



## SAFETY DATA SHEET

### SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

**1.1 Product Identifier:** FC-NC-HT-D

**SDS Number:** SDS-IN FC013

**Revised Date:** 8 MAY 2019

**1.2 Relevant identified uses of the substance or mixture and uses advised against**

**Product Use:** Industrial Use - Flip chip flux

**1.3 Details of the supplier of the safety data sheet**

**MANUFACTURER/SUPPLIER/IMPORTER:**

**In America:**

**The Indium Corporation of America®.**

34 Robinson Rd, Clinton NY 13323

Technical & Safety Information: (315) 853-4900

Safety & SDS Information: [nswarts@indium.com](mailto:nswarts@indium.com)

Corporation web page: <http://www.indium.com>

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**In Asia:**

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**1.4 Emergency Telephone Number****FOR CHEMICAL EMERGENCY ONLY PHONE \*:****CHEMTREC 24 hrs.****USA: 1 (800) 424-9300****Outside USA: +1 (703) 527-3887****China: Emergency 86+ 4008417580****\* Used only for spill/leak/fire/exposure/accident****ALL OTHER INQUIRIES: TOLL FREE: +1-800-448-9240 Indium Corporation****SECTION 2. HAZARDS IDENTIFICATION****PRIMARY ROUTES OF ENTRY:**

XEye

XInhalation

XSkin

XIngestion

NTP

**Carcinogen listed in**

IARC

OSHA

XNot Listed

**2.1 Classification of substance or mixture: (mixture)****2.2 Label Elements**

Labeling according to Regulation (EC) No. 1272/2008

GHS



Signal Word: Warning

**Hazard statement(s)**

H315 Cause skin irritation  
 H319 May cause 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:**

Eye irritant (Category 2A)  
 Skin irritation- Category 2  
 Acute aquatic toxicity (Category 1)  
 Chronic aquatic toxicity (Category 1)

**2.3 OTHER HAZARDS:****POTENTIAL HEALTH EFFECTS:**

<b>Eye Contact:</b>	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.
<b>Ingestion:</b>	May be harmful if swallowed. May cause irritation.
<b>Inhalation:</b>	Heated vapor concentrations may be harmful if inhaled. May cause irritation.
<b>Skin Contact:</b>	May cause skin irritation.
<b>Chronic:</b>	Not established.

### SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS

#### 3.2 Mixture:

Components	% wt	CAS Registry #
POLYGLYCOL ETHER	14-24	9038-95-3
ALIPHATIC ALCOHOL C16-18	70-80	68439-49-6
ALCOHOLS C6-C12	0-10	68603-15-6

N.E. = Not established

<http://www.indium.com>

### SECTION 4. FIRST AID MEASURES

#### 4.1 Description of first aid measures:

<b>Eye Contact:</b>	Hold eyelids apart and flush eyes with plenty of tepid water for at least 15 minutes. Seek medical attention if irritation persists.
<b>Ingestion:</b>	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.
<b>Inhalation:</b>	Remove to fresh air. If not breathing, give artificial respiration or oxygen by trained personnel. Seek immediate medical attention.
<b>Skin Contact:</b>	Remove contaminated clothing. Wash affected area with soap and water. Wash clothing before reuse. If irritation persists, obtain medical attention.

#### 4.2 Most important symptoms and effect, both acute and delayed:

Skin contact may cause irritation. Inhalation may cause irritation. Eye exposure may cause irritation.

#### 4.3 Indication of any immediate medical attention and special treatment needed:

No specific special treatment information is available on this mixture. Review data provided in this document to understand the hazards when working with the product. No other information is available at this time. Seek medical attention if eye irritation continues after flushing. If respiratory discomfort is evident seek medical advice.

## SECTION 5. FIRE FIGHTING MEASURES

### 5.1 Extinguishing Media:

Use extinguishers appropriate for the surrounding fire conditions. Water, CO2 or foam media.

### 5.2 Special hazards arising from the substance or mixture:

May produce toxic fumes of carbon dioxide if burning.

