SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier: INDALLOY WITH FLUXCAKE-802 (CW-802)
SDS Number: SDS-CW 4833  Revised Date: 11 JUNE 2018

Product Use: Industrial Use - Flux cored wire for soldering applications. (See alloy table for metal alloy mixtures)

MANUFACTURER:

In America:
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2. HAZARDS IDENTIFICATION

PRIMARY ROUTES OF ENTRY:

- **Eye**
- **Inhalation**
- **Skin**
- **Ingestion**

Carcinogen listed in

- NTP
- IARC
- OSHA
- Not Listed

GHS 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
- EUH208: Contains rosin. May produce an allergic reaction

**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)

Lead containing products

Signal Word: Warning

**Hazard statement(s)**

- H303: May be harmful if swallowed
- H317: May cause an allergic skin reaction
- H319: Causes serious eye irritation
- H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled
- H351: Suspected of causing cancer
- H361: Suspected of damaging fertility or the unborn child
- H373: May cause damage to organs through prolonged or repeated exposure
- H410: Very toxic to aquatic life with long lasting effects
- EUH208: Contains rosin. May produce an allergic reaction

**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
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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:
Carcinogenicity (Category 2) (lead)
Reproductive toxicity (Category 2) (lead)
Skin sensitizer-Category 1B
Respiratory sensitizer-Category 1B
Eye irritation-Category 2A
Acute aquatic toxicity – Category 1 for lead containing products (H400)
Chronic aquatic toxicity – Category 1 for lead containing products (H410)

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 and organic chemicals. May be harmful if swallowed.

Inhalation: Inhalation of fume or dust may cause local irritation to the respiratory system. Inhalation of lead fume may be harmful. Rosin may cause occupational asthma. Cobalt may cause sensitization.

Skin Contact: May cause skin irritation. Antimony and Cobalt may cause 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 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.

LEAD: Prolonged exposure to vapors or fumes at higher temperatures may cause respiratory irritation and systematic lead poisoning.

INDIUM: May cause irritation to respiratory system.

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 [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

WARNING: This product may contain lead. Lead may be harmful to your health. US Federal law prohibits the use of leaded solders in making of joints in any private or public potable (drinking) water supply system. Keep out of the reach of children.
### 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>
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</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: 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
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: Local exhaust ventilation is recommended to keep exposures below established limits and protect operators. Use proper ventilation when working with leaded products.

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. Handling of plain metal is not harmful.
Other: Lab coat, eye-wash fountain in work area. Avoid the use of contact lenses in high fume areas. Follow standard lead work practices when working with lead containing products.
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. When applicable, follow lead work practices.

9. PHYSICAL AND CHEMICAL PROPERTIES
Appearance: Solid metal - wire
Odor: Odorless
Specific Gravity: See table
Vapor Pressure: Not established
Vapor Density: (air=1) Not applicable.
Boiling Point: Not applicable.
Melting Point: See table
pH: Not applicable
Solubility in Water: Insoluble
10. STABILITY AND REACTIVITY

General: Stable.
Conditions to Avoid: Not established.
Incompatible Materials: Avoid contact with acids, bases or oxidizing agents.
Hazardous Decomposition: 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: Yes  Lead and lead compounds are listed as possible carcinogens.

LD50: Not established.  LC50: Not established.

Chronic Toxicity: Lead can cause potential harm to the developing fetus.

12. ECOLOGICAL INFORMATION

Protect 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.

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 all shipping regulations - all modes.

UN – none  Marine Pollutant: No

Not regulated-ground/IATA, ocean

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  Lead

All ingredients are listed on the EPA TSCA Inventory.
16. OTHER INFORMATION

<table>
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<tr>
<th>HMIS Hazard Rating</th>
<th>Health:</th>
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<tr>
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<td>Fire:</td>
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<td>Reactivity:</td>
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Revised Date: 11 JUNE 2018

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.
### ALLOY TABLE

**Metal alloy mixed with rosin (1-4%)**

<table>
<thead>
<tr>
<th>INDALLOY (metal mixtures)</th>
<th>Lead Pb</th>
<th>Tin Sn</th>
<th>Copper Cu</th>
<th>Silver Ag</th>
<th>Indium In</th>
<th>Cobalt Co</th>
<th>Antimony Sb</th>
<th>Specific Gravity</th>
<th>RoHS 2/3 Compliance</th>
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</thead>
<tbody>
<tr>
<td>104 (62.5Sn/36.1Pb/1.4Ag)</td>
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<td>106 (Sn63/Pb37)</td>
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<td>121 (96.5Sn/3.5Ag)</td>
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</table>

**RoHS 2 ((2011/65/EU) = restriction of hazardous substances. +Review applicable EU guidelines for any exemptions that may apply for lead.**

**RoHS 3= products do not contain any listed phthalates**

**Other combinations of non-standard alloy mixes, not specifically listed may occur within the above.**