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-NC-HT-D
SDS Number: SDS-IN FC013
Revised Date: 10 APRIL 2019
Product Use: Industrial Use - Flip chip flux

MANUFACTURER:

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Information: (86) 512-6283-4900

http://www.indium.com
2. HAZARDS IDENTIFICATION

PRIMARY ROUTES OF ENTRY:  Carcinogen listed in
XEye  XInhalation  XSkin  XIngestion  NTP  IARC  OSHA  XNot Listed

GHS

Signal Word: Warning

Hazard statement(s)
H315  Causes skin irritation
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)

Classification:
Serious Eye irritant (Category 2A)
Skin irritation (Category 2)
Acute aquatic toxicity (Category 1)
Chronic aquatic toxicity (Category 1)

POTENTIAL HEALTH EFFECTS:

Eye Contact:  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:  May be harmful if swallowed. May cause irritation.

Inhalation:  Heated vapor concentrations may be harmful if inhaled. May cause irritation.

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.
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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</thead>
<tbody>
<tr>
<td>POLYGLYCOL ETHER</td>
<td>14-24</td>
<td>9038-95-3</td>
<td>N.E.</td>
<td>N.E.</td>
<td>N.E.</td>
</tr>
<tr>
<td>ALIPHATIC ALCOHOL</td>
<td>70-80</td>
<td>68439-49-6</td>
<td>N.E.</td>
<td>N.E.</td>
<td>N.E.</td>
</tr>
<tr>
<td>C16-18</td>
<td>0-10</td>
<td>68603-15-6</td>
<td>N.E.</td>
<td>N.E.</td>
<td>N.E.</td>
</tr>
<tr>
<td>ALCOHOLS C6-C12</td>
<td>0-10</td>
<td>68603-15-6</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: 110 C (230 F)  Method: Closed cup

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 Protective (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 dry area at temperatures no greater than 30C (86F). Consult product label or product data sheet for further information on shelf life and shelf life temperature storage. Keep away from heat and flame. 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.

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. Sleeves as appropriate.

Other: Eyewash fountain in work area. Avoid the use of contact lenses.

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/flux

Boiling Point: 335 C

Odor: Mild characteristic odor.

Melting Point: Not applicable

Specific Gravity: 0.95

pH: Not available

Vapor Pressure: Not applicable.

Solubility in Water: Not soluble

Vapor Density: (air=1) Not applicable.

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

12. ECOLOGICAL INFORMATION

Product not tested.

An environmental concern cannot be ruled out in the event that there is mishandling or disposal of the product.

Contains a substance that is very toxic to 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.

USDOT/IATA – not regulated

IMDG: (49 CFR 172.322)

UN3082, Environmentally hazardous substance, liquid, N.O.S., 9, PGII (alkylphenol) (Severe 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.).

SARA 313 Listing - 40 CFR 372.65 - None
All ingredients are listed on the EPA TSCA Inventory.

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulation (CPR).

WHMIS: Insufficient information

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

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

In China:
GB/T 16483-2008, GB/T 17519-2013, Safety Data Sheets for Chemical Products
GB 30000.2-2013, Rules for classification and labeling of chemicals (GHS)
Decree No. 591: Regulations on the Control Over Safety of Hazardous Chemicals.
Information on exposure levels in China is from regulation document GBZ2-2007 Occupational Exposure Limit for Hazardous Agents in the Workplace.

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).
16. OTHER INFORMATION

HMIS Hazard Rating:
- Health: 1
- Fire: 1
- Reactivity: 0

Revised Date: 10 APRIL 2019
Prepared by: Nancy Swarts, Indium Corporation of America
Approved by: Nancy Swarts, Indium Corporation of America

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