# 1. PRODUCT AND COMPANY IDENTIFICATION

<table>
<thead>
<tr>
<th>Product Identifier</th>
<th>FP2212 FLUX</th>
</tr>
</thead>
<tbody>
<tr>
<td>SDS Number</td>
<td>SDS-5817</td>
</tr>
<tr>
<td>Product Use</td>
<td>Industrial Use - Rosin Flux</td>
</tr>
</tbody>
</table>

**Revised Date:** 8 OCTOBER 2013

**MANUFACTURER:**

**In America:**
The Indium Corporation of America  
1676 Lincoln Ave., Utica NY 13502  
Information: (315) 853-4900  
nswarts@indium.com

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Kingston, Milton Keynes, UK, MK 10 OAG  
Information: +44 [0] 1908 580400

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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
2. HAZARDS IDENTIFICATION

PRIMARY ROUTES OF ENTRY: Carcinogen listed in

- Eye
- Inhalation
- Skin
- Ingestion

NTP  IARC  OSHA  Not Listed

GHS:

Signal Word: Danger

Hazard Statements:

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
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  Take off contaminated clothing and wash before reuse
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 minutes)

POTENTIAL HEALTH EFFECTS:

Eye Contact:  Vapors may be irritating, liquid may irritate eye tissue.
Ingestion:  May result in gastric disturbances such as nausea and vomiting. Irritating to digestive tract.
Inhalation:  May cause throat irritation, headache or dizziness. Irritating to respiratory tract. Rosin may cause occupational asthma.
Skin Contact:  Prolonged contact may cause irritation or dermatitis. Rosin may cause skin sensitization.
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 #/EINECS#</th>
<th>PEL mg/m³</th>
<th>TLV-TWA mg/m³</th>
<th>TLV-STEL mg/m³</th>
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</thead>
<tbody>
<tr>
<td>ISOPROPYL ALCOHOL</td>
<td>60-65</td>
<td>67-63-0/200-661-7 (US)</td>
<td>980</td>
<td>983</td>
<td>1230</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1250</td>
</tr>
<tr>
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<td></td>
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<td></td>
<td></td>
<td>1228</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>983</td>
<td></td>
<td>1230</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1225</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>700</td>
</tr>
<tr>
<td>ROSIN</td>
<td>20-25</td>
<td>8050-09-7</td>
<td>N.E</td>
<td>N.E</td>
<td>N.E</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.15</td>
</tr>
<tr>
<td>ISOBUTYL ALCOHOL</td>
<td>10-15</td>
<td>78-83-1/201-148-0</td>
<td>300</td>
<td>152</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>227</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>225</td>
</tr>
</tbody>
</table>

Symbol: XI, F
Risk Phrases: R36/37/38, R11, R42/43, R67
N.E. = Not established

PRODUCT DOES NOT CONTAIN ANY EU REACH SVHC (Substances of Very High Concern)

4. FIRST AID MEASURES

**Eye Contact:** Hold eyelids apart and flush eyes with plenty of 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: 61F  
Method: TCC  
Auto-ignition Temperature: 750 F  
Flammable Limits: Upper limit 12 @ 77F. Lower limit 2 @ 77 F.  
Extinguishing Media: Use extinguishers appropriate for the surrounding fire conditions.  
Special Fire Fighting Procedures: Standard fire fighting equipment. Water spray/CO2

6. ACCIDENTAL RELEASE MEASURES

Spill or Leak Procedures: Do not allow material to enter sewer system or waterway. Wear personal protective equipment, such as gloves and depending on the quantity a respirator with organic cartridges may be required. Clean up by absorption. Eliminate sources of ignition. Keep unnecessary personnel away. Put clean-up materials in a properly labeled metal drum. 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. Ground containers from static charge.

Storage Precautions: Store product in tightly capped original containers in a cool, dry area away from sources of ignition. 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 is recommended to keep exposure limits as low as possible.

Personal protection:

Eyes: Chemical safety glasses/goggles. Face shield for splash hazards.

Respirator: An approved or compliant 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 such as nitrile.

