SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier: TACFLUX 021
SDS Number: SDS-IN TF021
Revised Date: 3 OCTOBER 2018

Product Use: Industrial Use – FLUX - INTERPLANT USE ONLY

MANUFACTURER:

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

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Indium Corporation of Europe
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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 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

EMERGENCY PHONE:
CHEMTREC 24 hrs.
USA: 1 (800) 424-9300
Outside USA: +1 (703) 527-3887
2. HAZARDS IDENTIFICATION

PRIMARY ROUTES OF ENTRY:  Carcinogen listed in

- Eye  - Inhalation  - Skin  - Ingestion  - NTP  - IARC  - OSHA  - Not Listed

Harmful statement(s)
H317  May cause an allergic skin reaction
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 +364  Take off contaminated clothing and wash before reuse
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 (15mins)

POTENTIAL HEALTH EFFECTS:

Eye Contact:  May cause irritation.

Ingestion:  May cause irritation.

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

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

Chronic:  Not established.

NOTE:  The Indium Corporation does not recommend, manufacture, market or endorse any of its 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-STEL mg/m³</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROSIN</td>
<td>45-55</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>PROPRIETARY</td>
<td>45-55</td>
<td>-</td>
<td>N.E.</td>
<td>N.E.</td>
<td>N.E.</td>
</tr>
<tr>
<td>(NON-HAZARDOUS)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

N.E. = Not established

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 determined

**Auto-ignition Temperature:** Not established

**Flammable Limits:** Limits not established

**Extinguishing Media:** Use extinguishers appropriate for the surrounding fire conditions (foam/carbon dioxide/water/dry chemical).

**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. 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 general ventilation should be sufficient to control airborne levels.

**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.

**Skin:** Compatible chemical resistant gloves. Protective outer garment apron and sleeves as appropriate.

**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. 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>Flux</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>Not applicable.</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>Not applicable.</td>
</tr>
<tr>
<td>pH</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Solubility in Water</td>
<td>Insoluble</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:** Not established

**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:** None known
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. Non hazardous for shipping 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

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 - 40 CFR 372.65 - None
All ingredients are listed on the EPA TSCA Inventory.

This product has been classified in accordance with Mexican regulations NOM-018-STPS-2015 and NOM-010-STPS-2014.

For compliance with EU Directive 2011/65/EU, Restriction of Hazardous Substances (RoHS), see Alloy Table.

Japan:
Poisonous and Deleterious Substance Control Law (PDSCL): No ingredients are listed.
Fire Service Law (FSL): Not regulated/not dangerous.
Industrial Safety and Health Law (ISHL): ingredients are listed
PRTR and Promotion of Chemical Management law, Class I Substance: Not applicable.
Waste Disposal and Public Cleaning Law: Specific Harmful Industrial Wastes: Some contents of the family grouping may
contain lead within the solder paste. Review alloy table and product label/purchased and used.

Class II Designated Chemical Substances: No ingredients are listed.

Ingredients are listed on the Japanese Inventory Chemical Substance List/Industrial Safety and Health Law Substance List. Review SDS and apply regulations where applicable.

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). (GHS)

In China:
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 using the Chinese Occupational Limit for Hazardous Agents in the Workplace, GBZ2-2007.
All ingredients are listed on the China Chemical Inventory.

16. OTHER INFORMATION

HMIS Hazard Rating:

<table>
<thead>
<tr>
<th>Hazard Rating</th>
<th>Health</th>
<th>Fire</th>
<th>Reactivity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

Revised Date: 3 OCTOBER 2018
Prepared by: Nancy Swarts, Indium Corporation of America
Approved by: Nancy Swarts, Indium Corporation of America

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