



## SAFETY DATA SHEET

### 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

1.1 **Product Identifier:** LIQUID FLUX 5RA-RC

**SDS Number:** SDS- 4149

**Revised Date:** 19 MARCH 2018

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Product Use:** Industrial Use (Mixture) - Solder flux.

#### 1.3 Details of the supplier of the safety data sheet

##### MANUFACTURER/SUPPLIER/IMPORTER:

###### **In America:**

The Indium Corporation of America®  
34 Robinson Rd., Clinton, New York 13323  
Technical & Safety Information: (315) 853-4900  
Safety & SDS Information: [nswarts@indium.com](mailto:nswarts@indium.com)  
Corporation web page: <http://www.indium.com>

###### **In Europe:**

Indium Corporation of America (European Operations)  
7 Newmarket Ct.  
Kingston, Milton Keynes, UK, MK 10 OAG  
Information: (normal business hours) +44 [0] 1908 580400  
EU Contact: [aday@indium.com](mailto:aday@indium.com)

###### **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

###### **In Asia:**

Indium Corporation of America  
Asia-Pacific Operations-Singapore  
29 Kian Teck Avenue  
Singapore 628908  
Information: +65 6268-8678

#### 1.4 EMERGENCY TELEPHONE NUMBER

**FOR CHEMICAL EMERGENCY ONLY PHONE \*:**  
**CHEMTREC 24 hrs.**  
**USA: 1 (800) 424-9300**

**Outside USA: +1 (703) 527-3887**

**\* Used only for spill/leak/fire/exposure/accident**

**ALL OTHER INQUIRIES: TOLL FREE: +1-800-448-9240 Indium Corporation**

## 2. HAZARDS IDENTIFICATION

### PRIMARY ROUTES OF ENTRY:

Eye

Inhalation

Skin

Ingestion

NTP

### Carcinogen listed in

IARC

OSHA

Not Listed

### 2.1 Classification of mixture:

### 2.2 Labeling Information

Labeling according to Regulation (EC) No. 1272/2008



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  
 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 only non-sparking equipment  
 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  
 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  
 Eye irritation – Category 2A  
 Skin sensitization- Category 1B  
 Respiratory sensitization- Category 1B  
 Specific target organ toxicity- single exposure – Category 3- central nervous system

**2.3 OTHER HAZARDS:****POTENTIAL HEALTH EFFECTS:**

- Eye Contact:** Vapors may be irritating, liquid may damage eye tissue.
- Ingestion:** May cause irritation and abdominal discomfort.
- Inhalation:** Vapors may cause headaches and or dizziness Rosin may cause occupational asthma.
- Skin Contact:** Prolonged contact may cause skin irritation or dermatitis. Rosin may cause skin sensitization.
- Chronic:** Not established.

**3. COMPOSITION / INFORMATION ON INGREDIENTS****3.2 Mixture:**

Components	% wt	CAS Registry #/ EINECS#
ROSIN	20 - 25	8050-09-7
ISOPROPANOL	40 - 45	67-63-0/200-661-7
ISOBUTYL ALCOHOL	25 – 35	78-83-1/201-148-0
PROPRIETARY	1-10	-

**4. FIRST AID MEASURES****4.1 Description of 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.

**4.2 Most important symptoms and effect, both acute and delayed:**

Skin contact may cause irritation. Long term contact may cause dermatitis. Inhalation of decomposed rosin fume may cause irritation or occupational asthma. Eye exposure may cause irritation.

**4.3 Indication of any immediate medical attention and special treatment needed:**

No specific special treatment information is available on this mixture. Review data provided in this document to understand

the hazards when working with the product. No other information is available at this time. Seek medical attention if eye irritation continues after flushing. If respiratory discomfort is evident seek medical advice.

## 5. FIRE FIGHTING MEASURES

**5.1 Extinguishing Media:** Use extinguishers appropriate for the surrounding fire conditions. Foam, dry chemical or water spray. Product is flammable.

**5.2 Special hazards arising from the substance or mixture:**  
May produce toxic fumes of carbon monoxide if burning .

**5.3 Advice for Firefighters** Fire fighters must wear approved self-contained breathing apparatus and full protective clothing.

No other information is available.

## 6. ACCIDENTAL RELEASE MEASURES

### **6.1 Personal precautions, protective equipment and emergency procedures:**

#### **For non-emergency personnel:**

Keep away from the spill. Remove sources of ignition. Keep exhaust ventilation system running. In the event of a fire evacuate area.

#### **For emergency responders:**

Wear safety glasses, gloves when cleaning up any spill. Other equipment may be necessary based on the immediate area and other chemicals unrelated to the product that may be in use. Adequate ventilation should be available. Keep unnecessary personnel away from area during clean up. Use anti - static tools.

