SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier: 1075-EXR44 LIQUID FLUX
SDS Number: SDS-4031 Revised Date: 20 MARCH 2018
Product Use: Industrial Use - Wave Solder Flux

MANUFACTURER:

In America:
The Indium Corporation of America®
34 Robinson Rd., Clinton, NY 13323
Information: (315) 853-4900
nswarts@indium.com

In Europe:
The Indium Corporation of America® (European Operations)
7 Newmarket Ct
Kingston, Milton Keynes, UK, MK 10 OAG
Information: +44 [0] 1908 580400

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

EMERGENCY PHONE:
CHEMTREC 24 hrs.
USA: 1 (800) 424-9300
Outside USA: +1 (703) 527-3887

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:  Carcinogen listed in
⊗Eye  ⊗Inhalation  ⊗Skin  ⊗Ingestion  NTP  IARC  OSHA  ⊗Not Listed

GHS

Signal Word: Warning

Hazard Statement(s)
H319 Causes serious eye 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:
Serious eye irritation- Category 2A

POTENTIAL HEALTH EFFECTS:

Eye Contact: Vapors may be irritating, liquid causes serious eye irritation. May cause burns.

Ingestion: May result in gastric disturbances.

Inhalation: May cause throat irritation.

Skin Contact: May cause irritation or burns.

Chronic: Not established.

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

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
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-STE L mg/m³</th>
</tr>
</thead>
<tbody>
<tr>
<td>WATER</td>
<td>85-95</td>
<td>7732-18-5</td>
<td>N.E.</td>
<td>N.E.</td>
<td>N.E.</td>
</tr>
<tr>
<td>PROPRIETARY (NON-HAZ)</td>
<td>4</td>
<td>-</td>
<td>N.E.</td>
<td>N.E.</td>
<td>N.E.</td>
</tr>
<tr>
<td>CARBOXYLIX ACID</td>
<td>4</td>
<td>68603-87-2</td>
<td>N.E</td>
<td>N.E.</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:** None  
**Method:** Not applicable.

**Auto-ignition Temperature:** None

**Flammable Limits:** Limits not established.

**Extinguishing Media:** Use extinguishers appropriate for the surrounding fire conditions.

**Special Fire Fighting Procedures:** None

6. ACCIDENTAL RELEASE MEASURES

**Spill or Leak Procedures:** Do not allow chemical material to enter sewer system or waterway unless authorized to do so. 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. Wear personal protective equipment.

**Storage Precautions:** Store product in tightly capped original containers in a cool, dry area. Refer to product label for specific storage temperature requirements. Rotate stock to ensure use before expiration date on the label.
8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls: Face velocity >2.1 cubic feet/minute in confined areas. Ventilation should be available and used especially during heating.

Personal protection:

Eyes: Chemical safety glasses/goggles/face shield.

Respirator: An authority approved or compliant marked air-purifying respirator with a fume/organic chemical cartridge is recommended where airborne concentrations are expected to be elevated or if used in an area that does not contain adequate ventilation.

Skin: Compatible chemical resistant gloves. Recommend long sleeves if splash hazard.

Other: Lab coat, eye-wash fountain in work area. Avoid the use of contact lenses in high fume areas.

Work/Hygienic Practices: Maintain good housekeeping. Clean up spills immediately.

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Liquid, clear</td>
</tr>
<tr>
<td>Odor</td>
<td>Mild characteristic odor.</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>1.021 @ 60°F</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>&lt;1</td>
</tr>
<tr>
<td>% Volatiles by volume</td>
<td>100%</td>
</tr>
<tr>
<td>pH</td>
<td>2.8 (as is) 3.5 (1% solution)</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>23.7 mm HG @ 25°C</td>
</tr>
<tr>
<td>Solubility in Water</td>
<td>Soluble</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>(air=1) Not determined.</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

General: Stable.

Conditions to Avoid: Direct heat, open flames and storage in aluminum.

Incompatible Materials: Strong alkali.

Hazardous Decomposition / Combustion: Carbon dioxide/carbon monoxide.

Hazardous Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

Carcinogenicity: NTP: No OSHA: No IARC: No

LD50: Not established. LC50: Not established.

Product mix 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. In Europe follow the Special Waste Regulations.

14. TRANSPORT INFORMATION

Transport in accordance with applicable regulations and requirements. Not regulated under US DOT (United States Department of Transportation). Non-hazardous under shipping regulations.

- UN – none
- Marine Pollutant- No

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] which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov

SARA 313 Listing - 40 CFR 372.65: 1,4 dioxane <0.05%

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: May not be classified.

Ingredients are listed on the Canadian Domestic Substance List.

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 the Mexican regulations: NOM-010-STPS-2015 and NOM-018-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
### 16. OTHER INFORMATION

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

- **Revised Date:** 20 MARCH 2018
- **Prepared by:** Nancy Swarts, Indium Corporation of America
- **Approved by:** Nancy Swarts, Indium Corporation of America

The information and recommendations contained herein are, to the best of The Indium Corporation of America's knowledge and belief, accurate and reliable as of the date issued. The Indium Corporation of America does not warrant or guarantee their accuracy or reliability, and The Indium Corporation of America shall not be liable for any loss or damage arising out of the user thereof. The information and recommendations are offered for the user's consideration and examination, and it is the user's responsibility to satisfy itself that they are suitable and complete for its particular use. If buyer repackages this product, legal counsel should be consulted to insure proper health, safety and other necessary information is included on the container.