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: FC-WS-LT-A
MSDS Number: SDS-IN FC003
Revised Date: 31 JULY 2018
Product Use: Industrial Use - Flip chip flux

MANUFACTURER:

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

In Europe:
The Indium Corporation of America® (European Operations)
7 Newmarket Ct.
Kingston, Milton Keynes, UK, MK 10 OAG
Information: +44 [0] 1908 580400

In Asia:
The Indium Corporation of America
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  Carcinogen listed in

NTP  IARC  OSHA  Not Listed

GHS:

Signal Word: Danger

Hazard Statements:

H225  Highly Flammable liquid and vapor
H319  Causes serious eye irritation
H336  May cause drowsiness or dizziness

Precautionary statement(s)

P210  Keep away from heat/sparks/open flames/hot surfaces. – No smoking
P233  Keep container tightly closed
P240  Ground container and receiving equipment
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 + P341  IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing
P305 + P351  IF IN EYES: Rinse continuously with water for several minutes (15 mins)

Classification – isopropyl alcohol
Eye irritant – (Category 2A)
Flammable liquids - (Category 2)
Specific target organ systemic toxicity (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 damage.

Ingestion:  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. May cause headache and dizziness.

Skin Contact:  May cause skin irritation. May be harmful.

Chronic:  Not established.

WARNING: This product can expose you to chemicals including [trace amounts of propylene oxide] which is known to the State of California to cause cancer. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

NOTE: The Indium Corporation does not recommend, manufacture, market or endorse any of its
products 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>ISOPROPYL ALCOHOL</td>
<td>50-60</td>
<td>67-63-0</td>
<td>980</td>
<td>983</td>
<td>1230</td>
</tr>
<tr>
<td>(EU)</td>
<td>-</td>
<td>-</td>
<td>999</td>
<td>1250</td>
<td></td>
</tr>
<tr>
<td>(Canada)</td>
<td></td>
<td></td>
<td>983</td>
<td>1228</td>
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<td>(Singapore)</td>
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<td>983</td>
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<td>1228</td>
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<tr>
<td>(Mexico)</td>
<td></td>
<td></td>
<td>980</td>
<td>1225</td>
<td></td>
</tr>
<tr>
<td>(China)</td>
<td></td>
<td></td>
<td>350</td>
<td>700</td>
<td></td>
</tr>
<tr>
<td>POLYGLYCOL ETHER</td>
<td>12-20</td>
<td>9038-95-3</td>
<td>N.E.</td>
<td>N.E.</td>
<td>N.E.</td>
</tr>
<tr>
<td>PROPRIETARY</td>
<td>40-50</td>
<td>20-38</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: 11°C (52°F)  Method: Not available.

Auto-ignition Temperature: Not established.

Flammable Limits: Limits not established

Extinguishing Media: Use extinguishers appropriate for the surrounding fire conditions. Foam, dry chemical, water spray.

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. Keep away from sources of ignition. 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. Keep away from flame.

**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:** Ventilation exhaust is required to control airborne levels.

**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. 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><strong>Appearance:</strong></td>
<td>Liquid</td>
</tr>
<tr>
<td><strong>Odor:</strong></td>
<td>Mild characteristic odor.</td>
</tr>
<tr>
<td><strong>Specific Gravity:</strong></td>
<td>Not applicable.</td>
</tr>
<tr>
<td><strong>Vapor Pressure:</strong></td>
<td>Not applicable.</td>
</tr>
<tr>
<td><strong>Vapor Density:</strong></td>
<td>(air=1) Not applicable.</td>
</tr>
<tr>
<td><strong>Boiling Point:</strong></td>
<td>Not applicable.</td>
</tr>
<tr>
<td><strong>Melting Point:</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>pH:</strong></td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>Solubility in Water:</strong></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.

IPA : RTECS: NT 8050000

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.

UN1219, Isopropanol, 3, PG II (mixture)


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).

WARNING: This product can expose you to chemicals including [trace amounts of propylene oxide] which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov

Canadian WHMIS:

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.

SARA 313 Listing - 40 CFR 372.65 - None
All ingredients are listed on the EPA TSCA Inventory and the Domestic Substance List.
This product has been classified in accordance with the Mexican guidelines, 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: 2
Fire: 3
Reactivity: 0

Revised Date: 31 JULY 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.