



THE INDIUM CORPORATION OF AMERICA®\EUROPE®\ASIA-PACIFIC®  
INDIUM CORPORATION (SUZHOU)®

## SAFETY DATA SHEET

### SECTION 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

#### 1.1 Product Identifier

**Product Name/Group:** INDALLOY WITH CORE 230 FLUX

**SDS Number:** SDS- CW 006

**Revised Date:** 1 JULY 2016

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Product Use:** Industrial Use (Mixture) - Flux cored wire  
See alloy table for listing of products included under this SDS.

#### 1.3 Details of the supplier of the safety data sheet

##### MANUFACTURER/SUPPLIER/IMPORTER:

##### In America:

The Indium Corporation of America  
34 Robinson Rd. Clinton, NY 13323  
Technical & Safety Information: (315) 853-4900  
Safety & SDS Information: [nswarts@indium.com](mailto:nswarts@indium.com)  
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**In Asia:**

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

**1.4 Emergency telephone number**

**FOR CHEMICAL EMERGENCY ONLY PHONE \*:**

**CHEMTREC 24 hrs.**

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

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

**\* Used only for spill/leak/fire/exposure/accident**

**ALL OTHER INQUIRIES: TOLL FREE: +1-800-448-9240 Indium Corporation**

**SECTION 2. HAZARDS IDENTIFICATION****2.1 Classification of substance or mixture**

1272/2008/CE (CLP) (GHS)

**2.2 Label elements**

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
EUH208	Contains rosin. May produce an allergic reaction

**Precautionary statement(s)**

P233	Keep container tightly closed
P261	Avoid breathing dust/fume/gas/mist/vapours/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 + P341	IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing
P305 + P351	IF IN EYES: Rinse continuously with water for several minutes (15 mins)

**Classification:**

Eye irritation- Category 2A  
 Skin sensitizer- Category 1B  
 Respiratory sensitizer- Category 1B

**PRIMARY ROUTES OF ENTRY:**

Eye    Inhalation    Skin    Ingestion    NTP    IARC    OSHA    Not Listed

**Carcinogen listed in**

**2.3 OTHER HAZARDS**

**POTENTIAL HEALTH EFFECTS:**

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

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

**Inhalation:** Inhalation of fume or dust may cause local irritation to the respiratory system. Rosin has been known to cause occupational asthma.

**Skin Contact:** May cause skin irritation or dermatitis. Rosin may cause skin sensitization.

**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: 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.

Normal handling of solid metal is not harmful

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

**3.2 Mixture:**

Components	% wt	CAS Registry #/ EINECS#
TIN	*	7440-31-5/231-141-8
SILVER	*	7440-22-4/231-131-3
COPPER	*	7440-50-8 /231-159-6
ANTIMONY	*	7440-36-0/231-146-5

**ROSIN MIX**                      1.0-5.0                      65997-05-9

N.E. = Not established

\* See Alloy Table for breakdown of percentages of alloy mixtures

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## ALLOY TABLE

Indalloy (metal mixture)	%TIN Sn	%SILVER Ag	%COPPER Cu	%ANTIMONY Sb	RoHS 2 Compliance
121	96.5	3.5	-	-	Yes
133	95	-	-	5	Yes
241 (SAC 387)	95.5	3.8	0.7	-	Yes
246	95.5	3.5	-	-	Yes
256 (SAC 305)	96.5	3	0.5	-	Yes
263 (SAC0307)	99	0,3	0,7	-	Yes

RoHS 2 = (2011/65/EU)

## SECTION 4. FIRST AID MEASURES

### 4.1 Description of 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.

### 4.2 Most important symptoms and effect, both acute and delayed:

Skin contact may cause irritation. Long term contact may cause dermatitis. Inhalation of decomposed rosin fume may cause irritation or occupational asthma. Exposure to metal fumes may cause irritation to the respiratory system.

### 4.3 Indication of any immediate medical attention and special treatment needed:

No specific special treatment information is available on this wire mixture. Review data provided in this document to understand the hazards when working with the product. No other information is available at this time. Metal wire as received is not harmful.

## SECTION 5. FIRE FIGHTING MEASURES

**5.1 Extinguishing Media:** Use extinguishers appropriate for the surrounding fire conditions. CO<sub>2</sub>, water

**5.2 Special hazards arising from the substance or mixture:**  
May produce toxic fumes of carbon monoxide if burning or metal oxide fumes.

**5.3 Advice for Firefighters** Firefighter's must wear approved self-contained breathing apparatus and full protective clothing.

**5.4 Further information**  
Material product is not flammable. No other information is available.

## SECTION 6. ACCIDENTAL RELEASE MEASURES

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

#### **For non-emergency personnel:**

Keep away from the spill. Remove sources of ignition. Keep exhaust ventilation system running. In the event of a fire evacuate area.

#### **For emergency responders:**

Wear safety glasses, gloves when cleaning up any spill. Other equipment may be necessary based on the immediate area and other chemicals unrelated to the product that may be in use. Adequate ventilation should be available. Keep unnecessary personnel away from area during clean up.

