SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier: 2208-1 ROSIN FLUX
SDS Number: SDS-4148
Product Use: INDUSTRIAL USE (MIXTURE) - FLUX
Revised Date: 7 NOVEMBER 2018

MANUFACTURER:

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

The Indium Corporation of America®.
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Elk Grove Village, Illinois 60007
(847) 439-9135

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Information: +44 [0] 1908 580400

In Asia:
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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: Emergency 86+ 4008417580

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:**

<table>
<thead>
<tr>
<th>Eye</th>
<th>Inhalation</th>
<th>Skin</th>
<th>Ingestion</th>
<th>NTP</th>
<th>IARC</th>
<th>OSHA</th>
<th>Not Listed</th>
</tr>
</thead>
<tbody>
<tr>
<td>√</td>
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</tr>
</tbody>
</table>

**Carcinogen listed in**

- 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
- **EUH208**  Contains rosin. May produce an allergic reaction

**Precautionary statement(s):**

- **P210**  Keep away from heat/sparks/open flames/hot surfaces. – No smoking
- **P233**  Keep container tightly closed
- **P240**  Ground container and receiving equipment
- **P242**  Use spark resistant tools
- **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:**

- Isopropyl alcohol:
  - Flammable Liquid - Category 2
  - Serious eye damage/eye irritant - Category 2
  - Specific target organ systemic toxicity (single exposure) – Category 3 Central Nervous system

**POTENTIAL HEALTH EFFECTS:**

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

**Ingestion:** May cause irritation or harm.

**Inhalation:** Vapor may cause headaches, dizziness or irritation. Rosin may cause occupational asthma.

**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-STELE mg/m³</th>
</tr>
</thead>
<tbody>
<tr>
<td>ISOPROPANOL</td>
<td>30-35</td>
<td>67-63-0 (US)</td>
<td>980</td>
<td>983</td>
<td>1225</td>
</tr>
<tr>
<td>(PROPA-N-2-OL)</td>
<td></td>
<td>(EU)</td>
<td>-</td>
<td>999</td>
<td>1250</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Canada)</td>
<td>-</td>
<td>983</td>
<td>1228</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Mexico)</td>
<td>980</td>
<td>-</td>
<td>1225</td>
</tr>
<tr>
<td></td>
<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>
</tr>
<tr>
<td>ISOBUTYL ALCOHOL</td>
<td>20-25</td>
<td>78-83-1(US)</td>
<td>300</td>
<td>152</td>
<td>-</td>
</tr>
<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>
</tr>
<tr>
<td></td>
<td></td>
<td>(Singapore)</td>
<td>152</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Mexico)</td>
<td>-</td>
<td>150</td>
<td>225</td>
</tr>
<tr>
<td>ROSIN</td>
<td>30-35</td>
<td>8050-09-7</td>
<td>N.E.</td>
<td>N.E.</td>
<td>N.E.</td>
</tr>
<tr>
<td>(EU)</td>
<td>0.05</td>
<td>0.15(sensitizer)</td>
<td>N.E.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PROPRIETARY</td>
<td>00-05</td>
<td>N.E.</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:** 61°F (16C)  **Method:** Closed Cup

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

**Flammable Limits:** Lower 1.7 %/Flammable

**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 Precautions: Keep containers tightly closed when not in use. Use care to avoid spills. Wear personal protective equipment. Ground containers when in use. Keep away from flame.

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

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. 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>Amber</td>
</tr>
<tr>
<td>Boiling Point</td>
<td>175°F</td>
</tr>
<tr>
<td>Odor</td>
<td>Alcohol odor.</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>2.5</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>0.832</td>
</tr>
<tr>
<td>pH</td>
<td>Neutral</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>33 mm HG @68 F</td>
</tr>
<tr>
<td>Solubility in Water</td>
<td>Not Soluble</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

General: Stable.

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

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

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

12. ECOLOGICAL INFORMATION
- Product mixture no tested.
  LC50-Pimephales promelas (fathead minnow)- 9,640 mg/l – 96h (isopropyl alcohol)
  EC50-Daphnia magna (water flea) – 5,102 mg/l – 24h (isopropyl alcohol)

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 international regulations and requirements.
- UN 1987, Alcohols, N.O.S., 3, PG II (isopropanol, isobutyl alcohol)

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.).

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).

In China:
This product has been classified using the Chinese Occupational Limit for Hazardous Agents in the Workplace, GBZ2-2007. 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

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).

This product has been classified in accordance with the Mexican guidelines, NOM-018-STPS-2015 and NOM-010-STPS-2014

This product has been classified in accordance with the guidelines set by the Dept. of Industrial Health of the Republic of Singapore.

This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

SARA 313 Listing - 40 CFR 372.65: None

All ingredients are listed on the EPA TSCA Inventory.

16. OTHER INFORMATION

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

Revised Date: 7 NOVEMBER 2018

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

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