



SAFETY DATA SHEET

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

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

SDS Number: SDS- IN LF007

Revised Date: 13 AUGUST 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®.

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1.4 EMERGENCY TELEPHONE NUMBER**FOR CHEMICAL EMERGENCY ONLY PHONE *:****CHEMTREC 24 hrs.****USA: 1 (800) 424-9300****Outside USA: +1 (703) 527-3887****China: Emergency 86+ 4008417580***** 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
IARC
OSHA
Not Listed

Carcinogen listed in**2.1 Classification:****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
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 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 + 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

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: Irritating to the eyes and if not removed promptly, may result in serious eye injury. Do not allow material to come in contact with the eyes.

Ingestion: May cause irritation and damage to mouth, esophagus and gastrointestinal tract.

Inhalation: May be harmful if swallowed. Heated vapors or fumes from this material may cause irritation to the respiratory system. May be harmful if inhaled. May cause light headedness. Rosin may cause occupational asthma. High concentrations may cause headache, dizziness.

Skin 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 MIXTURE	40 - 50	65997-05-9
ISOPROPANOL	35 - 40	67-63-0/200-661-7
METHYL ETHYL KETONE	10 – 20	78-93-3/201-159-0

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, 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 Firefighters 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.

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

6.3 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.

6.4 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 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
ROSIN	40-50	65997-05-9		
		(EU)	0.05	0.15 (sensitiser)
ISOPROPYL ALCOHOL	35-40	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
METHYL ETHYL KETONE	10 – 20	78-93-33/201-159-0		
(BUTANONE)				
		UK	600	899
		France	600	900(skin)
		Belgium	600	900
		Spain	600	900
		Italy	600	900
		Germany	600	-
		Portugal	200	300
		The Netherlands	590	900(skin)
		Finland	-	300 (skin)
		Austria	295	590(skin)
		Denmark	145(skin)	-
		Switzerland	590	590(skin)
		Poland	450	900
		Norway	220	275
		Bulgaria	590	885
		Croatia	600	900(skin)
		Ireland	600	900(skin)
		Cyprus	600	900
		Czech Republic	600	900(ceiling)
		Estonia	600	900
		Gibraltar	600	900

Greece	600	900
Hungary	600	900
Iceland	145	900
Latvia	290(ceiling) 200	900
Lithuania	600	900
Luxembourg	600	900
Malta	600	900
Romania	600	900
Russia	200	400 (vapor)
Slovak Republic	200	600
Slovenia	600	900
Sweden	150	300
Turkey	600	900

TWA = time weighted average

STEL = short term exposure limit 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 nitril 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:**

Appearance:	Flux-liquid yellow	Boiling Point/Range:	84C (183F)
Odor:	Characteristic odor.	Melting Point/Freezing Point:	Not applicable
Odor Threshold:	Not established	Evaporation Rate:	Not applicable

Specific Gravity:	0.88.	pH:	Not available
Vapour Pressure:	Not applicable.	Solubility in Water:	Insoluble
Vapour Density:	(air=1) Not applicable.	Partition coefficient:	Not established
Relative Density:	Not established	Flammability:	No information available
Flash Point:	11C/52F	Method:	Not applicable
Auto-ignition Temperature:	Not available	Flammable Limits:	Limits not established
UEL/LEL Limits:	Not established	Decomposition Temp:	Not applicable
Viscosity:	Not established	Explosive properties:	Not applicable
Oxidizing Properties:	Not established		

9.2 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:** Freezing temperatures and high temperatures.
- 10.5 Incompatible Materials:** Avoid contact with acids, bases or oxidizing agents. Ignition sources.
- 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:

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

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

May cause irritation or sensitization by skin and inhalation.

11.3 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 harm 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 Bioaccumulative 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.

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 international regulations and requirements.

Flux is hazardous.

- 14.1 UN number:** 1993
14.2 UN proper shipping name: UN 1993
14.3 Transport hazard class(s): 3
14.4 Packing group: II
14.5 Environmental hazards: None
14.6 Special precautions for user: None
14.7 Transport in bulk: Not applicable

Shipping Name: UN 1993, Flammable Liquid, N.O.S., 3, PG II (Isopropanol and Methyl Ethyl Ketone)



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.

15.2 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: 13 AUGUST 2018

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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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