**6.2 Environmental Precautions:** Material has reclaim value. Material is non-hazardous. It however does contain metals and organic chemicals which may not be suited for release to any body of water including drains.

### 6.3 Methods and material for containment and cleaning up:

Spill or leak procedures: If molten allow to cool then place into metals reclaim container. If solid wire pieces pick up and place into container for reclaim or reuse.

**6.4 Reference to other sections:** See Section 8 for exposure levels. Section 13 for disposal.

## SECTION 7. HANDLING AND STORAGE

### 7.1 Precautions For Safe Handling:

Keep containers tightly closed when not in use. Use care to avoid spills. Use only with production equipment specifically designed for the task. Wear appropriate personal protective equipment when working or handling solder paste. Always thoroughly wash your hands after handling this product. DO NOT touch or rub eyes until hands are washed. Do not eat, drink or smoke when handling this product. Utilize exhaust ventilation when heating product. Emissions may contain metal fumes, rosin and organic compounds.

### 7.2 Conditions for Safe Storage, including any incompatibilities:

**Storage Precautions:**

Store product in tightly capped original containers in a cool, dry area. Refer to product label and product data sheet for specific storage temperature requirements.

Rotate stock to ensure use before expiration date.

**7.3 Specific End Use(s):** Soldering applications

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

**8.1 Control Parameters**

			TWA	STEL
		<u>CAS#/EINECS#</u>	mg/m3	mg/m3
<b>TIN</b>	*	7440-31-5/231-141-8		
		(UK)	2	4
		(Belgium)	2	-
		(Germany)	2	-
		(Netherlands)	2	-
		(Spain)	2	-
		(Poland)	2	-
<b>SILVER</b>	*	7440-22-4/231-131-3		
		(UK)	0.1	0.3
		(Belgium)	0.1	-
		(France)	0.1	-
		(Germany)	0.1	-
		(Netherlands)	0.1	-
		(Spain)	0.1	-
		(Poland)	0.05	-
<b>COPPER</b>	*	7440-50-8 /231-159-6		
		(UK)	0.2 (fume)	0.6(fume)
		(France)	2	0.2(fume)
		(Belgium)	1	-
			0.2(fume)	
		(Spain)	1	-
			0.2(fume)	
		(Portugal)	1	0.2(fume)
		(Netherlands)	0.1	-

		(Finland)	1	-
			0.1	
		(Denmark)	1	-
			0.1	
		(Austria)	1	4
			0.1(fume)	0.4
		(Switzerland)	0.1	0.2
		(Norway)	1	0.1
		(Ireland)	1	2
			0.2 (fume)	
		(Poland)	0.2	-
<b>ANTIMONY</b>	*	7440-36-0/231-146-5		
		(UK)	0.5	-
		(France)	0.5	-
		(Belgium)	0.5	-
		(Spain)	0.5	-
		(Portugal)	0.5	-
		(The Netherlands)	0.5	-
		(Finland)	0.5	-
		(Denmark)	0.5	-
		(Austria)	0.5	5
		(Switzerland)	0.5	-
		(Poland)	0.5	-
		(Norway)	0.5	-
		(Ireland)	0.5	-
<b>ROSIN</b>	1.0-5.0	65997-05-9		
		(EU)	0.05	N.E. 0.15 (sensitizer)
(TWA) = time weighted average				
(STEL) = short term exposure level				
N.E. = Not established				

## 8.2 Exposure Controls

**Engineering Controls:** Use only with production equipment with adequate exhaust ventilation and other safety features specifically designed for use with wire. Control concentration of all components with established exposure limits so they are not exceeded. Use exhaust ventilation when heating product. Air emission control equipment may be necessary based on the local governmental requirements for contaminants entering the atmosphere. Emissions may contain metal fume, rosin and organic compounds.

### Personal protection:

**Eyes:** Chemical safety glasses/goggles. Face shield for splash hazards.

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

**Skin:** Compatible chemical resistant gloves. Recommend a nitrile disposable or other chemical glove.

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

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties:

<b>Appearance:</b>	Metal wire	<b>Boiling Point/Range:</b>	Not determined
<b>Odor:</b>	Odorless	<b>Melting Point:</b>	Not applicable
<b>Odor Threshold:</b>	Not established	<b>Evaporation Rate:</b>	Not applicable
<b>Specific Gravity:</b>	See table	<b>pH:</b>	Not applicable
<b>Vapour Pressure:</b>	1 mmHg @973C.	<b>Solubility in Water:</b>	Insoluble
<b>Vapour Density:</b>	(air=1) Not applicable.	<b>Partition coefficient:</b>	Not established
<b>Relative Density:</b>	Not established	<b>Flammability:</b>	Not applicable
<b>Flash Point:</b>	Not applicable	<b>Method:</b>	Not applicable
<b>Auto-ignition Temperature:</b>	Not applicable	<b>Flammable Limits:</b>	Limits not established
<b>UEL/LEL Limits:</b>	Not applicable	<b>Decomposition Temp:</b>	Not applicable
<b>Viscosity:</b>	Not established	<b>Explosive properties:</b>	Not applicable
<b>Oxidizing Properties:</b>	Not established		

9.2 Other Information: Above data for the whole mixture.

## SECTION 10. STABILITY AND REACTIVITY

10.1 <u>Reactivity:</u>	Stable.
10.2 <u>Chemical Stability:</u>	Stable
10.3 <u>Possibility of Hazardous Reactions:</u>	Not established
10.4 <u>Conditions To Avoid:</u>	None known



**10.5 Incompatible Materials:** Avoid contact with acids, bases or oxidizing agents.

**10.6 Hazardous Decomposition Combustion:**

Harmful organic fumes and toxic oxide fumes may form at elevated temperatures. Metal oxide fumes.

