1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier: FC-WS-HT-A
SDS Number: MSDS-IN FC008
Revised Date: 21 MAY 2014

Product Use: Industrial Use - Flip chip flux.

MANUFACTURER:

In America:
The Indium Corporation of America
1676 Lincoln Ave., Utica NY 13502
Information: (315) 853-4900
nswarts@indium.com

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

In Europe:
Indium Corporation of Europe
7 Newmarket Ct.
Kingston, Milton Keynes, UK, MK 10 OAG
Information: +44 [0] 1908 580400

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

In Asia:
Indium Corporation of America
Asia-Pacific Operations-Singapore
29 Kian Teck Avenue
Singapore 628908
Information: +65 6268-8678
2. HAZARDS IDENTIFICATION

**PRIMARY ROUTES OF ENTRY:**
- Eye
- Inhalation
- Skin
- Ingestion

**Carcinogen listed in**
- NTP
- IARC
- OSHA
- Not Listed

**GHS:**
- Signal Word: Danger
- Hazardous statement(s)
  - 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 breathing dust/fume/gas/mist/vapors/spray
- P362: Take off contaminated clothing and wash before reuse
- IF SWALLOWED: Get Medical advice/attention if you feel unwell
- IF ON SKIN: Wash with plenty of soap and water
- IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing
- 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.

**NOTE:** The Indium Corporation does not recommend, manufacture, market or endorse any of its
products for human consumption.

**WARNING:** This product may contain a chemical(s) known to the State of California to cause cancer and/or birth defects (or other reproductive harm).

### 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>
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<tbody>
<tr>
<td>2-PROPA NOL (ISOPROPYL ALCOHOL)</td>
<td>45-65</td>
<td>67-63-0 (US)</td>
<td>980</td>
<td>980</td>
<td>1225</td>
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<td></td>
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<td>(EU)</td>
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<td>(China)</td>
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<td>ALCOHOLS</td>
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<td>68876-79-9</td>
<td>N.E.</td>
<td>N.E.</td>
<td>N.E.</td>
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<tr>
<td>PROPRIETARY</td>
<td>20-35</td>
<td>-</td>
<td>N.E.</td>
<td>N.E.</td>
<td>N.E.</td>
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</table>

Please note that there was an error in reporting the percentage range of the ingredients on the previous SDS. This SDS represents the correct range percentages.

Product does not contain any reportable EU Substances of Very High Concern (SVHC)

Symbol: Xi, F  Risk Phrases: R36/37/38, R11, R67
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 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. 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

Appearance: Liquid  Boiling Point: Not applicable.
Odor: Mild characteristic odor.  Melting Point: Not applicable
Specific Gravity: 1 g/cc  pH: 4 - 8
Vapor Pressure: Not applicable.  Solubility in Water: Not established
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


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: 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-2000 and NOM – 010-STPS-1999.

This product has been classified using the Chinese Occupational Exposure Limit for Hazardous Agents in the Workplace, GBZ2-2002.

**WARNING:** This product may contain a chemical(s) known to the State of California to cause cancer and/or birth defects (or other reproductive harm).

SARA 313 Listing - 40 CFR 372.65 - none

All ingredients are listed on the EPA TSCA Inventory.

EC Classification, Packaging and Labeling Requirements:

Symbol and Hazard Classification of Product

\( \Xi, F \)

**Risk Phrases:**

R36/37/38 Irritating to eyes, respiratory system and skin

R11 Highly flammable

R67 Vapors may cause drowsiness and dizziness

**Safety Phrases:**

S20/21 When using do not eat, drink or smoke

S23 Do not breathe fumes/gas/vapor/spray

S24/25 Avoid contact with skin and eyes

S36/37/39 Wear suitable protective clothing, gloves and eye/face protection

S28 After contact with skin wash immediately with plenty of soap and water

S62 If swallowed, do not induce vomiting seek medical advice immediately and show container or label

S7 Keep container tightly closed

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**16. OTHER INFORMATION**
<table>
<thead>
<tr>
<th>HMIS Hazard Rating:</th>
<th>Health:</th>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Fire:</td>
<td>3</td>
</tr>
<tr>
<td>Reactivity:</td>
<td></td>
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</tbody>
</table>

Revised Date: 21 MAY 2012  
Prepared by: Nancy Swarts, Indium Corporation of America  
Approved by: Nancy Swarts, Indium Corporation of America

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