Other: Lab coat, eyewash 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>Amber</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>177°F</td>
</tr>
<tr>
<td>Odor</td>
<td>Alcoholic</td>
</tr>
<tr>
<td>Melting Point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>0.865</td>
</tr>
<tr>
<td>pH</td>
<td>Not available</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>33 mm HG @68°C</td>
</tr>
<tr>
<td>Solubility in Water</td>
<td>Insoluble</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>2.1</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>1.7</td>
</tr>
<tr>
<td>Volatile by Volume</td>
<td>75%</td>
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10. STABILITY AND REACTIVITY

<table>
<thead>
<tr>
<th>Condition</th>
<th>Description</th>
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<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>phosphorus, halogens, anhydrides, monomers, aldehydes, trichlorides</td>
</tr>
<tr>
<td>Hazardous Decomposition /</td>
<td>Carbon dioxide/carbon monoxide.</td>
</tr>
<tr>
<td>Combustion</td>
<td></td>
</tr>
<tr>
<td>Hazardous Polymerization</td>
<td>Will not occur.</td>
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11. TOXICOLOGICAL INFORMATION

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
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<tbody>
<tr>
<td>Carcinogenicity</td>
<td>NTP: No</td>
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<tr>
<td></td>
<td>OSHA: No</td>
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<tr>
<td></td>
<td>IARC: No</td>
</tr>
<tr>
<td>LD50</td>
<td>Not established.</td>
</tr>
<tr>
<td>LC50</td>
<td>Not established.</td>
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</table>

Oral LD50 (isopropyl alcohol)
LD50 Oral- rat - 5,045 mg/kg
Inhalation LC50 (isopropyl alcohol)
LC50 inhalation-rat-8h-16000 ppm
Dermal LD50
LD50 – Dermal- rabbit-12,800 mg/kg

RTECS: Isopropyl alcohol NT8050000

12. ECOLOGICAL INFORMATION

Product not tested.

13. DISPOSAL CONSIDERATION

<table>
<thead>
<tr>
<th>Waste Disposal Method</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Dispose of in accordance with all Federal, State and Local environmental regulations. In Europe follow the Special Waste Regulations.</td>
</tr>
</tbody>
</table>
14. TRANSPORT INFORMATION

Transport in accordance with applicable regulations and requirements.
Shipping: UN 1987, Alcohols, N.O.S., 3, PG II (isopropanol, isobutyl alcohol)
Marine Pollutant: No

Shipping small quantities: Ground ONLY

40 CFR 173.150 - Exceptions for Class 3 (Flammable Liquids). Limited quantities of flammable liquids, Class 3, are excepted from labeling requirements for ground shipment only. For Packing Group II, inner packaging not over 5.0L (1.3 gallons) net capacity each, packed in a strong outer packaging.

40 CFR 172.203 – Limited quantities- when a shipping paper is required the description for a material offered for transportation as “limited quantity” must include the words “Limited Quantity” following the basic description.

Shipping: UN 1219, Isopropanol, 3, PG II (Limited Quantity) (mixture)

Review 40 CFR for clarification and further information.

Shipping via aircraft requires compliance with the regulations and not under exceptions.

15. REGULATORY INFORMATION

The information in this Material 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).

WHMIS: Class B Flammable Division 2 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 Mexican regulations NOM-0180STPS-2000 and NOM-010-STPS-1999.

This product has been classified using the Chinese Occupational Exposure Limit for Hazardous Agents in the Workplace, GBZ2-2002.
SARA 313 Listing - 40 CFR 372.65: None

All ingredients are listed on the EPA TSCA Inventory.

EC Classification, Packaging and Labeling Requirements:

Symbol and Hazard Classification of Product

XI, F

Risk Phrases:
R36/37/38 Irritating to eyes, respiratory system and skin
R42/43 May cause sensitization by inhalation and skin
R41 Risk of serious damage to eyes
R11 Highly Flammable
R67 Vapors may cause drowsiness and dizziness

Safety Phrases:
S16 Keep away from sources of ignition - “No Smoking”
S20/21 When using do not eat, drink or smoke
S23 Do not breathe fumes
S24/25 Avoid contact with skin and eyes
S27 Take off immediately all contaminated clothing
S28 After contact with skin wash immediately with plenty of soap and water
S36/37/39 Wear suitable protective clothing, gloves and eye/face protection
S62 If swallowed, do not induce vomiting seek medical advice immediately and show container or label
S7 Keep container tightly closed

Industrial Use Only

16. OTHER INFORMATION

HMIS Hazard Rating:

<table>
<thead>
<tr>
<th></th>
<th>Health:</th>
<th>Fire:</th>
<th>Reactivity:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health</td>
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</tr>
<tr>
<td>Fire</td>
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<td></td>
</tr>
<tr>
<td>Reactivity</td>
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Revised Date: 8 OCTOBER 2013
Prepared by: Nancy Swarts, Indium Corporation of America
Approved by: Nancy Swarts, Indium Corporation of America

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