE:

**CHEMTREC 24 hrs.**

**USA: 1 (800) 424-9300**

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

**China: Emergency 86+ 4008417580**

#### In China:

Indium Corporation (Suzhou), Co., Ltd.  
No. 428 Xinglong Street  
Suzhou Industrial Park  
Suchun Industrial Square  
Unit No. 14-C  
Jiangsu Province, China 215126  
Information: (86) 512-6283-4900

**2. HAZARDS IDENTIFICATION****PRIMARY ROUTES OF ENTRY:**

\*Eye   \*Inhalation   \*Skin   \*Ingestion   NTP

**Carcinogen listed in**IARC   OSHA   \*Not Listed  
See Section 11

GHS

Lead free products



Signal Word: Warning

**Hazard statement(s)**

H317      May cause an allergic skin reaction  
 H319      Causes serious eye irritation  
 H334      May cause allergy or asthma symptoms or breathing difficulties if inhaled

**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  
 H319      Causes serious eye irritation  
 H334      May cause allergy or asthma symptoms or breathing difficulties if inhaled  
 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 harmful effects  
 EUH201A      Warning! Contains lead. Review listing.

**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  
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Classification:

Skin irritant- Category 2

Specific target organ toxicity- repeated exposure – Category 2

Carcinogenicity (Category 2) (lead)

Reproductive toxicity (Category 2 ) (lead)

Acute aquatic toxicity – Category 1 for lead containing products

Chronic aquatic toxicity – Category 1 for lead containing products

**POTENTIAL HEALTH EFFECTS:**

In General: Normal handling of wire should not cause any adverse health effects.

**Eye Contact:** Irritating to the eyes and if not removed promptly, may result in serious injury. Do not allow material to come in contact with eyes. Contact with fume from molten metal may cause irritation.

**Ingestion:** May be harmful if swallowed.

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

**Skin Contact:** Normal handling should not cause any adverse health effects. May cause skin irritation. Hot molten metal may cause burns to the skin. Wear protective equipment when handling molten metal. Antimony can cause irritation or dermatitis.

**Chronic:**

**LEAD:** Prolonged exposure to vapors and/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.

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

**TIN:** Has been shown to increase incidence of sarcoma in animal tests.

**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.



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

**Note:** The Indium Corporation does not recommend, manufacture, market or endorse any of its 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.

**3. COMPOSITION / INFORMATION ON INGREDIENTS**

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>LEAD</b>	*	7439-92-1/231-100-4	0.05	0.05	N.E.
		(EU)	N.E.	0.15	N.E.
		(Canada)	N.E.	0.05	N.E.
		(Mexico)	0.15	N.E.	N.E.
		(China)	-	0.05(dust) 0.03(fume)	-
		(Singapore)	0.15	N.E.	N.E.
<b>SILVER</b>	*	7440-22-4/231-131-3			
		(US)	0.01	0.1	-
		(EU)	-	0.1	-
		(Canada)	-	0.1	0.3
		(Mexico)	-	0.1	-
(Singapore)	0.1	-	-		
<b>TIN</b>	*	7440-31-5/231-141-8			
		(US)	2	2	-
		(EU)	-	2	4
		(Canada)	-	2	4
(Singapore)	2	-	-		
<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)
		(Mexico)	-	0.2(fume)	2
		(Singapore)	0.2	-	-
(China)	-	1(dust) 0.2(fume)	2.5 0.6		
<b>ANTIMONY</b>	*	7440-36-0/231-146-5			
		(US)	0.5	0.5	-
		(EU)	0.5	-	-
(Canada)	-	0.5	1.5		

			(Mexico)	-	0.5	-
			(Singapore)	0.5	-	-
			(China)	-	0.5	-
<b>AMMONIUM CHLORIDE</b>	0.1 -1	12125-02-9/235-186-4				
			(US)	N.E	10(fume)	20(fume)
			(Canada)	-	10(fume)	20(fume)
			(EU)	-	10(fume)	20(fume)
			(Singapore)	10(fume)	-	20(fume)
			(Mexico)	-	10(fume)	20(fume)
<b>PROPRIETARY</b>	1.5 - 5	-	-	N.E.	N.E.	N.E.

N.E. = Not established      \* 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.

**5. FIRE FIGHTING MEASURES**

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

**Auto-ignition Temperature:** Not applicable

**Flammable Limits:** Not flammable

**Extinguishing Media:** Use extinguishers appropriate for the surrounding fire conditions. Use water spray, carbon dioxide, or foam. Do not allow water run-off to enter sewers or waterways.

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

**6. ACCIDENTAL RELEASE MEASURES**

**Spill or Leak Procedures:** Wear HEPA (high efficiency particulate filter) filter respirator and other personal protective clothing. (See Exposure Controls/Personal Protection Section). Clean up spill without generating or dispersing dust into the air. Vacuum solids instead of sweeping. Reduce airborne dust and prevent scattering by moistening with water. Place spilt material in a container and dispose of in accordance with applicable regulations.