### 5.3 Advice for Firefighters

Fire fighters must wear approved self-contained breathing apparatus and full protective clothing.

## SECTION 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures:

#### **For non-emergency personnel:**

Keep away from the spill. Remove sources of ignition. Keep exhaust ventilation system running. In the event of a fire evacuate area.

#### **For emergency responders:**

Wear safety glasses, gloves when cleaning up any spill. Other equipment may be necessary based on the immediate area and other chemicals unrelated to the product that may be in use. Adequate ventilation should be available. Keep unnecessary personnel away from area during clean up.

**Environmental Precautions:** Dispose contaminated cloth rags or paper towels following all applicable governmental regulations. Material may have reclaim value. Material is non - hazardous. It however does contain metals and organic chemicals which may not be suited for release to any body of water including drains.

#### **Methods and material for containment and cleaning up:**

Spill or leak procedures: Using a spatula, scoop up paste and place in a plastic or glass jar and tightly cap. Remove traces of paste residue using cloth rags or paper towels moistened with ethyl or isopropyl alcohol.

**6.2 Reference to other sections:** See Section 8 for exposure levels.

## SECTION 7. HANDLING AND STORAGE

### 7.1 Precautions For Safe Handling:

Keep containers tightly closed when not in use. Use care to avoid spills. Use only with production equipment specifically designed for use with flux. Wear appropriate personal protective equipment when working or handling material. Always thoroughly wash your hands after handling this product. DO NOT touch or rub eyes until hands are washed. Do not eat, drink or smoke when handling this product. Utilize exhaust ventilation when heating product. Avoid breathing vapors from heated material. Avoid contact with eyes, skin and clothing. Use with adequate ventilation.

### 7.2 Conditions for Safe Storage, including any incompatibilities:

**Storage Precautions:** Store product in tightly capped original containers in a cool, dry area. Refer to product label and product data sheet for specific storage temperature requirements. Rotate stock to ensure use before expiration date.

**7.3 Specific End Use(s):** Soldering applications

## SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control Parameters:

Components	% wt	CAS Registry #	PEL mg/m <sup>3</sup>	TLV-TWA mg/m <sup>3</sup>	TLV-STEL mg/m <sup>3</sup>
POLYGLYCOL ETHER	14-24	9038-95-3	N.E.	N.E.	N.E.
ALIPHATIC ALCOHOL C16-18	70-80	68439-49-6	N.E.	N.E.	N.E.
ALCOHOLS C6-C12	0-10	68603-15-6	N.E.	N.E.	N.E.

N.E. = Not established      EU = European Union Occupational Exposure Limits

### 8.2 Exposure Controls:

**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.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties:

<b>Appearance:</b>	Liquid/flux	<b>Boiling Point:</b>	335 C
<b>Odor:</b>	Mild characteristic odor.	<b>Melting Point:</b>	Not applicable
<b>Specific Gravity:</b>	0.95	<b>pH:</b>	Not available
<b>Vapor Pressure:</b>	Not applicable.	<b>Solubility in Water:</b>	Not soluble
<b>Vapor Density:</b>	(air=1) Not applicable.		

**9.2 Other Information:** Above data for the whole mixture.

## SECTION 10. STABILITY AND REACTIVITY

**10.1 Reactivity:** Stable.

**10.2 Chemical Stability:** Stable

- 10.3 Possibility of Hazardous Reactions:** Not established
- 10.4 Conditions To Avoid:** High temperatures, open flame.
- 10.5 Incompatible Materials:** Avoid contact with acids, bases or oxidizing agents.
- 10.6 Hazardous Decomposition / Combustion:** Harmful organic fumes and toxic oxide fumes may form at elevated temperatures. Metal oxide fumes.
- 10.7 Hazardous Polymerization:** Will not occur.

