



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

## SAFETY DATA SHEET

### 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Identifier:** INDALLOY 106 WITH INDIUM 8.9ES FLUX

**SDS Number:** SDS-6602

**Revised Date:** 21 FEBRUARY 2017

**Product Use:** Industrial Use (mixture) - solder paste consisting of a flux vehicle blended with 89-90 weight percent pre-alloyed metal powder.

#### MANUFACTURER:

##### In America:

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

##### EMERGENCY PHONE:

**CHEMTREC 24 hrs.**  
**USA: 1 (800) 424-9300**  
**Outside USA: +1 (703) 527-3887**

##### In Europe:

Indium Corporation of Europe  
7 Newmarket Ct.  
Kingston, Milton Keynes, UK, MK 10 OAG  
Information: +44 [0] 1908 580400

##### 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

##### In Asia:

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

## 2. HAZARDS IDENTIFICATION

### PRIMARY ROUTES OF ENTRY:

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

### Carcinogen listed in

GHS:



Signal Word: Warning

#### Hazard statement(s)

- H303            May be harmful if swallowed (lead)
- H317            May cause an allergic skin reaction
- H320            Causes eye irritation
- H334            May cause allergy or asthma symptoms or breathing difficulties if inhaled
- H351            Suspected of causing cancer (lead)
- H361            Suspected of damage fertility or the unborn child (lead)
- H373            May cause damage to organs through prolonged or repeated exposure (lead)
- H410            Very toxic to aquatic life with long lasting effects (lead)
- EUH208        Contains rosin. May produce an allergic reaction
- EUH201A      Warning! Contains lead

#### 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)

Classification:

- Eye irritant- Category 2B
- Specific target organ toxicity- repeated exposure – Category 2
- Carcinogenicity (Category 2) (lead)
- Reproductive toxicity (Category 2 ) (lead)
- Skin sensitization – Category1B
- Respiratory sensitization- Category1B
- Acute aquatic toxicity – Category 1
- Chronic aquatic toxicity – Category 1

### POTENTIAL HEALTH EFFECTS:

**Eye Contact:**      Contact with material at room temperature or fume from material at typical re-flow temperatures over 100°C may cause eye irritation.

**Ingestion:**        This product contains metal alloy powders and organic chemicals. May be harmful if swallowed.

|                      |   |
|----------------------|---|
| <b>Inhalation:</b>   | Vapors or fumes from this material at typical re-flow temperatures over 100°C may cause local irritation to the respiratory system. May be harmful if inhaled. Inhalation of rosin fume may cause occupational asthma.  |
| <b>Skin Contact:</b> | May cause skin irritation. Rosin may cause dermatitis and skin sensitization.   |
| <b>Chronic:</b>      |   |
|                      | <u>TIN</u> : Has been shown to increase incidence of sarcoma in animal tests.   |
|                      | <u>LEAD</u> : Prolonged exposure to vapors 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. |
| <b>Warning:</b>      | <b>State of California Only: This product contains a chemical known to the State of California to cause cancer and/or birth defects (or other reproductive harm).</b> (lead)  |
| <b>Note:</b>         | <b>The Indium Corporation does not recommend, manufacture, market or endorse any of its products for human consumption.</b>   |

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

| Components    | % wt      | CAS Registry #/<br>EINECS# | PEL<br>mg/m <sup>3</sup> | TLV-TWA<br>mg/m <sup>3</sup> | TLV-STEL<br>mg/m <sup>3</sup> |
|---------------|-----------|----------------------------|--------------------------|------------------------------|-------------------------------|
| <b>TIN</b>    | 56-56.7   | 7440-31-5/231-141-8        |                          |                              |                               |
|               |           | (US)                       | 2                        | 2                            | -                             |
|               |           | (EU)                       | -                        | 2                            | 4                             |
|               |           | (Canada)                   | -                        | 2                            | 4                             |
|               |           | (Singapore)                | 2                        | -                            | -                             |
| <b>LEAD</b>   | 32.9-33.3 | 7439-92-1/231-100-4        |                          |                              |                               |
|               |           | (US)                       | 0.05                     | 0.05                         | -                             |
|               |           | (EU)                       | -                        | 0.15                         | -                             |
|               |           | (Canada)                   | 0.05                     | 0.05                         | -                             |
|               |           | (Singapore)                | 0.15                     | -                            | -                             |
|               |           | (Mexico)                   | N.E.                     | 0.15                         | -                             |
|               |           | (China)                    | -                        | 0.05(dust)<br>0.03(fume)     | -<br>-                        |
| <b>RO SIN</b> | 4.0 – 6.0 | 65997-05-9                 | N.E.                     | N.E.                         | N.E.                          |

|                               |           |           |      |      |                   |
|-------------------------------|-----------|-----------|------|------|-------------------|
|                               |           | (EU)      | 0.05 | N.E. | 0.15 (sensitiser) |
| <b>POLYGLYCOL ETHER</b>       | 3.0 – 5.0 | 9038-95-3 | N.E. | N.E. | N.E.              |
| <b>PROPRIETARY ACTIVATORS</b> | 1.0 – 4.0 | -         | N.E. | N.E. | N.E.              |

N.E. = Not established

#### 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:** Using a spatula, scoop up paste and place in a plastic or glass jar and tightly cap. Remove traces of paste residue using cloth rags or paper towels moistened with ethyl or isopropyl alcohol. Dispose contaminated cloth rags or paper towels following all Federal, State and Local regulations. In the EU refer to the Special Waste Regulations.

