



SAFETY DATA SHEET

This safety data sheet represents a family grouping of all metal mixes that are blended with the same flux cake to make a flux cored wire for soldering applications. A table is provided that lists all metal groupings. Please review for the product that is being used.

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier: INDALLOY WITH FLUXCAKE-807 (CW-807) (Lead Free)

SDS Number: SDS-CW 4832-LF

Revised Date: 20 JANUARY 2022

Version 1.2

Product Use: Industrial Use - Flux cored wire for soldering applications. (See alloy table for metal alloy mix)
Flux varies between 1-5%.

MANUFACTURER:

In America:

The Indium Corporation of America®.

34 Robinson Road, Clinton NY 13323

Information: (315) 853-4900

EHS_Compliance@indium.com

Indium Corporation of America
Chicago Materials Division
80 Scott Street
Elk Grove Village, Illinois 60007
Information: (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:

The 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

In China: Emergency 86+ 4001-204937

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:****Carcinogen listed in**

⊕Eye ⊕Inhalation ⊕Skin ⊕Ingestion NTP IARC OSHA ⊕Not Listed

Classifications: (mixture)

Skin sensitizer-Category 1B

Respiratory sensitizer-Category 1B

Eye irritation-Category 2A

GHS

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 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+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do - continue rinsing.

P501 Dispose of contents by recycling or thru an approved chemical waste hauler.

See Alloy Table Listing

Supplemental information:

EUH208 Contains rosin. May produce an allergic reaction

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 or harm.

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. Rosin may cause dermatitis or sensitization. Antimony may cause irritation.

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.

INDIUM: May cause damage to respiratory or kidney system. May be harmful if inhaled.

NICKEL – poison by ingestion. Can cause pulmonary asthma, and hypersensitivity.

BISMUTH: May cause kidney damage.

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 [trace amounts of lead and nickel] which are known to the State of California to cause cancer, and can cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov

3. COMPOSITION / INFORMATION ON INGREDIENTS

Components	% wt	CAS Registry #/EINECS#	PEL mg/m ³	TLV-TWA mg/m ³	TLV-STEL mg/m ³
TIN	73 - 100	7440-31-5/231-141-8			
		(US)	2	2	-
		(EU)	-	2	4
		(Canada)	-	2	4
		(Singapore)	2	-	-
SILVER	0 - 5	7440-22-4/231-131-3			
		(US)	0.01	0.1	-
		(EU)	-	0.1	-
		(Canada)	-	0.1	0.3
		(Singapore)	0.1	-	-
COPPER	0 – 0.8	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
ANTIMONY	0 - 6	7440-36-0/231-146-5			
		(China)	-	0.2(fume)	0.6

		(US)	0.5	0.5	-
		(EU)	0.5	-	-
		(Canada)	N.E.	0.5	1.5
		(Singapore)	0.5	-	-
		(Mexico)	0.5	-	-
		(China)	-	0.5	-
INDIUM	0 - 20	7440-74-6/231-180-0			
		(US)	0.1	0.1	-
		(EU)	-	0.1	0.3
		(Canada)	-	0.1	0.3
		(Singapore)	0.1	-	-
		(Mexico)	-	0.1	0.3
		(China)	-	0.1	0.3
MANGANESE	doped	7439-96-5	N.E.	N.E.	N.E.
NICKEL	0 – 0.3	7440-02-0/231-111-4			
		(US)	1	1.5	-
		(Canada)	-	1	2
		(Mexico)	-	1	-
		(Singapore)	1	-	-
		(China)	-	1	2.5
BISMUTH	0 – 0.6	7440-69-9/231-177-4	N.E.	N.E.	N.E.
GERMANIUM	0 – 0.01	7440-56-4	N.E.	N.E.	N.E.
ROSIN MIX	1 - 5.0	65997-05-9	N.E.	N.E.	N.E.
		(EU)	0.05	N.E.	0.15 (sensitizer)

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 PRECAUTIONS

Handling Precautions: 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.

Personal protection:

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

Respirator: An approved or compliant 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 may be required for certain applications. Hot gloves as needed 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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Solid metal - wire

Boiling Point: Not applicable.

