SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier: 3541 FLUX
SDS Number: SDS-HG014
Product Use: Industrial Use - No Clean Wave Solder Flux

MANUFACTURER:

In America:
The Indium Corporation of America®.
34 Robinson Rd., Clinton, New York 13323
Information: (315) 853-4900
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:
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: Danger
Hazard statement(s):
H225  Highly flammable liquid and vapor
H317  May cause an allergic skin reaction
H319  Causes serious eye irritation
H334  May cause allergy or asthma symptoms or breathing difficulties if inhaled
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
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:
Flammable Liquid – Category 2
Eye irritation – Category 2A
Specific target organ toxicity- single exposure – Category 3- central nervous system
Skin sensitizer- Category 1B
Respiratory sensitizer- Category 1B

POTENTIAL HEALTH EFFECTS:

Eye Contact:  Vapors may be irritating, liquid may damage eye tissue.
Ingestion:  May cause persistent nausea, vomiting and abdominal pain. May be harmful if swallowed. Contains a chemical classified as an aspiration hazard.
Inhalation:  Vapor may cause headaches and or dizziness. Rosin may cause occupational asthma. May be harmful if inhaled.
Skin Contact:  Prolonged contact may cause irritation and dermatitis.
Chronic:  Not established.
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

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>CAS Registry #</th>
<th>EINECS</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISOPROPANOL</td>
<td>75-85</td>
<td>67-63-0/200-661-7</td>
</tr>
<tr>
<td>(US)</td>
<td>980</td>
<td>983</td>
</tr>
<tr>
<td>(EU)</td>
<td>-</td>
<td>999</td>
</tr>
<tr>
<td>(Canada)</td>
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<td>983</td>
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<tr>
<td>(Singapore)</td>
<td>983</td>
<td>-</td>
</tr>
<tr>
<td>(Mexico)</td>
<td>-</td>
<td>980</td>
</tr>
<tr>
<td>(China)</td>
<td>-</td>
<td>350</td>
</tr>
<tr>
<td>PROPRIETARY</td>
<td>2-14</td>
<td>-</td>
</tr>
<tr>
<td>PETROLEUM DISTILLATES</td>
<td>10</td>
<td>64742-47-8/265-149-8</td>
</tr>
<tr>
<td>ROSIN</td>
<td>1.0-3.0</td>
<td>8050-09-7 (US)</td>
</tr>
<tr>
<td>(EU)</td>
<td>0.05</td>
<td>N.E.</td>
</tr>
</tbody>
</table>

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

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
**6. ACCIDENTAL RELEASE MEASURES**

Spill or Leak Procedures: Do not allow chemical product to enter sewer system or waterway. Wear personal protective equipment. Eliminate sources of ignition. Ventilate area in accordance with regulations. 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. Properly ground containers to prevent static charge when pouring.

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. Exhaust ventilation 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 where airborne concentrations are expected to be elevated.

**Skin:** Compatible chemical resistant gloves. Use gloves such as nitrile, which are compatible with alcohols.

**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. 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, Light Yellow</td>
</tr>
<tr>
<td>Odor</td>
<td>Alcohol odor.</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>79°C (175°F)</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>1.7</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>0.806 @ 60°F</td>
</tr>
<tr>
<td>pH</td>
<td>Not available</td>
</tr>
<tr>
<td>Solubility in Water</td>
<td>Soluble</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>33 mm HG @ 68°F</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>2.1 (air=1)</td>
</tr>
<tr>
<td>% Volatiles by volume</td>
<td>90</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

<table>
<thead>
<tr>
<th>Condition</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>General</td>
<td>Stable</td>
</tr>
<tr>
<td>Conditions to Avoid</td>
<td>Direct heat, open flames and storage in aluminum.</td>
</tr>
<tr>
<td>Incompatible Materials</td>
<td>Anhydrides, halogens, phosphorus, trichlorides, monomers, aldehydes</td>
</tr>
<tr>
<td>Hazardous Decomposition</td>
<td>Carbon dioxide/carbon monoxide.</td>
</tr>
<tr>
<td>Hazardous Polymerization</td>
<td>Will not occur.</td>
</tr>
</tbody>
</table>

11. TOXICOLOGICAL INFORMATION

| Carcinogenicity            | National Toxicity Program NTP: No                  |
|                           | Occupational Safety & Health Administration OSHA: No|
|                           | International Agency for Research on Cancer IARC: No|
| LD50                      | Not established.                                   |
| LC50                      | Not established.                                   |

12. ECOLOGICAL INFORMATION

Product not tested.
Contains a substance that is harmful to the aquatic environment

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. Flammable materials are generally classified as hazardous waste for disposal. |

14. TRANSPORT INFORMATION

Transport in accordance with applicable international regulations and requirements.
UN 1987, Alcohols, N.O.S., 3, PG II (isopropanol, petroleum distillates)
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.).

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 in accordance with the Mexican regulations: NOM – 018-STPS-2015 and NOM-010-STPS-2014.

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).

Regulatory Information China:
GB/T 16483-2008, GB/T 17519-2013, Safety Data Sheets for Chemical Products
GB 30000.2-29-2013, Rules for classification and labeling of chemicals (GHS)
Decree No. 591: Regulations on the Control Over Safety of Hazardous Chemicals.
This product has been classified using the Chinese Occupational Limit for Hazardous Agents in the Workplace, GBZ2-2007

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: (trace 1,4 dioxane)

All ingredients are listed on the EPA TSCA Inventory.
16. OTHER INFORMATION

HMIS Hazard Rating:  
- Health: 1  
- Fire: 3  
- Reactivity: 0

Revised Date: 12 SEPTEMBER 2018
Prepared by: Nancy Swarts, The Indium Corporation of America
Approved by: Nancy Swarts, The Indium Corporation of America

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