



SAFETY DATA SHEET

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

1.1 Product Identifier

Product Name: INDALLOY WITH FLUXCAKE-807 (CW-807) SOLDER WIRE (LEAD-FREE)

SDS Number: SDS- CW 7340 **Revised Date:** 3 MAY 2021

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

Product Use: Industrial Use (Mixture) - Flux cored wire for soldering applications

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®.

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1.4 Emergency telephone number**FOR CHEMICAL EMERGENCY ONLY PHONE *:****CHEMTREC 24 hrs.****USA: 1 (800) 424-9300****Outside USA: +1 (703) 527-3887****China: Emergency 86+ 4008417580***** Used only for spill/leak/fire/exposure/accident****France: 33-975181407****In France emergency information (French poison center): INRS (ORFILA) +33 (0) 1 45 42 59 59****Germany: toll free- 0800-181-7059 or (Frankfurt) 49-69643508409****Italy: toll free- 800-789-767****Poland: (Warsaw) 48-223988029****Portugal: 351-308801773****Hungary: (Budapest) 36-18088425****Romania: 40-37-6300026****United Kingdom: (London) 44-870-8200418 and 44-2038073798****ALL OTHER INQUIRIES: TOLL FREE: +1-800-448-9240 Indium Corporation****SECTION 2. HAZARDS IDENTIFICATION****2.1 Classification of the substance or mixture****2.2 Label elements**

Labeling according Regulation (EC) No 1272/2008

GHS

Classification:

Sensitization, skin (Category 1B)

Sensitization, respiratory (Category 1B)

Serious eye irritation (Category 2A)

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)

PRIMARY ROUTES OF ENTRY:

Eye

Inhalation

Skin

Ingestion

NTP

Carcinogen listed in

IARC

OSHA

Not Listed

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 be harmful if swallowed.

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

INDIUM: May cause irritation to respiratory system.

SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS

3.2 Mixture:

Components	% wt	CAS Registry #/ EINECS#	ECHA registration#
TIN	*	7440-31-5/231-141-8	01-2119486474-28-0077
SILVER	*	7440-22-4/231-131-3	01-2119555669-21-0093
COPPER	*	7440-50-8 /231-159-6	01-2119480154-42-0208

ANTIMONY	*	7440-36-0/231-146-5	
INDIUM	*	7440-74-6/231-180-0	01-2120756870-48-0015
MANGANESE	doped	7439-96-5	
GERMANIUM	*	7440-56-4	01-2120761271-61-0007
NICKEL	*	7440-02-0/231-111-4	
ROSIN MIX	1.0-5.0	65997-05-9	01-2119964093-37-0008

N.E. = Not established

* See Alloy Table for breakdown of percentages of alloy mixtures
 Ingredients are listed even though they may not been categorized as hazardous.

<http://www.indium.com>

ALLOY TABLE
 Metal alloy mixed with rosin (1-5%)

INDALLOY Metal Mix	Tin Sn	Copper Cu	Silver Ag	Antimony Sb	Indium In	Nickel Ni	Germanium Ge	Specific Gravity (metal mix)	RoHS 2/3 Compliance
121 (96.5Sn/3.5Ag)	91.7 -95.5	-	3.3 - 3.47	-	-			7.50	Yes
128 (100Sn)	100	-	-	-	-	-	-	7.28	Yes
132 (95Sn/5Ag)	90 - 94	-	4.75 - 4.95	-	-			7.39	Yes
133 (95Sn/5Sb)	90-94	-	-	4.75-4.95	-			7.25	Yes
227 (77.2Sn/20In/2.8Ag)	73-77.4	-	2.66-2.77	-	19-19.8			7.25	Yes
241 (SAC387) (95.5Sn/3.8Ag/0.7)	79-87.9	0.58-0.64	3.15-3.5	-	-			7.40	Yes
254 (86.9Sn/10 In/3.1Ag)	82.6-86.0	-	2.94-3.07	-	9.5-9.9	-	-	-	Yes
256 (SAC 305) (96.5Sn/3Ag/0.5Cu)	91.6 - 95.5	0.475-0.495	2.85 - 2.97	-	-			7.40	Yes
263 (SAC0307) (99Sn/0.3Ag/0.7Cu)	94.05 – 98.1	0.676-0.693	0.285 – 0.297	-	-			7.40	Yes
268 (SACM0510) (98.5Sn/0.5Ag/1Cu) Doped 0.05Mn	93.6-97.5	0.95-.099	0.475-0.495	-	-			7.32	Yes
291 (99.25Sn, 0.7Cu, 0.05Ni, ≤0.01Ge)	94.29- 98.26	0.665- 0.693	-	-	-	0.0475 – 0.0495	0.0095- 0.0099	-	Yes

Sn995 (Co995) (99.5Sn/0.5Cu/<500 ppm Co)	94.5 - 98.5	0.475-0.495	-	-	-			7.29	Yes
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* Review applicable exemptions that may apply, otherwise not compliant.

RoHS 2 = (2011/65/EU)

RoHS 3 = products do not contain any listed phthalates

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.