**Environmental Precautions:** Dispose contaminated cloth rags or paper towels following all applicable governmental regulations. Material is flammable. May not have any reclaim value.

#### **Methods and material for containment and cleaning up:**

Spill or leak procedures: Using a spatula, scoop up flux and place into a plastic pail or drum and tightly cap.

**Reference to other sections:** See Section 8 for exposure levels.

## 7. HANDLING AND STORAGE

### **7.1 Precautions For Safe Handling:**

Keep containers tightly closed when not in use. Use care to avoid spills. Use only with production equipment specifically designed for use with flux. Wear appropriate personal protective equipment when working or handling flammable materials. Always thoroughly wash your hands after handling this product. DO NOT touch or rub eyes until hands are washed. Do not eat, drink or smoke when handling this product. Utilize exhaust ventilation especially during heating product. General odor and chemical content require exhaust whenever the container is open. Ground/bond transfer containers.

### **7.2 Conditions for Safe Storage, including any incompatibilities:**

**Storage Precautions:** Store product in tightly capped original containers in a cool, dry area. Refer to product label and product data sheet for specific storage temperature requirements. Rotate stock to ensure use before expiration date. Keep away from sources of ignition.

**7.3 Specific End Use(s):** Soldering applications

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control Parameters:

			<u>TWA</u>	<u>STEL</u>
		<u>CAS#/EINECS#</u>	mg/m3	mg/m3
<b>ROSIN</b>	20-25	8050-09-7		
		(EU)	0.05	0.15 (sensitizer)
<b>ISOPROPYL ALCOHOL</b>	40-45	67-63-0/200-661-7		
(PROPAN-2-OL)		(UK)	999	1250
		FRANCE	980	-
		BELGIUM	997	1248
		SPAIN	998	1250
		PORTUGAL	200ppm	400ppm
		FINLAND	500	620
		DENMARK	490	-
		AUSTRIA	500	2000
		SWITZERLAND	500	1000
		POLAND	900	1200
		NORWAY	245	-
		IRELAND	200ppm (skin)	-
		GERMANY	500	1000
		BULGARIA	980	1225
		CROATIA	999	1250
		CZECH REPUBLIC	500	1000
		ESTONIA	350	600
		GREECE	980	1225
		HUNGARY	500	2000
		ICELAND	490	980
		LATVIA	350	600

		LITHUANIA	350	600
		ROMANIA	200	500
		RUSSIA	10	50 vapor
		SLOVAK REPUBLIC	200	500
		SLOVENIA	500	2000
		SWEDEN	350	600
<b>ISOBUTYL ALCOHOL</b>	25 – 35	78-83-1/201-148-0		
		UK	154	231
		France	150	
		Belgium	154	
		Spain	154	
		Germany	310	-
		Portugal	50 ppm	
		Poland	100	200
		Czech Republic	300	600(ceiling)
		Romania	100	200
		Slovak Republic	310	
		Slovenia	310	310
		Sweden	150	250
<b>PROPRIETARY</b>	1-10	-	N.E.	N.E.

TWA = time weighted average  
 STEL = short term exposure limit  
 Ceiling = not to exceed  
 N.E. = Not established

**8.2 Exposure Controls:**

**Engineering Controls:** Use only with production equipment with adequate exhaust ventilation and other safety features specifically designed for chemical use. Use exhaust ventilation when using the product especially while heating product. Air emission control equipment may be necessary based on the local governmental requirements for contaminants entering the atmosphere. Equipment should be grounded.

**Personal protection:**

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

**Respiratory:** An approved or EU compliant CE marked air-purifying respirator with a fume/organic chemical cartridge is recommended under certain circumstances where airborne concentrations are expected to be elevated.

**Skin:** Compatible chemical resistant gloves. Recommend a nitrile disposable or other chemical glove.

**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. Do not allow rags or paper towels to accumulate in the work area. 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

### 9.1 Information on basic physical and chemical properties:

<b>Appearance:</b>	Flux-liquid amber color	<b>Boiling Point/Range:</b>	79C (175F)
<b>Odor:</b>	alcoholic odor.	<b>Melting Point/Freezing Point:</b>	Not applicable
<b>Odor Threshold:</b>	Not established	<b>Evaporation Rate:</b>	2.5
<b>Specific Gravity:</b>	0.8534	<b>pH:</b>	Neutral
<b>Vapor Pressure:</b>	33 mm HG @68F (20C)	<b>Solubility in Water:</b>	Insoluble
<b>Vapor Density:</b>	(air=1) 2.1	<b>Partition coefficient:</b>	Not established
<b>Relative Density:</b>	Not established	<b>Flammability:</b>	No information available
<b>Flash Point:</b>	16C/61F	<b>Method:</b>	Not applicable
<b>Auto-ignition Temperature:</b>	Not available	<b>Flammable Limits:</b>	Lower 1.7 and Upper 10.7
<b>Decomposition Temp:</b>	Not applicable	<b>% Volatiles by volume:</b>	85
<b>Viscosity:</b>	Not established	<b>Explosive properties:</b>	Not applicable
<b>Oxidizing Properties:</b>	Not established		

