SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier: WF-1098 FLUX
SDS Number: SDS-7000
Product Use: Industrial use – Wave Solder Flux (liquid flux)
Revised Date: 20 APRIL 2018

MANUFACTURER:

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

Chicago Materials Division
80 Scott St.
Elk Grove Village, Illinois  60004
Information: (847) 439-9135

In Europe:
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:
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USA: 1 (800) 424-9300
Outside USA: +1 (703) 527-3887

In China:
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No. 428 Xinglong Street
Suzhou Industrial Park
Suchun Industrial Square
Unit No. 14-C
Jiangsu Province, China  215126
Information: (86) 512-6283-4900
2. HAZARDS IDENTIFICATION

PRIMARY ROUTES OF ENTRY:

- Eye
- Inhalation
- Skin
- Ingestion

Carcinogen listed in

- NTP
- IARC
- OSHA
- Not Listed

GHS:

Signal Word: Danger

Hazard statement(s)

H225  Highly flammable liquid and vapor
H319  Causes serious eye irritation
H335  May cause respiratory irritation
H336  May cause drowsiness or dizziness

Precautionary statement(s)

P210  Keep away from heat/sparks/open flames/hot surfaces – No smoking
P233  Keep container tightly closed
P240  Ground/Bond container and receiving equipment
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
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 – isopropyl alcohol

- Serious eye damage/eye irritant – Category 2
- Flammable liquids - Category 2
- Specific target organ systemic toxicity (single exposure) – Category 3

POTENTIAL HEALTH EFFECTS:

**Eye Contact:** Vapors may be irritating, liquid may cause irritation or damage eye tissue.

**Ingestion:** May cause irritation.

**Inhalation:** May cause throat irritation, headache and nausea.

**Skin Contact:** May cause irritation.

**Chronic:** Not established.
NOTE: The Indium Corporation does not recommend, manufacture, market or endorse any of it's 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-STEPII mg/m³</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISOPROPANOL</td>
<td>60-80</td>
<td>67-63-0 (US)</td>
<td>980</td>
<td>983</td>
<td>1230</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(EU) N.E.</td>
<td>999</td>
<td>1250</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>(Canada) N.E.</td>
<td>983</td>
<td>1228</td>
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<tr>
<td></td>
<td></td>
<td>(Mexico) N.E.</td>
<td>980</td>
<td>1225</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>(Singapore)</td>
<td>-</td>
<td>1230</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(China) -</td>
<td>350</td>
<td>700</td>
<td></td>
</tr>
<tr>
<td>PROPRIETARY ACTIVATORS</td>
<td>1-16</td>
<td>-</td>
<td>N.E.</td>
<td>N.E.</td>
<td>N.E.</td>
</tr>
<tr>
<td>WATER</td>
<td>1-25</td>
<td>7732-18-5</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:** 54 F(12C)  
**Method:** Closed Cup  
**Auto-ignition Temperature:** None  
**Flammable Limits:** Upper: 12  Lower: 2  
**Extinguishing Media:** Use extinguishers appropriate for the surrounding fire conditions (water/dry chemical).  
**Special Fire Fighting Procedures:** Wear standard fire fighting equipment.
6. ACCIDENTAL RELEASE MEASURES

Spill or Leak Procedures: Do not allow chemical material to enter sewer system or waterway. Eliminate sources of ignition. Contain spill and absorb if possible. Wear personal protective equipment. 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. Wear personal protective equipment. Ground containers. Keep away from sources of ignition.

Storage Precautions: Store product in tightly capped original containers in a cool, dry and ventilated area. Refer to product label for specific storage temperature requirements. Rotate stock to ensure use before expiration date on the label. Store away from sources of ignition.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls: Face velocity >2.1 cubic feet/minute in confined areas. Ventilation should be sufficient to reduce exposure to below exposure levels.

Personal protection:

Eyes: Chemical safety glasses/splash goggles/face shield.

Respirator: A NIOSH approved or EU compliant CE marked air-purifying respirator with a fume/organic chemical cartridge is recommended where airborne concentrations are expected to be elevated.

Skin: Compatible chemical resistant gloves for isopropanol.

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

Work/Hygienic Practices: Maintain good housekeeping. Clean up spills immediately. Good personal hygiene is essential. 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

<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>Alcoholic odor.</td>
</tr>
<tr>
<td>Specific Gravity:</td>
<td>0.889 g/cc</td>
</tr>
<tr>
<td>Vapor Pressure:</td>
<td>Not established</td>
</tr>
<tr>
<td>Vapor Density:</td>
<td>Not established</td>
</tr>
<tr>
<td>Boiling Point:</td>
<td>Not established</td>
</tr>
<tr>
<td>Melting Point:</td>
<td>Not applicable</td>
</tr>
<tr>
<td>pH:</td>
<td>6.83</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, halogens, phosphorus, monomers, aldehydes & trichlorides

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.

RTECS: Isopropyl alcohol NT8050000

12. ECOLOGICAL INFORMATION

Isopropyl alcohol – 4396 mg/kg (rat) LD50 oral/ 12800 mg/kg (rat) LD50 dermal/ 72.6 mg/l (rat) 4h LC50 inhalation

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. Product is flammable and generally is disposed of as hazardous waste.

14. TRANSPORT INFORMATION

Transport in accordance with applicable international regulations and requirements.

Shipping Name: UN1219, Isopropanol, 3, PG II


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.).

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

This product has been classified in accordance with the hazard criteria of the Mexican Standards NOM-018-STPS-2015 and NOM-010-STPS-2014.

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulation (CPR).
Canadian WHMIS: Class B Division 2 Flammable, D2B Toxic Material Causing Other Toxic Effects (eye irritation in animals).

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 using the Chinese Occupational Exposure Limit for Hazardous Agents in the Workplace, GBZ2-2007.

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

<table>
<thead>
<tr>
<th>HMIS Hazard Rating:</th>
<th>Health: 2</th>
<th>Fire: 3</th>
<th>Reactivity: 0</th>
</tr>
</thead>
</table>

Revised Date: 20 APRIL 2018
Prepared by: Nancy Swarts, Indium Corporation of America
Approved by: Nancy Swarts, Indium Corporation of America

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