SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier: FC-X5-G
SDS Number: SDS-IN FC009
Revised Date: 9 APRIL 2018
Product Use: Industrial Use - Flip chip flux

MANUFACTURER:

In America:
The Indium Corporation of America®.  
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nswarts@indium.com

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Information: +44 [0] 1908 580400

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Asia-Pacific Operations-Singapore  
29 Kian Teck Avenue  
Singapore 628908  
Information: +65 6268-8678

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No. 428 Xinglong Street  
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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 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 + 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:** Causes irritation to the eyes. If splashed in eyes and not removed promptly, may result in serious eye damage.

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

**Inhalation:** Heated vapor concentrations may be harmful if inhaled. May cause headache. May be harmful to the mucous membranes and upper respiratory tract.

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

**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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<td>2-PROPANOL (ISOPROPYL ALCOHOL)</td>
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<td>67-63-0 (US)</td>
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<td>700</td>
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<tr>
<td>PROPRIETARY SOLVENT</td>
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<td>-</td>
<td>N.E.</td>
<td>N.E.</td>
<td>N.E.</td>
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<tr>
<td>PROPRIETARY ADDITIVES</td>
<td>5-15</td>
<td>-</td>
<td>N.E.</td>
<td>N.E.</td>
<td>N.E.</td>
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</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: 24 C (75 F)  Method: ASTM D93-80
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.
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 exhaust ventilation should be sufficient to control airborne levels.
Personal protection:
Eyes: Chemical safety glasses/goggles. Face shield for splash hazards.
Respirator: A NIOSH approved or EU compliant CE 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
Odor: Mild characteristic odor.
Specific Gravity: Not applicable.
Vapor Pressure: Not applicable.
Vapor Density: (air=1) Not applicable.
Boiling Point: Not applicable.
Melting Point: Not applicable
pH: Not established
Solubility in Water: Not established

10. STABILITY AND REACTIVITY
General: Stable.
Conditions to Avoid: High temperatures, open flame.
Incompatible Materials: Strong oxidizing agents
Hazardous Decomposition / Combustion: Carbon monoxide/carbon dioxide
Hazardous Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION
Carcinogenicity: NTP: No
               OSHA: No
               IARC: No
LD50: Not established.  LC50: Not established.
Product contains a substance that is suspected of causing reproductive toxicity.
phenol: LD50, rat (male/female)- 1,412 mg/kg.

12. ECOLOGICAL INFORMATION
Product mixture not tested.
phenol: Eye rabbit, corrosive- 72h
Product contains substances that are harmful to the aquatic life with long lasting effects.

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.

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

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

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 hazard criteria of the Canadian Controlled Products Regulation (CPR).

WHMIS: Class B Division 2 Flammable. Class D2B materials causing other toxic effects.

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.

16. OTHER INFORMATION

HMIS Hazard Rating:

Health: 2
Fire: 2
Reactivity: 0

Revised Date: 9 APRIL 2018
Prepared by: Nancy Swarts, Indium Corporation of America
Approved by: Nancy Swarts, Indium Corporation of America

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