This safety data sheet represents a family grouping of all metal mixes that are blended with the same flux. A table is provided that lists all metal groupings. To better serve all of our customers and reduce the paperwork burden Indium Corporation has generated one SDS, for this product, to be used within the United States as well as internationally. Some of the regulatory information contained within may not be applicable to the customer’s individual state or country. Some of the metal information may not be applicable to all products. Unless otherwise stated the health and safety information is applicable.

SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier: INDALLOY WITH FLUXCAKE-801 (CW-801)
SDS Number: SDS- 4590
Revised Date: 19 FEBRUARY 2019
Product Use: Industrial Use - Flux Cored Wire (metal mixture with 1 - 6% flux)
See alloy table for metal alloy mix.

MANUFACTURER:

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

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In Asia:
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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

## PRIMARY ROUTES OF ENTRY:
- Eye
- Inhalation
- Skin
- Ingestion

<table>
<thead>
<tr>
<th>Carcinogen listed in</th>
<th>NTP</th>
<th>IARC</th>
<th>OSHA</th>
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</tr>
</thead>
<tbody>
<tr>
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<table>
<thead>
<tr>
<th>GHS</th>
<th></th>
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</thead>
</table>

**Lead-free**

Signal Word: Warning

### Hazard statement(s)
- 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:

Signal Word: Warning

### Hazard statement(s)
- H303 May be harmful if swallowed
- H319 Causes serious eye irritation
- H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled
- H351 Suspected of causing cancer (lead)
- H361 Suspected of damaging 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)
- EUH201A Warning! Contains lead (applicable only to the products listed that contain lead) Review listing.
- 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)

Classification:
Carcinogenicity (Category 2) (lead)
Reproductive toxicity (Category 2) (lead)
Specific target organ toxicity-repeated exposure-Category 2 (lead)
Acute aquatic toxicity (Category 1) (lead)
Chronic aquatic toxicity (Category 1) (lead)
Respiratory sensitization- Category 1B

POTENTIAL HEALTH EFFECTS:

Eye Contact: Irritating to the eyes and if not removed promptly Do not allow material to come in contact with eyes. Contact with fume from molten metal may cause irritation.

Ingestion: May be harmful if swallowed.

Inhalation: Inhalation of fume or dust may cause irritation to the respiratory system. Rosin may cause occupational asthma.

Skin Contact: Normal handling of wire is no hazard. Hot molten metal may cause burns to the skin. Wear protective equipment when handling molten metal.

Chronic: TIN: Has been shown to increase incidence of sarcoma in animal tests.

LEAD: Prolonged exposure to vapors and/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.

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.

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

INDIUM: May cause damage to respiratory system. Kidney and liver damage from injection of indium compounds has been reported based on limited animal testing. Target organs: teeth and gums.

Warning: Applicable in the State of California. This product contains a chemical known to the State of California to cause cancer and/or birth defects (or other reproductive harm). (lead) Prop 65

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

Warning: This product may contain lead. Lead may be harmful to your health. US Federal law prohibits the use of leaded solders in making joints or fittings in any private or public water supply system. Keep out of the reach of children.
## 3. COMPOSITION / INFORMATION ON INGREDIENTS

<table>
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<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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<td>(Singapore)</td>
<td>0.1</td>
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<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 applicable

Flammable Limits: Not hazardous or flammable.

Extinguishing Media: Use extinguishers appropriate for the surrounding fire conditions. Use water spray, carbon dioxide, or foam. Do not allow water run-off to enter sewers or waterways.

Special Fire Fighting Procedures: Firefighters wear an approved self-contained breathing apparatus and full protective clothing.
6. ACCIDENTAL RELEASE MEASURES

Spill or Leak Procedures: Wear HEPA (high efficiency particulate filter) filter respirator and other personal protective clothing. (See Exposure Controls/Personal Protection Section). Clean up spill without generating or dispersing dust into the air. Pick up solid metal wire. Molten metal, wait till cool then pick up. Do not sweep dust vacuum instead.

