SAFETY DATA SHEET

User must review the contents of this (SDS) and determine what is applicable to their own country laws under Health and Safety and apply them as necessary. This (SDS) will not reference every countries Health and Safety Laws. It is the user’s responsibility to determine what is applicable to them, including but not limited to review of any specific chemical lists and apply the requirements as necessary.

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier: TACFLUX089HFA
SDS Number: SDS-5423
Revised Date: 2 OCTOBER 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: +44 [0] 1908 580400

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Asia-Pacific Operations-Singapore
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Singapore 628908
Information: +65 6268-8678

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

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

http://www.indium.com
2. HAZARDS IDENTIFICATION

PRIMARY ROUTES OF ENTRY:  Carcinogen listed in
⊗ Eye  ⊗ Inhalation  ⊗ Skin  ⊗ Ingestion  NTP  IARC  OSHA  ⊗ Not Listed

GHS

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
H335  May cause respiratory irritation

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:
Sensitisation, skin- Category 1B
Serious eye damage/eye irritation- Category 2A
Sensitisation, respiratory- Category 1B

POTENTIAL HEALTH EFFECTS:

Eye Contact:  Irritating to the eyes. Do not allow material to come in contact with the eyes.

Ingestion:  May be harmful if swallowed. May cause irritation.

Inhalation:  Heated vapor concentrations may be harmful if inhaled. Irritating to respiratory tract. Rosin may cause occupational asthma upon decomposition.

Skin Contact:  May cause skin irritation. Allergic reactions are possible, especially with repeated or prolonged exposure.

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 mg/m³</th>
<th>TLV-TWA mg/m³</th>
<th>TLV-STEEL mg/m³</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROSIN</td>
<td>40-45</td>
<td>65997-05-9</td>
<td>N.E.</td>
<td>N.E.</td>
<td>N.E.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(EU) 0.05</td>
<td>N.E.</td>
<td>0.15 (sensitiser)</td>
</tr>
<tr>
<td>POLYGLYCOL ETHER</td>
<td>35-40</td>
<td>9038-95-3</td>
<td>N.E.</td>
<td>N.E.</td>
<td>N.E.</td>
</tr>
<tr>
<td>NON HAZARDOUS PROPRIETARY ACTIVATORS</td>
<td>15-25</td>
<td>-</td>
<td>N.E.</td>
<td>N.E.</td>
<td>N.E.</td>
</tr>
</tbody>
</table>

N.E. = Not established          EU = European Union Occupational Exposure Limits

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, not flammable.

**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:** 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. Ensure area is properly vented. 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. 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 exhaust ventilation should be sufficient to control airborne levels and keep exposures to as low as possible.

**Personal protection:**

**Eyes:** Chemical safety glasses/goggles. Use 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.

**Skin:** Compatible chemical resistant gloves. Protective outer garment, apron and sleeves as appropriate. Protect the skin from direct exposure.

**Other:** Eyewash fountain in work area. Avoid the use of contact lenses in high fume areas.

**Work/Hygienic Practices:** Maintain good housekeeping. Clean up spills immediately.

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance:</td>
<td>Flux</td>
</tr>
<tr>
<td>Odor:</td>
<td>Mild characteristic odor.</td>
</tr>
<tr>
<td>Specific Gravity:</td>
<td>Not established</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 established</td>
</tr>
<tr>
<td>Melting Point:</td>
<td>Not established</td>
</tr>
<tr>
<td>pH:</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Solubility in Water:</td>
<td>Insoluble</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

**General:** Stable.

**Conditions to Avoid:** Freezing temperatures. High temperatures.

**Incompatible Materials:** Not established

**Hazardous Decomposition / Combustion:** Not established

**Hazardous Polymerization:** Will not occur.

11. TOXICOLOGICAL INFORMATION

**Carcinogenicity:**
- NTP: No
- OSHA: No
- IARC: No

**LD50:** Not established.

**LC50:** Not established.

**Other:** Prolonged or repeated exposure to rosin flux fume may cause workers to develop occupational asthma. None of the ingredients including proprietary are listed as a carcinogen.

12. ECOLOGICAL INFORMATION

Product not tested.
13. DISPOSAL CONSIDERATION
Waste Disposal Method: 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 international regulations and requirements. Not regulated under US DOT (United States Department of Transportation).
Non hazardous for shipping under all modes.
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.).

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 (irritant or sensitizer)

This product has been classified in accordance with the guidelines set by the Dept of Industrial Health of the Republic of Singapore.
SARA 313 Listing (TRI Reporting) - 40 CFR 372.65 - 14% Proprietary polyglycol ether
All ingredients are listed on the USEPA TSCA Inventory.
RoHS2 = Restriction of Hazardous Substances. Product does not contain any ingredients that are listed.

This product has been classified under the Mexican regulations NOM-018-STPS-2015 and NOM-010-STPS-2014.

In China:
This product has been classified using the Chinese Occupational Limit for Hazardous Agents in the Workplace, GBZ2-2007.
Decree No. 591: Regulations on the Control over Safety of Hazardous Chemicals
GB 30000.2-29-2013, Rules for classification and labeling of chemicals. (GHS)
GB/T 16483-2008, GB/T 17517-2013
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: 1  
Fire: 1  
Physical Hazard: 0

Revised Date: 2 OCTOBER 2018  
Prepared by: Nancy Swarts, Indium Corporation of America  
Approved by: Nancy Swarts, Indium Corporation of America

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