#### 7. HANDLING AND STORAGE

- Handling Precautions:** Keep containers tightly closed when not in use. Use care to avoid spills. Use only with production equipment specifically designed for use with solder paste. 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.

**Storage Precautions:** Store product in tightly capped original containers in a cool, dry area. 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:** Use only with production equipment (such as stencil printers and re-flow furnaces) with adequate ventilation and other safety features specifically designed for use with solder paste. Control concentration of all components so that any permissible exposure limits are not exceeded.

### Personal protection:

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

**Respirator:** An authority approved or compliant marked air-purifying respirator with a fume/organic chemical cartridge is recommended under certain circumstances (i.e. when re-flowing manually on a plate instead of a ventilated re-flow furnace) where airborne concentrations are expected to be elevated or exceed exposure limits.

**Skin:** Compatible chemical resistant gloves. Latex gloves not recommended.

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

**Work/Hygienic Practices:** Maintain good housekeeping. Clean up spills immediately. DO NOT allow rags or paper towels contaminated with solder paste to accumulate in the work area. 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. Follow standard lead work procedures.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

|                          |                           |                             |                   |
|--------------------------|---------------------------|-----------------------------|-------------------|
| <b>Appearance:</b>       | Grey colored paste.       | <b>Boiling Point:</b>       | Not applicable.   |
| <b>Odor:</b>             | Mild characteristic odor. | <b>Melting Point:</b>       | Not applicable    |
| <b>Specific Gravity:</b> | 1 g/cc (flux)             | <b>pH:</b>                  | 4 – 8 (flux)      |
| <b>Vapor Pressure:</b>   | Not applicable.           | <b>Solubility in Water:</b> | Insoluble (paste) |
| <b>Vapor Density:</b>    | (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:** Reasonably anticipated to be a human carcinogen  
                                 **OSHA:** Yes- 29 CFR 1910.1025  
                                 **IARC:** Yes 2B- Group 2B: Possibly carcinogenic to humans

Product mixture not tested.

**Other:** Chronic Toxicity: Prolonged or repeated exposure to rosin flux fume may cause workers to develop occupational asthma. Lead can cause potential harm to the developing fetus.

RTECS: OF7525000

Lead  
reproductive toxicity – rat –inhalation  
reproductive toxicity – rat – oral  
reproductive toxicity – mouse-oral

Teratogenicity  
Developmental toxicity – rat- inhalation  
Developmental toxicity- rat- oral  
Suspected human reproductive toxicant

GHS- Specific target organ toxicity- repeated exposure  
May cause damage to organs through prolonged or repeated exposure

Lead- OSHA Hazards- carcinogen/target organ effect/harmful by ingestion/teratogen.

## 12. ECOLOGICAL INFORMATION

Product not tested.

Toxicity to fish:

Rainbow trout- 1.19mg/l-96h

LC50 micropterus dolomieu- 2.2 mg/l-96h

Mortality NOEC-salvelinus fontinalis-1.7 mg/l-10d

Toxicity to algae

Mortality EC50-skeletonema costatum-7.94mg/l-10d

An environmental hazard cannot be excluded in the event of unprofessional handling, use and or disposal of this product.  
Contains a substance (lead) that is very toxic to aquatic life with long lasting effects.

## 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 regulations and requirements. Not regulated under US DOT (United States Department of Transportation).

Non - hazardous under shipping requirements, all modes.

UN – none Marine Pollutant: No

North American Emergency Guide Book – Not Classified

## 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.).

California PROP 65 (Safe Drinking Water Standard):

This product contains a chemical known to the State of California to cause cancer and/or birth defects or other reproductive harm. (lead)

SARA 313 Listing - 40 CFR 372.65  
Lead, polyglycol ether <3%

All ingredients are listed on the EPA TSCA Inventory.

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



Canadian WHMIS: D2B – Materials Causing Other Toxic Effects – irritation/sensitization

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 the Mexican guidelines, NOM-018-STPS-2015 and NOM-010-STPS-2014.

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 Limit for Hazardous Agents in the Workplace, GBZ2-2007.

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:**            21 FEBRUARY 2017

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

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

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**Note: This SDS may be translated into an international language. If there is any misinterpretation or misunderstanding of any words or phrases that may occur within any translation the ENGLISH language shall always prevail.**