7. HANDLING AND STORAGE

Handling: Avoid breathing vapors from heated material
Precautions: Follow routine safe handling procedures. Use with adequate ventilation.

Storage Precautions: Keep away from heat and flame. Store in suitable, tightly sealed, and labeled containers in cool dry, well-ventilated area. Empty containers may be hazardous as they contain product residue.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls: Local exhaust ventilation is recommended to control any fume or dust air contaminants. Avoid exposure to lead containing fume.

Personal protection:
Eyes: Chemical safety glasses/goggles and face shield with molten metal.
Respirator: A NIOSH approved or EU compliant CE marked air-purifying respirator with a fume/dust HEPA type Chemical cartridge is recommended under certain circumstances where airborne concentrations are expected to be elevated. Warning: Air purifying respirators do not protect the worker in oxygen-deficient atmospheres. Follow applicable lead work practices as established under OSHA or other comparable safety standards.
Skin: Wear protective gloves, clothing such as lab coat, coveralls, apron and boots.
Other: Eye-wash fountain/shower in work area. Avoid the use of contact lenses in high fume and dust areas.
Work/Hygienic: Maintain good housekeeping. Clean up spills immediately. Good personal hygiene is essential. Avoid eating, smoking or drinking in the lead work areas. Wash hands and face thoroughly with soap and water immediately upon leaving the work area and before eating.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Solid, gray metal wire
Odor: Odorless
Specific Gravity: See Table
Vapor Pressure: Not established
Vapor Density: (air=1) Not applicable.

Boiling Point: Not available
Melting Point: See Table
pH: Not applicable
Solubility in Water: Insoluble

10. STABILITY AND REACTIVITY

General: Stable.
Conditions to Avoid: Not established
Incompatible Materials: Not established
Hazardous Decomposition / Combustion: Toxic fumes are emitted at elevated temperatures.

Hazardous Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

Carcinogenicity:
- NTP (National Toxicity Program): No
- OSHA (Occupational Safety & Health Administration): No
- IARC (International Agency for Research on Cancer): Yes (Lead and its compounds)

LD50: Not established.
LC50: Not established.

Lead can cause potential harm to the developing fetus. Rosin fume has been known to cause occupational asthma.

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. 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 regulations: IATA/USDOT/IMDG.

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.).

WARNING: This product contains a chemical known to the State of California to cause cancer and/or birth defects (or other reproductive harm). (lead). California Prop 65 – Safe Drinking Water Standard.

SARA 313 Listing - 40 CFR 372.65 – Lead Copper Silver Antimony

Ingredient is listed on the EPA TSCA Inventory.

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).

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 under the Chinese Occupational Exposure Limit for hazardous Agents in the Workplace, GBZ2-2007.

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

Canadian WHMIS: D2A-Materials Causing Other Toxic Effects-Very Toxic Material (Chronic). (lead)
D2B –Material Causing Other Toxic Effects – irritation

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

16. OTHER INFORMATION

<table>
<thead>
<tr>
<th>HMIS Hazard Rating</th>
<th>Health:</th>
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<tbody>
<tr>
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<td>Fire:</td>
<td>0</td>
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<tr>
<td></td>
<td>Reactivity:</td>
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</table>

Revised Date: 19 FEBRUARY 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 mixture with 1 – 6% flux.

<table>
<thead>
<tr>
<th>ALLOY</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>SG</th>
<th>MELTING POINT</th>
<th>RoHS 2 Compliance</th>
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<tbody>
<tr>
<td>104 Sn62.5/Pb35.1/Ag1.4</td>
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Indium Corporation is providing this above RoHS statement as information only. Solder related products are not directly related to the EU Directive. It is the responsibility of the customer to determine compliance with the regulations. Please review any applicable exemptions that may apply.