SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier: FC-WS-HT-A
SDS Number: SDS-IN FC008
Revised Date: 31 MAY 2018
Product Use: Industrial Use - Flip chip flux.

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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Information: +44 [0] 1908 580400

In Asia:
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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:
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

Carcinogen listed in

NTP  IARC  OSHA  Not Listed

GHS:

Signal Word: Danger

H319 Causes serious eye irritation
H225 Highly flammable liquid and vapor
H335 May cause respiratory irritation
H336 May cause drowsiness and dizziness

Precautionary statement(s)

P210 Keep away from heat/sparks/open flames/hot surfaces. – No smoking
P233 Keep container tightly closed
P240 Ground/bond container and receiving equipment
P242 Use only non-sparking tools
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
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:

Flammable Liquid (Category 2)
Eye irritant (Category 2A)
Specific target organ-single exposure (Category 3) Central Nervous System

POTENTIAL HEALTH EFFECTS:

Eye Contact: Irritating to the eyes and if not removed promptly, may result in serious eye irritation. Do not allow material to come in contact with the eyes.

Ingestion: May be harmful if swallowed. May cause irritation and damage to the mouth, esophagus and gastrointestinal tract.

Inhalation: Heated vapor concentrations may be harmful if inhaled. Irritating to respiratory tract.

Skin Contact: May cause skin irritation.

Chronic: Not established.
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>2-PROPANOL (ISOPROPYL ALCOHOL)</td>
<td>45-65</td>
<td>67-63-0 (US)</td>
<td>980</td>
<td>980</td>
<td>1225</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(EU) -</td>
<td>999</td>
<td>1250</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Canada) -</td>
<td>983</td>
<td>1228</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Singapore) 983</td>
<td>-</td>
<td>1230</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Mexico) -</td>
<td>980</td>
<td>1225</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(China) -</td>
<td>350</td>
<td>700</td>
<td></td>
</tr>
<tr>
<td>ALCOHOLS</td>
<td>20-25</td>
<td>68876-79-9</td>
<td>N.E.</td>
<td>N.E.</td>
<td>N.E.</td>
</tr>
<tr>
<td>POLYGLYCOL ETHER</td>
<td>20-35</td>
<td>9038-95-3</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: 12 C (53 F)          Method: Not established.
Auto-ignition Temperature: Not established.

Flammable Limits: Flammable, limits not established
Extinguishing Media: Use extinguishers appropriate for the surrounding fire conditions. Foam, dry
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. Ground containers.

**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. Do not use product without 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/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/splash 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>Liquid</td>
</tr>
<tr>
<td>Odor:</td>
<td>Mild characteristic odor.</td>
</tr>
<tr>
<td>Specific Gravity:</td>
<td>1 g/cc</td>
</tr>
<tr>
<td>Vapor Pressure:</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Vapor Density:</td>
<td>(air=1) Not applicable.</td>
</tr>
<tr>
<td>Boiling Point:</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Melting Point:</td>
<td>Not applicable</td>
</tr>
<tr>
<td>pH:</td>
<td>4 - 8</td>
</tr>
<tr>
<td>Solubility in Water:</td>
<td>Not established</td>
</tr>
</tbody>
</table>

10. **STABILITY AND REACTIVITY**
**General:** Stable.
**Conditions to Avoid:** High temperatures, open flame.
**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:** None known. Product is not considered 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 regulations and requirements.
- **UN1219 Isopropanol, 3, PG II**

   ![Flammable 3]


### 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).

Canadian WHMIS: Class B Division 2 Flammable, D2B Toxic Material Causing Other Toxic Effects (eye irritation in animals).

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 the Mexican regulations NOM-018-STPS-2015 and NOM – 010-STPS-2014.

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

16. OTHER INFORMATION

<table>
<thead>
<tr>
<th>HMIS Hazard Rating</th>
<th>Health</th>
<th>Fire</th>
<th>Reactivity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>3</td>
<td>0</td>
</tr>
</tbody>
</table>

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

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