SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier: FLIP CHIP–NC–26-A
SDS Number: SDS-5728
Revised Date: 18 MAY 2016
Product Use: Industrial Use (mixture)- FLUX

MANUFACTURER:

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

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In Europe:
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Kingston, Milton Keynes, UK, MK 10 OAG
Information: +44 [0] 1908 580400

In China:
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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:

![GHS Symbols]

**Signal Word:** Warning

**Hazard statement(s):**

- H319 Causes serious eye irritation
- H410 Very toxic to aquatic life with long lasting effects

**Precautionary statement(s):**

- P233 Keep container tightly closed
- 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)

**POTENTIAL HEALTH EFFECTS:**

- **Eye Contact:** Irritating to the eyes. Spray or liquid may cause damage to eyes.
- **Ingestion:** May cause irritation or harm if swallowed.
- **Inhalation:** May cause irritation.
- **Skin Contact:** May cause skin irritation.

**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>POLYGLYCOL ETHER</td>
<td>80 - 85</td>
<td>9038-95-3</td>
<td>N.E</td>
<td>N.E</td>
<td>N.E.</td>
</tr>
<tr>
<td>PROPRIETARY ADDITIVES</td>
<td>15 - 20</td>
<td>-</td>
<td>N.E.</td>
<td>5</td>
<td>N.E.</td>
</tr>
</tbody>
</table>

N.E. = Not established

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:** >200F  
**Method:** Not available

**Auto-ignition Temperature:** Not established.  
**Flammable Limits:** Limits not established. Not flammable  
**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. Evacuate area and fight fire from a safe distance. Containers can build up pressure if exposed to heat (fire) or flame.

6. ACCIDENTAL RELEASE MEASURES

**Spill or Leak Procedures:** Wear a respirator and appropriate personal protection (See Exposure Controls/Personal Protective Section). Size of spill shall determine respiratory protection from air purifying to self-contained breathing apparatus. Keep unnecessary and unprotected personnel from entering the spill area. 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. Do not allow material to enter any waterway. Contains a chemical that is harmful to aquatic life.

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. Keep away from sources of heat and 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. Store in well ventilated area.

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### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Engineering Controls:** Exhaust ventilation should be sufficient to control airborne levels and reduce exposure levels. Proper exhaust ventilation designed for hazardous chemicals is required having a face velocity of at least 100 feet per minute.

**Personal protection:**

**Eyes:** Chemical safety glasses/ splash goggles. Face shield for splash hazards.

**Respirator:** An approved or compliant marked air-purifying respirator with an organic vapor chemical cartridge is recommended under certain circumstances where airborne concentrations are expected to be elevated. Confined spaces require additional protection. Use in well ventilated areas. Assess work area before performing work.

**Skin:** Compatible chemical resistant gloves. Protective outer garment, apron and sleeves as appropriate. Face shield for splash protection. Avoid handling without protection.

**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.

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### 9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Clear - liquid</td>
</tr>
<tr>
<td>Odor</td>
<td>Slight characteristic odor.</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>0.9 - 1</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 available</td>
</tr>
<tr>
<td>Melting Point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>pH</td>
<td>4 - 6</td>
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<tr>
<td>Solubility in Water</td>
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</tr>
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</table>

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### 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 not tested.

12. ECOLOGICAL INFORMATION

Product not tested.

Harmful to aquatic life. Contains a chemical that is rated as a severe marine pollutant.

13. DISPOSAL CONSIDERATION

Waste Disposal Method: Dispose of in accordance with all applicable Federal, State and Local environmental regulations.

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

Contains chemicals that are classified as harmful to aquatic life.

14. TRANSPORT INFORMATION

Transport in accordance with applicable regulations and requirements.

Non-hazardous for US DOT shipping modes via ground and air.

IMDG (International Maritime Dangerous Goods Code)
UN 3082, Environmentally Hazardous Substance, Liquid, N.O.S., 9, PG III (phenol) (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.).

All ingredients are listed on the: EPA TSCA Inventory

SARA 313 Listing - 40 CFR 372.65 - polyglycol ether - 5-15%
This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulation (CPR).

Canadian WHMIS: no classification

This product has been classified in accordance with Mexican regulations NOM-018-STPS-2015 and NOM-010-STPS-2014.

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).

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.

16. OTHER INFORMATION

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

Revised Date: 18 MAY 2016

Prepared by: Nancy Swarts, Indium Corporation of America

Approved by: Nancy Swarts, Indium Corporation of America

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