



This safety data sheet represents a family grouping of all metal mixes that are blended with the same flux known as RA Flux. A table is provided that lists all metal groupings. To better serve all of our customers Indium Corporation has generated one SDS, for this product. Unless otherwise stated the health and safety information provided within is applicable to all products.

SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT IDENTIFIER: INDALLOY WITH RA-12 FLUX COATING

SDS NUMBER: SDS CP7335

REVISED DATE: 6 FEBRUARY 2019

PRODUCT USE: INDUSTRIAL USE (mixture) - METAL BLEND WITH FLUX COATING FOR SOLDERING APPLICATION'S. SEE ALLOY TABLE FOR THE LIST OF PRODUCTS AVAILABLE. SOME HEALTH AND SAFETY INFORMATION MAY NOT BE APPLICABLE TO THE SPECIFIC PRODUCT USED. REVIEW APPLICABLE DATA.

MANUFACTURER:

In America:

The Indium Corporation of America®.

34 Robinson Rd., Clinton, NY 13323

Information: (315) 853-4900

nswarts@indium.com

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

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

GHS:

Lead free products



Warning Word: Warning

Hazard statement(s)

H317 May cause an allergic skin reaction
 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/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 + 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)

Classification:

Skin sensitizer-Category 1B
 Respiratory sensitizer-Category 1B

PRIMARY ROUTES OF ENTRY:

*Eye *Inhalation *Skin *Ingestion

CARCINOGEN LISTED IN:

NTP IARC OSHA *Not Listed

POTENTIAL HEALTH EFFECTS:

Eye Contact: Fume from molten metal may cause irritation. Severe eye damage may result from hot molten metal being splashed into the eyes. Wear safety glasses and face shield when working with molten metal.

Ingestion: Ingestion of dust may cause irritation. May be harmful.

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.

Chronic: Indium may cause damage to respiratory system. Kidney and liver damage from injection of indium compounds has been reported based on limited animal testing.

Tin: has been shown to increase incidence of sarcoma in animal tests.

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

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

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



WARNING: This product can expose you to chemicals including [trace amounts of lead] which is 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 # | PEL mg/m ³ | TLV-TWA mg/m ³ | TLV-STEL mg/m ³ |
|-------------|------|---------------------|--------------------------|------------------------------|-------------------------------|
| TIN | * | 7440-31-5/231-141-8 | | | |
| | | (US) | 2 | 2 | - |
| | | (EU) | - | 2 | 4 |
| | | (Canada) | - | 2 | 4 |
| | | (Singapore) | 2 | - | - |
| SILVER | * | 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 | - | - | | |
| COPPER | * | 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) | 2.5 | | |
| | | | 0.2(fume) | 0.6 | |

| | | | | | |
|----------------------|---------|-----------------|------|------|------|
| ROSIN MIXTURE | 1.0-4.0 | 65997-05-9 (US) | N.E. | N.E. | N.E. |
| | | (EU) | 0.05 | N.E. | 0.15 |

N.E. = Not established
 * See Alloy Table at end of document

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, not flammable. None combustible solid in bulk form, however, dust or powder may be combustible.

Extinguishing Media: Use extinguishers appropriate for the surrounding fire conditions, such as carbon dioxide, dry chemical and water.

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

Explosion Data - Sensitivity to: **Mechanical Impact:** Not established
Static Discharge: Not established

6. ACCIDENTAL RELEASE MEASURES

Spill or Leak Procedures: Contain spill. If molten, cool to allow metal to solidify. If solid metal wear gloves, pick up and return to process. If dust, wear recommended personal protective equipment. Use a vacuum, place in barrels and return to process if possible. Metal can be recycled. Sweeping is not recommended if material can be airborne.

7. HANDLING AND STORAGE

Handling Precautions: Only dry metals should be added to molten bath. If working with molten metal, or exposed to fume or dust, use appropriate personal protective equipment. Always thoroughly wash your hands after handling this product. DO NOT touch or rub eyes until hands are washed.

Storage Precautions: Store product in a cool, dry area away from incompatible materials.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls: Exhaust ventilation is necessary to control any air contaminants and keep exposures as low as possible. Use ventilation for worker protection.

Personal protection:

Eyes: Chemical safety glasses/goggles and face shield with molten metal. Face shield for splash hazards.

Respirator: An authority approved or compliant marked air-purifying respirator with a HEPA particulate/fume cartridge is recommended when contaminants are elevated or during cutting or melting. Certain conditions may require monitoring to determine the correct respiratory protection.