**Hazardous Polymerization:** Will not occur.

## SECTION 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects:

**Acute toxicity:** Not established

**Irritation:** Not established

**Corrosively:** Not applicable

**Sensitization:** Not available

**Repeated dose toxicity:** Not established

**Carcinogenicity:** Not established

**Likely Routes of Entry:** eyes (irritation) /skin (irritation or sensitization) /inhalation (irritation/sensitization) ingestion (may be harmful)

**Interactive effects:** None known

**Mutagenicity:** Not established

**Toxicity for Reproduction:** Not Established

**Absence of specific data:** None available (not tested)

### **Symptoms related to the physical, chemical and toxicological characteristics:**

May cause irritation or sensitization by skin and inhalation, especially during heating.

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

Exposure to rosin fume has been known to cause occupational asthma.

**Mixture verses substance information:** None known

### **Other Information:**

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

**Listing** OSHA: No (US Occupational Safety & Health Administration)

IARC: No

Copper - LD50 – intraperitoneal mouse 3.5 mg/kg.

Silver – LD50 oral – rat > 5,000 mg/kg

## SECTION 12. ECOLOGICAL INFORMATION

Product mixtures not tested.

**12.1 Toxicity:** No information available

**12.2 Persistence and degradability:** No information available

**12.3 Bioaccumulative potential:** No information available

**12.4 Mobility in soil:** No information available

**12.5 Results of PBT and vPvB assessments:** No data is available

**12.6 Other adverse effects:** No information is available for mixture. Avoid release to environment.

Copper – Toxicity to daphnia and other aquatic invertebrate's mortality NOEC – Daphnia 0.004 mg/l – 24h.

## SECTION 13. DISPOSAL CONSIDERATION

**13.1 Waste treatment method:** Scrap metal alloy usually has value. Contact a commercial reclaimer for recycling. Otherwise, dispose of in accordance with environmental regulations. Containerize material and classify according to applicable regulations. No pre-treatment on site is recommended. Do not dispose of down any drain or waterway. Utilize the same personal protective equipment as the user when handling for disposal.

**RoHS (Restriction of Hazardous Substances):** RoHS 2 (2011/65/EU) compliant. Review alloy table for products.

## SECTION 14. TRANSPORT INFORMATION

Transport in accordance with applicable regulations and requirements.

Not regulated/non- hazardous under US DOT (United States Department of Transportation).

Not regulated/non- hazardous under international shipping requirements.

**14.1 UN number** None

**14.2 UN proper shipping name:** None

**14.3 Transport hazard class(s):** None

**14.4 Packing group:** None

**14.5 Environmental hazards:** None

**Special precautions for user:** None

**Transport in bulk:** Not applicable

## SECTION 15. REGULATORY INFORMATION

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006 (REACH) and Regulation (CE) 453/2010.

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:

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.).

All ingredients are listed on the USEPA TSCA Inventory.

All ingredients are listed on EINECS. Note Rosin was recently listed under the No Longer Polymer List, Notification of New Chemical Substances in Accordance with Directive 67/548/EEC.

Safety data sheet was developed using EC 1907/2006 amended as of 20 May 2010 EU No 453/2010 and information as stated under regulation EC No 1272/2008 CLP Regulation.

Poland: Act of 25 February 2011, No. 63 item 322, on the chemical substances and their mixtures as published in the Journal of Laws of the Republic of Poland (Dziennik Ustaw).

GHS = Global Harmonized System

CLP= Classification, labeling and packaging

Product does not contain any substances ozone depleting substances and therefore not subject to EC 2037/2000.

**15.2 Chemical safety assessment:** None performed for mixture.

## SECTION 16. OTHER INFORMATION

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

**Revised Date:** 1 JULY 2016

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

Changes provided on this SDS were based on the requirements of EU No. 453/2010 of May 20, 2010 regarding amendments to EC No. 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH).

### Abbreviations and acronyms:

CAS No. –Chemicals Abstracts Service Number

CLP- Classification Labeling and Packaging Regulation

GHS - Global Harmonized System

EC- European Commission

EC No. – European Chemical Number: EINECS/ELINCS/ NLP

EINECS – European Inventory of Existing Commercial Chemical Substances

EU- European Union

NTP- National Toxicity Program

OSHA - US Occupational Safety & Health Administration

IARC - UN International Agency for Research on Cancer

UN – United Nations

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