**7. HANDLING AND STORAGE**

**Handling Precautions:** Avoid breathing vapors from heated material. Avoid contact with eyes, skin and clothing. Follow routine safe handling procedures. Use with adequate ventilation.

**Storage Precautions:** Keep away from heat and flame. Store in suitable, tightly capped, and labeled containers in cool dry, well-ventilated area. Empty containers may be hazardous as they contain product residue.

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Engineering Controls:** Local exhaust ventilation is recommended to control any fume or dust air contaminants. Avoid exposure to lead containing fume.

**Personal protection:**

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

**Respirator:** A NIOSH approved or EU compliant CE marked air-purifying respirator with a fume/dust HEPA type Chemical cartridge is recommended under certain circumstances where airborne concentrations are expected to be elevated. Warning: Air purifying respirators do not protect the worker in oxygen-deficient atmospheres. Follow applicable lead work practices as established under OSHA or other comparable safety standards.

**Skin:** Wear protective gloves, clothing such as lab coat, coveralls, apron and boots.

**Other:** Eye-wash fountain/shower in work area. Avoid the use of contact lenses in high fume and dust areas. Regular shower facilities and industry laundry service may be required. When working with lead containing product follow proper lead work practices.

**Work/Hygienic** Maintain good housekeeping. Clean up spills immediately. Good personal hygiene is essential. Avoid eating, smoking or drinking in the lead work areas. Wash hands and face thoroughly with soap and water immediately upon leaving the work area and before eating.

**9. PHYSICAL AND CHEMICAL PROPERTIES**

<b>Appearance:</b>	Solid, gray metal wire	<b>Boiling Point:</b>	Not available
<b>Odor:</b>	Odorless/mild	<b>Melting Point:</b>	Varies
<b>Specific Gravity:</b>	Varies	<b>pH:</b>	Not applicable
<b>Vapor Pressure:</b>	Not established	<b>Solubility in Water:</b>	Insoluble
<b>Vapor Density:</b>	(air=1) Not applicable.		

**10. STABILITY AND REACTIVITY**

<b>General:</b>	Stable.
<b>Conditions to Avoid:</b>	Not established
<b>Incompatible Materials:</b>	Not established
<b>Hazardous Decomposition / Combustion:</b>	Toxic fumes are emitted at elevated temperatures.
<b>Hazardous Polymerization:</b>	Will not occur.

**11. TOXICOLOGICAL INFORMATION**

**Carcinogenicity:** NTP(National Toxicity Program): No

**OSHA (Occupational Safety & Health Administration):** No  
**IARC (International Agency for Research on Cancer):** Yes (Lead and its compounds)

**LD50:** Not established. **LC50:** Not established.  
 Lead can cause potential harm to the developing fetus.

## 12. ECOLOGICAL INFORMATION

Product not tested

Some products contain lead a substance that is harmful to the aquatic environment.

## 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. In Europe follow the Special Waste Regulations.

## 14. TRANSPORT INFORMATION

Transport in accordance with applicable international regulations and requirements. Not regulated under US DOT (United States Department of Transportation). Non - hazardous for shipping (ground/IATA/Ocean).

UN – none

Marine Pollutant: No

## 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.).



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

SARA 313 Listing - 40 CFR 372.65 – Lead, Antimony and Silver

Ingredient is listed on the EPA TSCA Inventory.

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



WHMIS: 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.

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

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.

## 16. OTHER INFORMATION

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

**Revised Date:** 17 SEPTEMBER 2018

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

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

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**ALLOY TABLE**

% Metal mixed with 2 - 6% flux

<b>Indalloy Metal Mix</b>	<b>% Tin Sn</b>	<b>% Lead Pb</b>	<b>% Silver Ag</b>	<b>% Copper Cu</b>	<b>% Antimony Sb</b>	<b>RoHS 2/3 Compliance</b>
<b>116</b> (50Sn/50Pb)	46.5 - 49	46.5 - 49	-	-	-	No
<b>121</b> (96.5Sn/3.5Ag)	90.7 - 94.6	-	3.36 - 3.4	-	-	Yes
<b>161</b> (97.5Pb/2.5Ag)	-	91.7-95.6	2.35—2.45	-	-	Yes**
<b>241</b> (SAC387) (95.5Sn/3.8Ag/0.7Cu)	89.8-93.6	-	3.6-3.7	0.66-0.69	-	Yes
<b>256</b> (SAC 305) (96.5Sn/3Ag/0.5Cu)	90.5-94.5	-	2.82-2.94	0.47-0.49	-	Yes
<b>NS</b> (91.5Sn/8.5Sb)	86 - 89.7	-	-	-	8 - 8.33	Yes
<b>NS</b> (96Sn/4Ag)	90 - 94	-	3.8 – 3.9	-	-	Yes

\*\* High lead exemptions , if taking the exemption  
NS= non standard mix

RoHS 2- (2011/65/EU) amended by directive (2015/863/EU)  
RoHS 3- products do not contain any listed phthalates