SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier: INDALLOY 256 (SAC305) WITH CORE 230-RC
SDS Number: SDS-10019 Revised Date: 6 MARCH 2020
Product Use: Industrial Use - Flux cored wire

MANUFACTURER:

In America:
The Indium Corporation of America®
34 Robinson Rd., Clinton, NY 13323
Information: (315) 853-4900
nswarts@indium.com

EMERGENCY PHONE:
CHEMTREC 24 hrs.
USA: 1 (800) 424-9300
Outside USA: +1 (703) 527-3887
China Emergency: 86+ 4008417580

Indium Corporation of America®
Chicago Materials Division
80 Scott Street
Elk Grove Village, Illinois 60007
Information: (847) 439-9135

In Europe:
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

In India:
Indium Solder Private Limited
Shed A, NP-7 Guidny Industrial Estate,
Ekkaduthangal, Chennai, Tamil Nadu, India 600032
Tel: +91-044-46877888

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:

- Eye
- Inhalation
- Skin
- Ingestion

Carcinogen listed in

- NTP
- IARC
- OSHA
- Not Listed

GHS:

<table>
<thead>
<tr>
<th>Signal Word: Warning</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hazard statement(s)</td>
</tr>
<tr>
<td>P233 Keep container tightly closed</td>
</tr>
<tr>
<td>P261 Avoid breathing dust/fume/gas/mist/vapors/spray</td>
</tr>
<tr>
<td>P270 Do not eat, drink or smoke when using this product</td>
</tr>
<tr>
<td>P273 Avoid release to the environment</td>
</tr>
<tr>
<td>P280 Wear protective gloves/protective clothing/eye protection/face protection</td>
</tr>
<tr>
<td>P301+P314 IF SWALLOWED: Get Medical advice/attention if you feel unwell</td>
</tr>
<tr>
<td>P302+P352 IF ON SKIN: Wash with plenty of soap and water</td>
</tr>
<tr>
<td>P304+P341 IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing</td>
</tr>
<tr>
<td>P305+P351 IF IN EYES: Rinse continuously with water for several minutes (15 mins)</td>
</tr>
</tbody>
</table>

---

Classification:

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

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:** May cause irritation.

**Inhalation:** Rosin has been known to cause occupational asthma.

**Skin Contact:** May cause skin irritation. Exposure to rosin may cause irritation or dermatitis.

**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 Stannosis (Pneumoconiosis).
- **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.
**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] which is known to the State of California to cause cancer, and birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

Normal handling of solid metal wire is not harmful.

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Components</th>
<th>% wt</th>
<th>CAS Registry #/EINECS#</th>
<th>PEL mg/m³</th>
<th>TLV-TWA mg/m³</th>
<th>TLV-STEL mg/m³</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>TIN</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>93.4 – 93.9</td>
<td>7440-31-5/231-141-8</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(US)</td>
<td>2</td>
<td>2</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(EU)</td>
<td>-</td>
<td>2</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(Canada)</td>
<td>-</td>
<td>2</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(Singapore)</td>
<td>2</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td><strong>SILVER</strong></td>
<td>2.90 - 2.92</td>
<td>7440-22-4/231-131-3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(US)</td>
<td>0.01</td>
<td>0.1</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(EU)</td>
<td>-</td>
<td>0.1</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(Canada)</td>
<td>-</td>
<td>0.1</td>
<td>0.3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(Singapore)</td>
<td>0.1</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(Mexico)</td>
<td>-</td>
<td>0.1</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td><strong>COPPER</strong></td>
<td>0.484 - 0.487</td>
<td>7440-50-8/231-159-6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(US)</td>
<td>0.1 (fume)</td>
<td>0.2 (fume)</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(EU)</td>
<td>-</td>
<td>0.2 (fume)</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(Canada)</td>
<td>-</td>
<td>0.2 (fume)</td>
<td>0.6 (fume)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(Singapore)</td>
<td>0.2(fume)</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(Mexico)</td>
<td>-</td>
<td>0.2(fume)</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(China)</td>
<td>-</td>
<td>0.2(fume)</td>
<td>0.6</td>
<td></td>
</tr>
<tr>
<td></td>
<td>(China)</td>
<td>-</td>
<td>0.5</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td><strong>ROSIN MIX</strong></td>
<td>1.0-5.0</td>
<td>65997-05-9 (US)</td>
<td>N.E.</td>
<td>N.E.</td>
<td>N.E.</td>
</tr>
<tr>
<td></td>
<td>(EU)</td>
<td>0.05</td>
<td>N.E.</td>
<td>0.15 (sensitizer)</td>
<td></td>
</tr>
</tbody>
</table>
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:** Sweep up solid metal and place in a clearly labeled container for chemical waste. Not regarded as dangerous to the environment. Any grindings, dust, or small particulate vacuum up. Dispose of following all Federal, State and Local regulations.

7. HANDLING AND STORAGE

**Handling**
- 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:** Good general ventilation should be used. If applicable use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits.

**Personal protection:**

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

**Respirator:** An authority approved or compliant marked air-purifying respirator with a fume/organic/particulate 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 or particulate 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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Solid metal wire</td>
</tr>
<tr>
<td>Odor</td>
<td>Odorless</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>7.40</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>Not established</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>(air=1) Not applicable.</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Melting Point</td>
<td>Not available</td>
</tr>
<tr>
<td>pH</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Solubility in Water</td>
<td>Insoluble</td>
</tr>
<tr>
<td>Flash Point</td>
<td>Not flammable</td>
</tr>
</tbody>
</table>

### 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: No
- OSHA: No
- IARC: No

**LD50:** Not established.

**LC50:** Not established.

**Other:** Chronic Toxicity: Prolonged or repeated exposure to rosin flux fume may cause workers to develop occupational asthma.

TIN RTECS# XP7320000,
SILVER RTECS# VW3500000

Copper - LD50 – intraperitoneal mouse 3.5 mg/kg.
Silver – LD50 oral – rat > 5,000 mg/kg

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

**12. ECOLOGICAL INFORMATION**

Product not tested.

An environmental hazard cannot be excluded in the event of unprofessional handling, use and or disposal of this product.
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, Ground/IATA/IMDG.

UN – none.
Marine Pollutant: No

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 CAS# 7440-22-4    Copper CAS# 7440-50-8

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 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.

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).

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

D2B Toxic Material Causing Other Toxic Effects skin sensitization in humans
D2B Materials Causing Other Toxic Effects -irritant

This product has been classified in accordance with the guidelines set by the Dept. of Industrial Health of the Republic of Singapore.

This product complies with the requirements established under the EU directive 2011/65/EU, Restriction of Hazardous Substances (RoHS). 1907/2006 REACH Regulations

16. OTHER INFORMATION

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

Revised Date: 6 MARCH 2020
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.