SECTION 5. FIRE FIGHTING MEASURES

5.1 Extinguishing Media: Use extinguishers appropriate for the surrounding fire conditions. Water, CO2, foam media.

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 Fire fighter'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:

Remove sources of ignition. Keep exhaust ventilation system running, if applicable. In the event of a fire evacuate area.

For emergency responders:

Wear safety glasses, gloves when cleaning up any spill, especially heated product. 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 pick up pieces and place into container for reclaim or reuse.

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

SECTION 7. HANDLING AND STORAGE

7.1 Precautions For Safe Handling: Use only with production equipment specifically designed for the task. Wear appropriate personal protective equipment when working or handling during soldering. 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 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)
		CAS#/EINECS#	mg/m3	mg/m3
TIN	*	7440-31-5/231-141-8		
		(UK)	2	4
		(Belgium)	2	-
		(Germany)	2	-
		(Netherlands)	2	-
		(Spain)	2	-
		(Poland)	2	-
SILVER	*	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	-

COPPER

* 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	-

ANTIMONY

* 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	-
INDIUM	*	7440-74-6/231-180-0		
		(UK)	0.1	0.3
		(Belgium)	0.1	-
		(Spain)	0.1	-
		(Portugal)	0.1	-
		(Finland)	0.1	-
		(Denmark)	0.1	-
		(Austria)	0.1	0.2
		(Switzerland)	0.1	-
		(Norway)	0.1	-
		(Ireland)	0.1	0.3
MANGANESE	doped	7439-96-5	N.E.	N.E.
GERMANIUM	*	7440-56-4	N.E.	N.E.
NICKEL	*	7440-02-0/231-111-4		
		(EU)	0.5	1.5
		(France)	1	-
		(Belgium)	1	-
		(Spain)	1	-
		(Portugal)	1.5	-
		(Finland)	1	-
		(Austria)	-	2
		(Poland)	0.25	-
		(Norway)	0.05	0.15
		(Bulgaria)	0.05	-
		(Croatia)	0.5	-
		(Ireland)	0.5	-
		(Estonia)	0.5	-
		(Greece)	1	-

(Hungary)	0.1	0.1
(Romania)	0.1	0.5
(Lithuania)	0.5	-
(Slovenia)	-	2
(Russia)	0.05	-
(Czech Republic)	0.5	1

ROSIN MIX	1.0-5.0	65997-05-9			
		(EU)	0.05	N.E.	0.15 (sensitizer)

TWA = time weighted average STEL = short term exposure limit 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 solder 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 any 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. Hot gloves for melting applications.

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:

Appearance:	Metal wire	Boiling Point/Range:	Not determined
Odor:	Odorless	Melting Point:	Not applicable
Odor Threshold:	Not established	Evaporation Rate:	Not applicable
Specific Gravity:	See table	pH:	Not applicable
Vapour Pressure:	No information available	Solubility in Water:	Insoluble
Vapour Density:	(air=1) Not applicable.	Partition coefficient:	Not established

Relative Density:	Not established	Flammability:	Not applicable
Flash Point:	Not applicable	Method:	Not applicable
Auto-ignition Temperature:	Not applicable	Flammable Limits:	Limits not established
UEL/LEL Limits:	Not applicable	Decomposition Temp:	Not applicable
Viscosity:	Not established	Explosive properties:	Not applicable
Oxidizing Properties:	Not established		

9.2 Other Information: Above data for the whole mixture.

SECTION 10. STABILITY AND REACTIVITY

10.1 Reactivity:	Stable.
10.2 Chemical Stability:	Stable
10.3 Possibility of Hazardous Reactions:	Not established
10.4 Conditions To Avoid:	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:

<u>Acute toxicity:</u>	Not established	<u>Mutagenicity:</u>	Not established
<u>Irritation:</u>	Not established	<u>Toxicity for Reproduction:</u>	Not Established
<u>Corrosivity:</u>	Not applicable	<u>Absence of specific data:</u>	None available (not tested)
<u>Sensitization:</u>	Not available		
<u>Repeated dose toxicity:</u>	Not established		
<u>Carcinogenicity:</u>	Not established		
<u>Likely Routes of Entry:</u>	eyes (irritation) /skin (irritation or sensitization) /inhalation (irritation/sensitization) ingestion (may be harmful)		
<u>Interactive effects:</u>	None known		

11.2 Symptoms related to the physical, chemical and toxicological characteristics:

Normal handling of the wire if not harmful. Cutting, melting, grinding may cause irritation or sensitization by skin and inhalation.

11.3 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 (International Agency for Research on Cancer).

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 invertebrates 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 for some products. Review alloy table of products. Additional RoHS is provided on the alloy table.

SECTION 14. TRANSPORT INFORMATION

Transport in accordance with applicable international 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

14.6 Special precautions for user: None

14.7 Transport in bulk: Not applicable

SECTION 15. REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No 1907/2006

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 guidance from EC 1907/2006 amended as of Feb 2020 EU No 453/2010, 2015/830 changes under 2020/878 June 2020 and information as stated under regulation EC No 1272/2008 CLP Regulation.

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: 3 MAY 2021

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Changes provided on this SDS were based on the requirements of EU No. 453/2010 of Feb 2020 and 2020/878 June 2020 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).

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