SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier: 5-RA-1 FLUX
SDS Number: SDS-4271 Revised Date: 13 AUGUST 2018

Product Use: INDUSTRIAL USE - LIQUID FLUX MIXTURE

MANUFACTURER:
The Indium Corporation of America®
34 Robinson Rd., Clinton, New York 13323
Information: (315) 853-4900 NSWARTS@INDIUM.COM

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Kingston, Milton Keynes, UK, MK 10 OAG
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

In China:
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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:

- **Eye**
- **Inhalation**
- **Skin**
- **Ingestion**

Carcinogen listed in:

- NTP
- IARC
- OSHA
- Not Listed

GHS:

![GHS Symbols]

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
- **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
- **P242**  Use only non-sparking 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 + P341**  IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing
- **P305 + P351**  IF IN EYES: Rinse continuously with water for several minutes (15 mins)

**Classification:**

- Flammable Liquid – Category 2
- Eye irritation – Category 2A
- Skin sensitization - Category 1B
- Respiratory sensitization - 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.
- **Inhalation:**  Vapor may cause headaches and or dizziness.
- **Skin Contact:**  Prolonged contact may cause irritation and dermatitis.
- **Chronic:**  Not established.
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>45-49</td>
<td>67-63-0</td>
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<td>983</td>
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<tr>
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<td>-</td>
<td>N.E.</td>
<td>N.E.</td>
<td>N.E.</td>
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</table>

N.E. = Not established  EU = European Union Occupational 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

**Flash Point:**  11°C (52°F)  **Method:**  Closed Cup

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

**Flammable Limits:**  Not established
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. Ventilate area in accordance with regulations. Dispose of following all Federal, State and Local 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. Keep away from sparks and other ignition sources and heat.
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. Keep away from sources of ignition and heat.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION
Engineering Controls: Face velocity >2.1 cubic feet/minute in confined areas. Exhaust ventilation recommended. Keep exposure as low as possible.

Personal protection:
Eyes: Chemical safety glasses/goggles. Face shield for splash hazards.
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. Sleeve protectors, apron or other personal protection may be necessary if skin comes in contact with product.
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.

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
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<tbody>
<tr>
<td>Boiling Point</td>
<td>84°C (183°F)</td>
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<tr>
<td>Evaporation Rate</td>
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<td>pH</td>
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<tr>
<td>Flash Point</td>
<td>52F (11C)</td>
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<tr>
<td>Appearance</td>
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<tr>
<td>Odor</td>
<td>Alcohol odor</td>
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<tr>
<td>Specific Gravity</td>
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<tr>
<td>Vapor Pressure</td>
<td>Not available</td>
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<tr>
<td>Vapor Density</td>
<td>Not available</td>
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</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.

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.

Other: Chronic Toxicity: Prolonged or repeated exposure to rosin flux fume may cause workers to develop occupational asthma.

12. ECOLOGICAL INFORMATION

Product not tested.

13. DISPOSAL CONSIDERATION

Waste Disposal Method: Dispose of in accordance with all Federal, State and Local environmental regulations.

14. TRANSPORT INFORMATION

Transport in accordance with applicable international regulations and requirements.

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


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).

WARNING: This product can expose you to chemicals including [trace amounts of methanol] which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov

Canadian WHMIS: Class B2 Flammable Liquid, D2B Toxic Material Causing Other Toxic Effects (eye irritation in animals). D2B Materials Causing Other Toxic Effects -irritant

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

SARA 313 Listing - 40 CFR 372.65: 1.25% proprietary ingredient listed

All ingredients are listed on the EPA TSCA Inventory.

This product has been classified under the Mexican regulations NOM-018-STPS-2015 and NOM-010-STPS-2014.

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 30000.2-9-2013, 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).

16. OTHER INFORMATION

<table>
<thead>
<tr>
<th>HMIS Hazard Rating:</th>
<th>Health: 2</th>
<th>Fire: 3</th>
<th>Reactivity: 0</th>
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<tbody>
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<td>Revised Date:</td>
<td>2 MAY 2018</td>
<td></td>
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</tr>
<tr>
<td>Prepared by:</td>
<td>Nancy Swarts, Indium Corporation of America</td>
<td></td>
<td></td>
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<tr>
<td>Approved by:</td>
<td>Nancy Swarts, Indium Corporation of America</td>
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