SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier: FC-NC-LT-B
SDS Number: SDS-IN FC019
Revised Date: 10 APRIL 2019
Product Use: Industrial Use - Flip chip flux

MANUFACTURER:

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

In 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

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 statement(s)
H226  Flammable liquid and vapor
H302  Harmful if swallowed
H314  Causes severe skin burns and eye damage
H336  May cause drowsiness or dizziness
H361  Suspected of damaging fertility or the unborn child
H412  Harmful to aquatic life with long lasting effects

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
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
P303 + 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 3
Eye damage- Category 1
Skin corrosion- Category 1B
Reproductive toxicity- Category 2
Acute toxicity, Oral – Category 4
Acute aquatic toxicity- Category 3
Chronic aquatic toxicity – Category 3

POTENTIAL HEALTH EFFECTS:

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

Ingestion:  Harmful if swallowed. May cause irritation.

Inhalation:  Heated vapor concentrations may be harmful if inhaled. Irritating to respiratory tract. High concentrations may cause headache or dizziness or light headiness.

Skin Contact:  Causes burns to skin. 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.

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-PROPANOL (ISOPROPYL ALCOHOL)</td>
<td>20-25</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) N.E.</td>
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<td>999</td>
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<tr>
<td></td>
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<td>(Singapore) 983</td>
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<td>1230</td>
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<tr>
<td></td>
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<td>(Mexico) -</td>
<td>980</td>
<td>1225</td>
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<td></td>
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<td>(China) -</td>
<td>350</td>
<td>700</td>
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<td>(Canada) N.E.</td>
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<td>1228</td>
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<td>POLYGLYCOL ETHER</td>
<td>65-75</td>
<td>9038-95-3 (US)</td>
<td>N.E.</td>
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<td>PROPRIETARY</td>
<td>5-10</td>
<td>-</td>
<td>N.E.</td>
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</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: 24 C (76 F)  Method: Closed cup

   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: Firefighters must wear NIOSH approved self-contained breathing apparatus and full
Procedures: protective clothing.

6. ACCIDENTAL RELEASE MEASURES
   Spill or Leak Procedures: Wear a respirator and appropriate personal protection (See Exposure Control Personal Protective Section). Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste container. Turn off all sources of ignition. Keep unnecessary personnel away from spill. 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 contaminant levels.
   Personal protection:
   Eyes: Chemical safety glasses/goggles. Face shield should be used 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 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-clear
   Boiling Point: 100 C
   Odor: Mild characteristic odor.
   Melting Point: Not applicable
   Specific Gravity: 0.9144
   pH: 5.2 (not a certifiable parameter)
   Vapor Pressure: Not applicable.
   Solubility in Water: None
   Vapor Density: (air=1) Not applicable.

10. STABILITY AND REACTIVITY
    General: Stable.
    Conditions to Avoid: High temperatures, open flame and other sources of ignition.
    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

12. ECOLOGICAL INFORMATION
Product not tested. 
Contains a substance that is harmful to aquatic life.

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. An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

14. TRANSPORT INFORMATION
Transport in accordance with applicable international regulations and requirements.

UN2924, Flammable Liquids, Corrosive, N.O.S., 3, PG II (isopropyl alcohol/alkylphenol)


IMDG: UN2924, Flammable Liquids, Corrosive, N.O.S., 3, PG II (isopropyl alcohol/alkylphenol) (Marine Pollutant) (alkylphenol)

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 and the Domestic Substance List.

This product is intended for industrial manufacturing ONLY. Re-selling this product for consumer use is prohibited by law. Contact the Indium Corporation for further guidance.

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).

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 using the Chinese Occupational Exposure Limit for Hazardous Agents in the Workplace, GBZ2-2007.
This product has been classified in accordance with the Mexican regulations NOM-018-STPS-2015 and NOM-010-STPS-2014.

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).

This product has been classified in accordance with the guidelines set by the Dept of Industrial Health of the Republic of Singapore.

16. OTHER INFORMATION

<table>
<thead>
<tr>
<th>HMIS Hazard Rating:</th>
<th>Health: 2</th>
<th>Fire: 3</th>
<th>Reactivity: 0</th>
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<tbody>
<tr>
<td>Revised Date:</td>
<td>10 APRIL 2019</td>
<td></td>
<td></td>
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<tr>
<td>Prepared by:</td>
<td>Nancy Swarts, Indium Corporation of America</td>
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<tr>
<td>Approved by:</td>
<td>Nancy Swarts, Indium Corporation of America</td>
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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.