Skin: Rubber or heat resistant gloves. Apron, boots, sleeve protectors may be necessary depending on the type of work performed.

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

Work/Hygienic Maintain good housekeeping. Clean up spills immediately. Wash hands thoroughly with soap and water immediately upon leaving the work area and before eating. Refrain from eating or smoking in work areas.

9. PHYSICAL AND CHEMICAL PROPERTIES

| | | | |
|--------------------------|-------------------------|-----------------------------|----------------|
| Appearance: | Metal preform/shape | Boiling Point: | Not determined |
| Odor: | Odorless. | Melting Point: | Not available |
| Specific Gravity: | See Table | pH: | Not applicable |
| Vapor Pressure: | Not applicable. | Solubility in Water: | Insoluble |
| Vapor Density: | (air=1) Not applicable. | Flash point: | Not Applicable |

10. STABILITY AND REACTIVITY

| | |
|--|---|
| General: | Stable. |
| Conditions to Avoid: | Not established. |
| Incompatible Materials: | Avoid contact with acids, sulfur or oxidizing agents. Ignites and incandesces on heating with sulfur. |
| Hazardous Decomposition / Combustion: | Harmful organic fumes and toxic oxide fumes may form at elevated temperatures. |
| Hazardous Polymerization: | Will not occur. |

11. TOXICOLOGICAL INFORMATION

Carcinogenicity Listing: National Testing Program (NTP): No
Occupational Safety & Health Administration (OSHA): No
U.N. International Agency for Research on Cancer (IARC): No

LD50: Not established. **LC50:** Not established.
Other: Chronic Toxicity: Overexposure to fumes may cause respiratory tract irritation.

12. ECOLOGICAL INFORMATION

Product not tested.

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. Do not dispose of on the ground or into any waterway. Do not reuse any containers that this product was packaged in. Product container may contain residue of hazardous materials.

14. TRANSPORT INFORMATION

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

Non hazardous under shipping modes.

UN – none.

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.).

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

SARA 313 Listing - 40 CFR 372.65 Copper and Silver

All ingredients are listed on the EPA TSCA Inventory.



WARNING: This product can expose you to chemicals including [trace amounts of lead] which is 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 Review alloy table.

Ingredients are listed on the Canadian Domestic Substance List.

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.

For compliance with EU Directive 2011/65/EU, Restriction of Hazardous Substances (RoHS), see Alloy Table.

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.

All ingredients are listed on the China Chemical Inventory.

16. OTHER INFORMATION

| | | |
|----------------------------|--------------------|---|
| HMIS Hazard Rating: | Health: | 1 |
| | Fire: | 0 |
| | Reactivity: | 0 |

Revised Date: 6 FEBRUARY 2019

Prepared by: Nancy Swarts, Indium Corporation of America

Approved by: Nancy Swarts, 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. The Indium Corporation does not recommend, manufacture, market or endorse any of its products for human consumption.

ALLOY TABLE

(Alloy mixture with a 1-4% rosin coating)

| INDALLOY | RoHS 2/3 Compliance | %BISMUTH Bi | %COPPER Cu | %INDIUM In | %LEAD Pb | %TIN Sn | %SILVER Ag | %CADMIUM Cd | %ANTIMONY Sb | MELTING POINT | SG |
|---|---------------------|-------------|------------|------------|----------|-----------|------------|-------------|--------------|---------------|------|
| 241 (SAC387) (Cu0.7, Sn95.5, Ag3.8) | YES | - | 0.67-0.69 | - | - | 91.7-94.5 | 3.6-3.76 | - | - | 220C/428F | 7.40 |
| 256 (SAC241) (Cu0.5, Sn96.5, Ag3) | YES | - | 0.48-0.49 | - | - | 92.6-95.5 | 2.9-2.97 | - | - | 220C/428F | 7.40 |
| NS (Sn96, Ag4) | YES | - | - | - | - | 92.2-95.0 | 3.8-3.96 | - | - | - | 7.37 |

RoHS 2 Compliance = Restriction of Hazardous Substances EU Directive 2011/65/EU. Review any applicable exemptions.

Visit <http://www.indium.com>.

RoHS 3 – products do not contain any listed phthalates

Solder related products are not directly related to RoHS. Therefore the above is provided as information only. It is the customer's responsibility to determine compliance with any applicable regulation.