Odor: Odorless

Melting Point: See table

Specific Gravity: See table

pH: Not applicable

Vapor Pressure: Not established

Solubility in Water: Insoluble

Vapor Density: (air=1) Not applicable.

10. STABILITY AND REACTIVITY

General: Stable.

Conditions to Avoid: Not established.

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

Hazardous Decomposition / Combustion: Harmful organic fumes and toxic oxide fumes may form at elevated temperatures.

Hazardous Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

Carcinogenicity: **NTP:** Yes- Nickel

OSHA: No

IARC: Yes - Nickel is listed as possible carcinogens.

LD50: Not established.

LC50: Not established.

NICKEL RTECS# QR5950000

GERMANIUM RTECS Number: LY5200000

TIN RTECS# XP7320000,

SILVER RTECS# VW3500000

Copper - LD50 – intraperitoneal mouse 3.5 mg/kg.

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

Antimony - LD50 oral – rat 7,000 mg/kg

Germanium LC50: rat inhalation >5,340 mg/m³/4hr

12. ECOLOGICAL INFORMATION

Protect not tested.

Germanium is insoluble and presents minimal environmental risk.

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 – non

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 Nickel

All ingredients are listed on the EPA TSCA Inventory.



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

Regulatory Information China:

GB/T 16483-2008, GB/T 17519-2013, Safety Data Sheets for Chemical Products

GB 30000.2-29-2013, Rules for classification and labeling of chemicals (GHS)

Decree No. 591: Regulations on the Control Over Safety of Hazardous Chemicals.

This product has been classified using the Chinese Occupational Exposure 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).



Nickel: D2A Very Toxic Material Causing Other Toxic Effects carcinogenicity: IARC group 2B

D2B Toxic Material Causing Other Toxic Effects skin sensitization in humans

D2B Materials Causing Other Toxic Effects -irritant

Japan:

Poisonous and Deleterious Substance Control Law (PDSCCL): No ingredients are listed.

Fire Service Law (FSL): Not regulated/not dangerous.

Industrial Safety and Health Law (ISHL): ingredients are listed

PRTR and Promotion of Chemical Management law, Class I Substance: Not applicable.

Class II Designated Chemical Substances: No ingredients are listed.

Ingredients are listed on the Japanese Inventory Chemical Substance List/Industrial Safety and Health Law Substance List.

Review SDS and apply regulations where applicable.

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)

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: Malaysian – OCCUPATIONAL SAFETY AND HEALTH (CLASSIFICATION, LABELING AND SAFETY DATA SHEET OF HAZARDOUS CHEMICALS) REGULATION OCTOBER 2013 – (CLASS).

16. OTHER INFORMATION

HMIS Hazard Rating:	Health:	2
	Fire:	1
	Reactivity:	0

Revised Date: January 20, 2022

Prepared by: Matthew Wojcik, Indium Corporation of America

Approved by: Matthew Wojcik, Indium Corporation of America

The information and recommendations contained herein are, to the best of The Indium Corporation of America's knowledge and belief, accurate and reliable as of the date issued. The Indium Corporation of America does not warrant or guarantee their accuracy or reliability, and The Indium Corporation of America shall not be liable for any loss or damage arising out of the user thereof. The information and recommendations are offered for the user's consideration and examination, and it is the user's responsibility to satisfy itself that they are suitable and complete for its particular use. If buyer repackages this product, legal counsel should be consulted to insure proper health, safety and other necessary information is included on the container.

ALLOY TABLE

Metal alloy mixed with rosin (1-5%)

INDALLOY Metal mix	Tin Sn	Copper Cu	Silver Ag	Bismuth Bi	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-.0 99	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
292C (89.4Sn, 0.7Cu, 3.2Ag, 0.5Bi, 5.5Sb, 0.5In, 0.2Ni)	84.4 – 94.4	0.63- 0.77	2.8 – 3.5	0.42 - 0.56	5.0- 6.0	0.45 -0.55	0.1 – 0.3	-	-	Yes
Sn995 (Co995) (99.5Sn/0.5Cu/ <500 ppm Co)	94.5 - 98.5	0.475-0 .495	-	-	-	-	-	-	7.29	Yes

*Review applicable exemptions that may apply, otherwise not compliant.

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

*RoHS 3 = Products do not contain any listed phthalates