**Other Information:** Above data for the whole mixture.

## 10. STABILITY AND REACTIVITY

- 10.1 Reactivity:** Stable.
- 10.2 Chemical Stability:** Stable
- 10.3 Possibility of Hazardous Reactions:** Not established
- 10.4 Conditions To Avoid:** Direct heat, open flames and storage in aluminum
- 10.5 Incompatible Materials:** Anhydrides, halogens, phosphorus, trichlorides
- 10.6 Hazardous Decomposition / Combustion:** Harmful organic fumes and toxic oxide fumes may form at elevated temperatures.
- 10.7 Hazardous Polymerization:** Will not occur.

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects:

<b>Acute toxicity:</b>	Not established	<b>Mutagenicity:</b>	Not established
<b>Irritation:</b>	Not established	<b>Toxicity for Reproduction:</b>	Not Established
<b>Corrosivity:</b>	Not applicable	<b>Absence of specific data:</b>	None available (not tested)
<b>Sensitization:</b>	Not available		

**Repeated dose toxicity:** Not established

**Carcinogenicity:** Not established

**Likely Routes of Entry:** eyes (irritation) /skin (irritation or sensitization) /inhalation (irritation/sensitization) ingestion (may be harmful)

**Interactive effects:** None known

**Symptoms related to the physical, chemical and toxicological characteristics:**

May cause irritation or sensitization by skin and inhalation.

**Delayed and immediate effects as well as chronic effects from short and long-term exposure:**

Exposure to rosin fume has been known to cause occupational asthma. May cause irritation by inhalation and ingestion.

**Mixture verses substance information:** None known

**Other Information:**

**Carcinogenicity:** NTP: No (National Toxicity Program)

**Listing** OSHA: No (US Occupational Safety & Health Administration)

IARC: No (U.N. International Agency for Research on Cancer)

## 12. ECOLOGICAL INFORMATION

Product mixtures not tested.

**12.1 Toxicity:** No information available

**12.2 Persistence and degradability:** No information available

**12.3 Bio accumulative potential:** No information available

**12.4 Mobility in soil:** No information available

**12.5 Results of PBT and vPvB assessments:** No data is available

**12.6 Other adverse effects:** No information is available for mixture. Avoid release to environment.

Contains a substance that is harmful to aquatic life.

## 13. DISPOSAL CONSIDERATION

**13.1 Waste treatment method:**

Dispose of in accordance with environmental regulations. Containerize material and classify according to applicable regulations. No pre-treatment on site is recommended. Do not dispose of down any drain or waterway. Utilize the same personal protective equipment as the user when handling for disposal.

**RoHS (Restriction of Hazardous Substances):** Compliant with RoHS.



## 14. TRANSPORT INFORMATION

Transport in accordance with applicable regulations and requirements.

Flux is hazardous.

**UN proper shipping name:** UN 1987

**Transport hazard class(s):** 3

**Packing group:** II

**Environmental hazards:** None

**Special precautions for user:** None

**Transport in bulk:** Not applicable

**Shipping Name:** UN 1987, ALCOHOLS, N.O.S., 3, PG II ( Isopropanol and Isobutyl Alcohol)



## 15. REGULATORY INFORMATION

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:

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.).

All ingredients are listed on the USEPA TSCA Inventory.

All ingredients are listed on EINECS. Note Rosin was recently listed under the No Longer Polymer List, Notification of New Chemical Substances in Accordance with Directive 67/548/EEC.

Safety data sheet was developed using EC 1907/2006 amended as of 20 May 2010 EU No 453/2010 and information as stated under regulation EC No 1272/2008 CLP Regulation.

GHS = Global Harmonized System

CLP= Classification, labeling and packaging

Product does not contain any substances ozone depleting substances and therefore not subject to EC 2037/2000.

**Chemical safety assessment:** None performed for mixture.

## 16. OTHER INFORMATION

**NOTE:** The Indium Corporation does not recommend, manufacture, market or endorse any of its products for human consumption.

**Revised Date:** 19 MARCH 2018

**Prepared by:** Nancy Swarts, The Indium Corporation of America, nswarts@indium.com

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

Changes provided on this SDS were based on the requirements of EU No. 453/2010 of May 20, 2010 regarding amendments to EC No. 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH).

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