SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier: WS 3611
SDS Number: SDS-4587
Revised Date: 18 September 2018

Product Use: Industrial Use (mixture) - Liquid flux

MANUFACTURER:

In America:
The Indium Corporation of America®.
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Information: (315) 853-4900
nswarts@indium.com

In Europe:
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Information: +44 [0] 1908 580400

In Asia:
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Singapore 628908
Information: +65 6268-8678

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Outside USA: +1 (703) 527-3887

In China:
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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:

[Image of icon symbols for Eye, Inhalation, Skin, Ingestion]

Carcinogen listed in

- NTP
- IARC
- OSHA
- Not Listed

GHS

Signal Word: Warning

Hazard statement(s)

- H315 Causes skin irritation
- H319 Causes serious eye irritation
- H335 May cause respiratory irritation

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:

- Skin irritation-Category 2
- Serious eye irritation-Category 2A
- Specific target organ toxicity, single exposure; respiratory tract irritation-Category 3

POTENTIAL HEALTH EFFECTS:

Eye Contact: Moderately to severely 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 cause irritation and damage to the mouth, esophagus and gastrointestinal tract.

Inhalation: Heated vapor concentrations may be harmful if inhaled. Moderately irritating to respiratory tract.

Skin Contact: Causes 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>
</tr>
</thead>
<tbody>
<tr>
<td>POLYGLYCOL ETHER</td>
<td>40-45</td>
<td>9038-95-3</td>
<td>N.E.</td>
<td>N.E.</td>
<td>N.E.</td>
</tr>
<tr>
<td>AMIDES</td>
<td>35-40</td>
<td>67700-97-4</td>
<td>N.E.</td>
<td>N.E.</td>
<td>N.E.</td>
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<tr>
<td>PROPRIETARY</td>
<td>15-25</td>
<td>-</td>
<td>N.E.</td>
<td>N.E.</td>
<td>N.E.</td>
</tr>
<tr>
<td>ADDITIVES</td>
<td></td>
<td></td>
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</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: >100°C (212°F)  Method: Not available

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: Wearing a respirator may be necessary 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.

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: Exhaust ventilation is necessary to control airborne levels and to keep exposures
   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 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: Flux - yellowish
   Odor: Mild characteristic odor.
   Specific Gravity: Not established
   Vapor Pressure: Not applicable.
   Vapor Density: (air=1) Not applicable.
   Boiling Point: Not established
   Melting Point: Not applicable
   pH: Not applicable
   Solubility in Water: Water wash

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.

Product mixture not tested.

## 12. ECOLOGICAL INFORMATION

Product not tested.

## 13. DISPOSAL CONSIDERATION

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

## 14. TRANSPORT INFORMATION

Transport in accordance with applicable international regulations and requirements. Not regulated under the USDOT. Non hazardous material.

Non hazardous under all shipping modes.

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.).

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

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.

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

For compliance with EU Directive 2011/65/EU, Restriction of Hazardous Substances (RoHS).
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.
All ingredients are listed on the China Chemical Inventory.

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

16. OTHER INFORMATION

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

Revised Date: 18 September 2018
Prepared by: Nancy Swarts, Indium Corporation of America
Approved by: Nancy Swarts, Indium Corporation of America

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