## SECTION 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects:

<b>Acute toxicity:</b>	Not established	<b>Mutagenicity:</b>	Not established
<b>Irritation:</b>	Not established	<b>Toxicity for Reproduction:</b>	Not Established
<b>Corrosivity:</b>	Not applicable	<b>Absence of specific data:</b>	None available (not tested)
<b>Sensitization:</b>	Not available		
<b>Repeated dose toxicity:</b>	Not established		
<b>Carcinogenicity:</b>	Not established		
<b>Likely Routes of Entry:</b>	eyes (severe irritation) /skin (irritation) /inhalation (irritation/headache)/ ingestion (irritant)		
<b>Interactive effects:</b>	None known		

### 11.2 Symptoms related to the physical, chemical and toxicological characteristics:

May cause irritation.

### 11.3 Delayed and immediate effects as well as chronic effects from short and long-term exposure:

Long term exposure by inhalation may be harmful.

**Mixture verses substance information:** None known

### Other Information:

#### Carcinogenicity Listing:

**NTP:**No (National Toxicity Program), **OSHA:** No (US Occupational Safety & Health Administration)

**IARC:**No (International Agency for Research on Cancer).

## SECTION 12. ECOLOGICAL INFORMATION

Product mixture not tested.

- 12.1 Toxicity:** Contains a substance that is very toxic to aquatic life with long lasting effects.
- 12.2 Persistence and degradability:** No information available
- 12.3 Bioaccumulative potential:** No information available
- 12.4 Mobility in soil:** No information available
- 12.5 Results of PBT and vPvB assessments:** No data is available
- 12.6 Other adverse effects:** No information is available for mixture. Avoid release to environment.

**SECTION 13. DISPOSAL CONSIDERATION**

**13.1 Waste Treatment Method:** Dispose of in accordance with environmental regulations. Containerize material and classify according to applicable regulations. No pre-treatment on site is recommended. Do not dispose of down any drain or waterway. Contains chemicals that are classified as harmful to aquatic life. Utilize the same personal protective equipment as the user when handling for disposal.

**RoHS (Restriction of Hazardous Substances):** Compliant with RoHS.

**SECTION 14. TRANSPORT INFORMATION**

Transport in accordance with applicable international regulations and requirements.

Flux is hazardous

Not regulated/non - hazardous under US DOT (United States Department of Transportation).

Not regulated/non - hazardous under international shipping requirements (IATA/Ocean).

**14.1 UN Number** UN3082

**14.2 UN proper shipping name:** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID N.O.S. (alkylphenol)  
(Severe Marine Pollutant)

**14.3 Transport hazard class(s):** 9

**14.4 Packing group:** III

**14.5 Environmental hazards:** Marine Pollutant. EMS-No. F-A, S-B

**14.6 Special precautions for user:** Not applicable

**14.7 Transport in bulk:** Not applicable

IMDG: (49 CFR 172.322)



**Note: Based on the comparable corrosion testing, under the US Department Of Transportation regulatory testing requirements, this product does not meet the classification of Class 8 (Corrosive) under the US Department of Transportation requirements. This is classified as containing a severe marine pollutant.**

**SECTION 15. REGULATORY INFORMATION****15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:**

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.

All ingredients are listed on EINECS. Note Rosin was recently listed under the No Longer Polymer List, Notification of New Chemical Substances in Accordance with Directive 67/548/EEC.

Safety data sheet was developed using EC 1907/2006 amended as of 20 May 2010 EU No 453/2010, 2015/830 and information as stated under regulation EC No 1272/2008 CLP Regulation.

GHS = Global Harmonized System

CLP= Classification, labeling and packaging

Product does not contain any substances ozone depleting substances and therefore not subject to EC 2037/2000.

**15.2 Chemical safety assessment:** None performed for mixture.

## SECTION 16. OTHER INFORMATION

<b>HMIS Hazard Rating:</b>	<b>Health:</b>	2
	<b>Fire:</b>	1
	<b>Reactivity:</b>	0

**Revised Date:** 8 MAY 2019

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**Approved by:** Nancy Swarts, Indium Corporation of America

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