1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier: INDIUM #2212-15 ROSIN FLUX  
MSDS Number: MSDS-4532  
Revised Date: 1 APRIL 2010  
Product Use: INDUSTRIAL USE - FLUX

MANUFACTURER:

In America:  
The Indium Corporation of America  
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nswarts@indium.com

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Information: +44 [0] 1908 580400

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Suchun Industrial Square  
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Asia-Pacific Operations-Singapore  
29 Kian Teck Avenue  
Singapore 628908  
Information: +65 6268-8678

2. HAZARDS IDENTIFICATION

PRIMARY ROUTES OF ENTRY:  
⊗ Eye  ⊗ Inhalation  ⊗ Skin  ⊗ Ingestion  
Carcinogen listed in  
NTP  IARC  OSHA  ⊗ Not Listed

GHS:
POTENTIAL HEALTH EFFECTS:

Eye Contact: Vapors may be irritating, liquid may damage eye tissue.

Ingestion: May cause irritation. May be harmful.

Inhalation: Vapor may cause headaches and or dizziness. Rosin may cause occupational asthma. May be harmful.

Skin Contact: Prolonged contact may cause irritation and dermatitis.

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>
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<td>67-63-0 (US)</td>
<td>980</td>
<td>983</td>
<td>1225</td>
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<tr>
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<td>(EU)</td>
<td>-</td>
<td>999</td>
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<td></td>
<td></td>
<td>(Canada)</td>
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<td>983</td>
<td>1228</td>
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<td></td>
<td>(Singapore)</td>
<td>983</td>
<td>-</td>
<td>1230</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(China)</td>
<td>-</td>
<td>350</td>
<td>700</td>
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<tr>
<td>ISOBUTYL ALCOHOL</td>
<td>6-7</td>
<td>78-83-1(US)</td>
<td>300</td>
<td>152</td>
<td>-</td>
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<tr>
<td>(2-Methylpropan-1-ol)</td>
<td></td>
<td>(EU)</td>
<td>-</td>
<td>154</td>
<td>231</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Canada)</td>
<td>-</td>
<td>152</td>
<td>227</td>
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<tr>
<td></td>
<td></td>
<td>(Mexico)</td>
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<td>225</td>
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<td>ROSIN</td>
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<td>65997-05-9</td>
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<tr>
<td>(EU)</td>
<td></td>
<td>0.05</td>
<td>-</td>
<td>0.15(sensitizer)</td>
<td></td>
</tr>
<tr>
<td>PROPRIETARY ACTIVATORS</td>
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<td>N.E.</td>
<td>N.E.</td>
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<td>N.E.</td>
</tr>
</tbody>
</table>

Symbol: XI, F  
Risk Phrases: R20/21/22, R36/37/38, R11, R42/43  
N.E. = Not established
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:** 61°F  
**Method:** Closed Cup

**Auto-ignition Temperature:** N/A

**Flammable Limits:** Lower 1.7 and Upper 10.7

**Extinguishing Media:** Dry chemical, Water or CO₂. Use extinguishers appropriate for the surrounding fire conditions.

**Special Fire Fighting Procedures:** Wear protective clothing and self-contained breathing apparatus. Use water to cool fire exposed containers. Flammable vapors may travel great distances to ignition source and flash back.

6. ACCIDENTAL RELEASE MEASURES

**Spill or Leak Procedures:** DO NOT allow material to enter sewer system or waterway. Wear personal protective equipment. Eliminate sources of ignition. All containers should be grounded. 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**

Keep containers tightly closed when not in use. Use care to avoid spills. Wear personal protective equipment.

**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. Recommend personal protective equipment, if ventilation equipment is not available or is not adequate.

**Personal protection:**

**Eyes:** Chemical safety glasses/goggles. Faceshield for splash hazard.

**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.

**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/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.

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### 9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Amber</td>
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<tr>
<td>Boiling Point</td>
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</tr>
<tr>
<td>Odor</td>
<td>Alcohol odor.</td>
</tr>
<tr>
<td>Evaporation Rate</td>
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<tr>
<td>Specific Gravity</td>
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</tr>
<tr>
<td>pH</td>
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</tr>
<tr>
<td>Vapor Pressure</td>
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</tr>
<tr>
<td>Solubility in Water</td>
<td>Not Soluble</td>
</tr>
<tr>
<td>Vapor Density</td>
<td>Not available</td>
</tr>
</tbody>
</table>

### 10. STABILITY AND REACTIVITY

**General:** Stable.

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

**Incompatible Materials:** Anhydrides, halogens, phosphorus, trichlorides, monomers, aldehydes

**Hazardous Decomposition / Combustion:** Carbon dioxide/carbon monoxide/ unidentified organics during combustion.

**Hazardous Polymerization:** Will not occur.

### 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

This section is subject to future development.

**Biodegradability:** Data not established.

**Aquatic Toxicity:** Data not established.
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.

Alcohols, N.O.S., 3, UN 1987, PGII (isopropanol, isobutyl alcohol)


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.).

The information in this Material Safety Data Sheet meets the requirements of the EU under Chemicals (Hazard Information and Packaging for Supply) Regulations 1994 (CHIP 2) Regulation 6.

This product has been classified in accordance with the hazard criteria of the Commission Directive 91/155/EEC and EH40.

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 Mexican regulations: NOM-018-STPS-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:

R20/21/22 Harmful by inhalation, in contact with skin and if swallowed
R36/37/38 Irritating to eyes, respiratory system and skin
R 11 Highly Flammable
R67 Vapors may cause drowsiness and dizziness
R42/43 May cause sensitization by inhalation and skin contact

**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
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

**16. OTHER INFORMATION**

**HMIS Hazard Rating:**
- Health: 2
- Fire: 3
- Reactivity: 0

**Revised Date:** 1 APRIL 2010

**Prepared by:** Nancy Swarts, Indium Corporation of America

**Approved by:** Nancy Swarts, Indium Corporation of America

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