



## SAFETY DATA SHEET

### 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Identifier:** NF220 No Flow Underfill

**SDS Number:** SDS-UF005

**Revised Date:** 29 OCTOBER 2018

**Product Use:** Industrial Use-No-Flow Underfill Adhesive

#### MANUFACTURER:

##### In America:

The Indium Corporation of America®.

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Information: (315) 853-4900

[nswarts@indium.com](mailto:nswarts@indium.com)

##### In Europe:

The Indium Corporation of America® (European Operations)

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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: Emergency 86+ 4008417580**

#### 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

<http://www.indium.com>

## 2. HAZARDS IDENTIFICATION

### PRIMARY ROUTES OF ENTRY: Carcinogen listed in

⊕Eye    ⊕Inhalation    ⊕Skin    ⊕Ingestion    NTP    IARC    OSHA    ⊕Not Listed

GHS:



Signal Word: Warning

#### Hazard statement(s)

H303            May be harmful if swallowed  
 H315            Causes skin irritation  
 H317            May cause an allergic skin reaction  
 H318            Causes serious eye damage  
 H334            May cause allergy or asthma symptoms or breathing difficulties if inhaled

#### 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 +P312    IF SWALLOWED: Call POISON CENTER or doctor/physician if you feel unwell  
 P302 +P352    IF ON SKIN: Wash with plenty of soap and water  
 P304 + P341    IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing  
 P305 + P351    IF IN EYES: Rinse continuously with water for several minutes (15 mins)

#### Classification:

Skin irritant- Category 2  
 Skin sensitization- Category 1B  
 Respiratory sensitization- Category 1B  
 Eye irritant- Category 2A

### POTENTIAL HEALTH EFFECTS:

- Eye Contact:**    Do not allow material to come in contact with the eyes. Will cause eye injury if not immediately removed.
- Ingestion:**        May be harmful if swallowed. May cause irritation.
- Inhalation:**        Heated vapor concentrations may be harmful if inhaled. May cause irritation if heated, otherwise harmful effects are not expected at ambient temperatures.
- Skin Contact:**     Causes skin irritation. Allergic reactions or dermatitis are possible, especially with repeated or prolonged exposure. May cause skin sensitization. Epoxy systems are known to cause de-fatting and drying of the skin. Heating of epoxy may cause irritation or sensitization.
- Chronic:**            Prolonged or repeated overexposure to mist or vapor generated at high temperatures may result in the inhalation of harmful amounts of material.



**WARNING:** This product can expose you to chemicals including [trace amounts of 1,4 dioxane] which is known to the State of California to cause cancer. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

**Note:** The Indium Corporation does not recommend, manufacture, market or endorse any of it's products for human consumption.

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

| Components                | % wt  | CAS Registry # | PEL<br>mg/m <sup>3</sup> | TLV-TWA<br>mg/m <sup>3</sup> | TLV-STEL<br>mg/m <sup>3</sup> |
|---------------------------|-------|----------------|--------------------------|------------------------------|-------------------------------|
| EPOXY RESINS              | 38-52 | -              | N.E.                     | N.E.                         | N.E.                          |
| HARDENER                  | 31-44 | 19438-60-9     | N.E.                     | N.E.                         | N.E.                          |
| PROPRIETARY INTERMEDIATES | 1-10  | -              | N.E.                     | N.E.                         | N.E.                          |
| NON HAZARDOUS PROPRIETARY | 10-20 | -              | N.E.                     | N.E.                         | N.E.                          |

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:** Not applicable      **Method:** Not applicable
- 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:** Under certain situations, as appropriate, wear a respirator and personal protective equipment (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. Avoid contamination of the environment.

## 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 considered hazardous as they contain product residue.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Engineering Controls:** Local exhaust ventilation is necessary to control airborne levels especially during heating. Avoid breathing fumes. If ventilation is not adequate or if not available respiratory protection is recommended to keep exposures to as low as possible.

**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, such as nitrile should be worn. Protective outer garment, apron and sleeves as appropriate.

**Other:** Eyewash fountain in work area. Avoid the use of contact lens especially during mixing and heating application.

**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

|                          |                             |                             |                 |
|--------------------------|-----------------------------|-----------------------------|-----------------|
| <b>Appearance:</b>       | Epoxy                       | <b>Boiling Point:</b>       | Not established |
| <b>Odor:</b>             | Slight characteristic odor. | <b>Melting Point:</b>       | Not applicable  |
| <b>Specific Gravity:</b> | Not established             | <b>pH:</b>                  | Not applicable  |
| <b>Vapor Pressure:</b>   | Not applicable.             | <b>Solubility in Water:</b> | Not established |
| <b>Vapor Density:</b>    | (air=1) Not applicable.     |                             |                 |

## 10. STABILITY AND REACTIVITY

**General:** Stable.

**Conditions to Avoid:** High temperatures

**Incompatible Materials:** Not established

**Hazardous Decomposition / Combustion:** Not established  
**Hazardous Polymerization:** Information not available

## 11. TOXICOLOGICAL INFORMATION

**Carcinogenicity:** NTP: No  
OSHA: No Product not classified.  
IARC: No

**LD50:** Not established.                      **LC50:** Not established.

**Other:** None known

## 12. ECOLOGICAL INFORMATION

Aquatic Toxicity: Data not established.

## 13. DISPOSAL CONSIDERATION

**Waste Disposal Method:** Dispose of in accordance with all Federal, State and Local environmental regulations.  
Non - hazardous under US EPA.

## 14. TRANSPORT INFORMATION

Transport in accordance with applicable international regulations and requirements. Not regulated under US DOT.  
Not regulated under IATA/IMDG  
UN-None

## 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).

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



**WARNING:** This product can expose you to chemicals including [trace amounts of 1,4 dioxane] which is known to the State of California to cause cancer. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

This product has been classified in accordance with the Mexican guidelines, 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). (GHS)

**In China:**

Decree No. 591: Regulations on the Control over Safety of Hazardous Chemicals

GB 30000.2-29-2013, Rules for classification and labeling of chemicals. (GHS)

GB/T 16483-2008, GB/T 17517-2013

This product has been classified using the Chinese Occupational Limit for Hazardous Agents in the Workplace, GBZ2-2007.

**16. OTHER INFORMATION**

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

**Revised Date:** 29 OCTOBER 2018

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

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

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