SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier: INDALLOY FLUX 1
SDS Number: SDS-IN LF001
Revised Date: 31 JULY 2018

Product Use: Industrial Use - Soldering Flux

MANUFACTURER:

In America:
The Indium Corporation of America®.
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Information: (315) 853-4900
nswarts@indium.com

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Information: +65 6268-8678

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In China:
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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:  Carcinogen listed in
Eye       Inhalation  Skin      Ingestion  NTP    IARC   OSHA  Not Listed

GHS

Hazard statement(s)
None.

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)

POTENTIAL HEALTH EFFECTS:

Overview:  Fumes evolved during soldering may be irritating.

Eye Contact:  Irritating to the eyes during soldering.

Ingestion:  May cause irritation. Generally not applicable.

Inhalation:  Heated fumes concentration may be irritating if inhaled.

Skin Contact:  May cause skin irritation. Generally not applicable.

Chronic:  Not established.

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

3. COMPOSITION / INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Components</th>
<th>% wt</th>
<th>CAS Registry #</th>
<th>PEL</th>
<th>TLV-TWA</th>
<th>TLV- STEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMMONIUM CHLORIDE</td>
<td>5-15</td>
<td>12125-02-9 (US)</td>
<td>10</td>
<td>10(fume)</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(EU)</td>
<td>10</td>
<td>10(fume)</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Canada)</td>
<td>10</td>
<td>10(fume)</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Singapore)</td>
<td>10(fume)</td>
<td>-</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Mexico)</td>
<td>-</td>
<td>10(fume)</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(China)</td>
<td>-</td>
<td>10(fume)</td>
<td>20</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:** >204°C  
**Method:** NA

**Auto-ignition Temperature:** Not established.

**Flammable Limits:** Limits not established, not flammable.

**Extinguishing Media:** Use extinguishers appropriate for the surrounding fire conditions. Use water fog, carbon dioxide (CO₂), alcohol foam or dry chemical.

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

6. ACCIDENTAL RELEASE MEASURES

**Spill or Leak Procedures:** Wear a respirator and appropriate personal protection (See Exposure Controls/Personal Protective Section). Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste container. Dispose of following all Federal, State and Local regulations.

7. HANDLING AND STORAGE

**Handling Precautions:** Keep containers tightly closed when not in use. Use care to avoid spills. Avoid breathing vapors from heated material. Avoid contact with eyes, skin and clothing. Use with adequate ventilation.

**Storage Precautions:** Store product in tightly capped original containers in a cool, dry area. Keep away from heat and flame. Store away from incompatible materials. Empty containers may be hazardous as they contain product residue.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Engineering Controls:** Good general ventilation should be sufficient to control airborne levels and keep exposures to as low as possible. Use exhaust ventilation.
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/acid gas/ammonia chemical cartridge is recommended under certain circumstances where airborne concentrations are expected to be elevated.
Skin: Compatible chemical resistant gloves and work gloves. Protective outer garment, apron, sleeves as appropriate.
Other: Eyewash fountain in work area. Avoid the use of contact lenses.

Work/Hygienic Practices: Maintain good housekeeping. Clean up spills immediately. 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>Amber colored liquid.</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>212F(100C)</td>
</tr>
<tr>
<td>Odor</td>
<td>Mild characteristic odor.</td>
</tr>
<tr>
<td>Melting Point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>1.08</td>
</tr>
<tr>
<td>pH</td>
<td>6.5-7</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Solubility in Water</td>
<td>Soluble</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>(air=1) Not applicable</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

General: Stable.
Conditions to Avoid: Freezing temperatures. High temperatures.
Incompatible Materials: Oxidizers, cyanides, sulfides
Hazardous Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

Carcinogenicity: NTP: No
OSHA: No
IARC: No
LD50: Not established.
LC50: Not established.
Irritancy of Product: Fumes evolved during soldering may be irritating.

12. ECOLOGICAL INFORMATION

Product not tested.
13. **DISPOSAL CONSIDERATION**

**Waste Disposal Method:** 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), IATA or TDG.

**UN – NONE**

Not dangerous goods for transportation

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 - None
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).

WHMIS: Not classified because of insufficient information.

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: Malaysian – OCCUPATIONAL SAFETY AND HEALTH (CLASSIFICATION, LABELING AND SAFETY DATA SHEET OF HAZARDOUS CHEMICALS) REGULATION OCTOBER 2013 – (CLASS).

Canadian Domestic Substances List and EINECS.

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.
16. OTHER INFORMATION

Revised Date: 31 JULY 2018
Prepared by: Nancy Swarts, Indium Corporation of America
Approved by: Nancy Swarts, Indium Corporation of America

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