SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier: 784 ROSIN FLUX
SDS Number: SDS-4146  Revised Date: 16 JULY 2018
Product Use: INDUSTRIAL USE (MIXTURE) - FLUX

MANUFACTURER:

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

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Kingston, Milton Keynes, UK, MK 10 OAG
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Asia-Pacific Operations-Singapore
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Singapore 628908
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In China:
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No. 428 Xinglong Street
Suzhou Industrial Park
Suchun Industrial Square
Unit No. 14-C
Jiangsu Province, China 215126
2. HAZARDS IDENTIFICATION

PRIMARY ROUTES OF ENTRY:

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
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:

Flammable Liquid - Category 2
Serious 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-STEL mg/m³</th>
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<tr>
<td>ISOPROPNAL (PROPA-2-OL)</td>
<td>55-65</td>
<td>67-63-0 (US)</td>
<td>980</td>
<td>983</td>
<td>1225</td>
</tr>
<tr>
<td></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>
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<td></td>
<td></td>
<td>(Mexico)</td>
<td>980</td>
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<td>1225</td>
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<td>983</td>
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<td>1230</td>
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<td></td>
<td></td>
<td>(China)</td>
<td>-</td>
<td>350</td>
<td>700</td>
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<tr>
<td>GLYCOL ETHER</td>
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<td>112-34-5</td>
<td>N.E.</td>
<td>N.E.</td>
<td>N.E.</td>
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<tr>
<td>ISOBUTYL ALCOHOL</td>
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<td>78-83-1 (US)</td>
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<td>-</td>
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<tr>
<td>(2-Methylpropan-1-ol)</td>
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<td>(EU)</td>
<td>-</td>
<td>154</td>
<td>231</td>
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<tr>
<td></td>
<td></td>
<td>(Canada)</td>
<td>-</td>
<td>152</td>
<td>227</td>
</tr>
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<td></td>
<td></td>
<td>(Singapore)</td>
<td>152</td>
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</tr>
<tr>
<td></td>
<td></td>
<td>(Mexico)</td>
<td>-</td>
<td>150</td>
<td>225</td>
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<td>ROSIN</td>
<td>08-12</td>
<td>8050-09-7</td>
<td>N.E.</td>
<td>N.E.</td>
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<tr>
<td>(EU)</td>
<td>0.05</td>
<td>-</td>
<td>N.E.</td>
<td>0.15(sensitizer)</td>
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</tr>
<tr>
<td>PROPRIETARY</td>
<td>00-05</td>
<td>-</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>Odor</td>
<td>Alcohol odor</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>0.832</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>Boiling Point</td>
<td>175°F</td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>2.5</td>
</tr>
<tr>
<td>pH</td>
<td>Neutral</td>
</tr>
<tr>
<td>Solubility in Water</td>
<td>Not Soluble</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 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.

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 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).

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

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: 16 JULY 2018
Prepared by: Nancy Swarts, Indium Corporation of America
Approved by: Nancy Swarts, Indium Corporation of America

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