



SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier: ON-SPEC® SOLAR GRADE LIQUID FLUX 5RA

SDS Number: SDS-4837

Revised Date: 4 OCTOBER 2018

Product Use: Industrial Use- Liquid flux for soldering related activities

MANUFACTURER:

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<http://www.indium.com>

2. HAZARDS IDENTIFICATION

PRIMARY ROUTES OF ENTRY:

⊗Eye ⊗Inhalation ⊗Skin ⊗Ingestion NTP IARC OSHA ⊗Not Listed

Carcinogen listed in



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

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 be harmful if swallowed. May cause irritation and damage to the mouth, esophagus, gastrointestinal tract. May cause headache, dizziness or lowered blood pressure.

Inhalation: Heated vapor concentrations may be harmful if inhaled. Moderately toxic. Moderately irritating to respiratory tract. Inhalation of high concentrations may cause headache or central nervous system depression. Rosin may cause occupational asthma.

Skin Contact: May cause skin irritation or dryness. Allergic reactions/dermatitis are possible, especially with

repeated or prolonged exposure.

Chronic: Target organs: CNS

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

3. COMPOSITION / INFORMATION ON INGREDIENTS

Components	% wt	CAS Registry #/EINECS	PEL mg/m ³	TLV-TWA mg/m ³	TLV-STEL mg/m ³
ROSIN FLUX	40-50	65997-05-9	N.E.	N.E.	N.E.
		(EU)	0.05	N.E.	0.15
ISOPROPYL ALCOHOL (Propan-2ol)	35-40	67-63-0/200-661-7	980	983	1230
		(EU)	-	999	1250
		(Canada)	-	983	1228
		(Singapore)	983	-	1230
		(Mexico)	-	980	1225
(China)	-	350	700		
METHYL ETHYL KETONE (Butanone)	10-20	78-93-3/201-159-0	590	590	885
		(EU)	N.E.	600	899
		(Canada)	N.E.	590	885
		(Singapore)	590	-	885
		(Mexico)	-	590	885
(China)	-	300	600		

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:	Not available
Auto-ignition Temperature:	Not established.		
Flammable Limits:	Limits not established. Flammable		
Extinguishing Media:	Use extinguishers appropriate for the surrounding fire conditions. Foam, dry chemical, water spray.		
Special Fire Fighting Procedures:	Firefighters must wear NIOSH approved self-contained breathing apparatus and full protective clothing. Evacuate area and fight fire from a safe distance. Containers can build up pressure if exposed to heat (fire) or flame.		

6. ACCIDENTAL RELEASE MEASURES

Spill or Leak Procedures:	Wear a respirator and appropriate Personal Protective (See Exposure Controls/Personal Protective Section). Size of spill shall determine respiratory protection from air purifying to self-contained breathing apparatus. Keep unnecessary and unprotected personnel from entering the spill area. Extinguish or remove all ignition sources. Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste container. Dispose of following all Federal, State and Local regulations. In the EU refer to the Special Waste Regulations.
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7. HANDLING AND STORAGE

Handling Precautions:	Keep containers tightly closed when not in use. Use care to avoid spills. Avoid breathing vapors from heated material. Avoid contact with eyes, skin and clothing. Use with adequate ventilation.
Storage Precautions:	Store product in tightly capped original containers in a cool, dry area. Keep away from heat and flame. Store away from incompatible materials. Empty containers may be hazardous as they contain product residue.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls:	Exhaust ventilation is necessary control airborne levels and any potential exposures.
Personal protection:	
Eyes:	Chemical safety glasses/ splash goggles. Face shield for splash hazards.
Respirator:	An approved or compliant 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. Protective outer garment, apron. Sleeves as appropriate. Face shield is recommended when there is a possibility for splash hazards.
Other:	Eyewash fountain in work area. Avoid the use of contact lenses.
Work/Hygienic Practices:	Maintain good housekeeping. Clean up spills immediately. 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

Appearance:	Liquid	Boiling Point:	84 C (183 F)
Odor:	Slight characteristic odor.	Melting Point:	Not applicable
Specific Gravity:	0.88	pH:	Not applicable
Vapor Pressure:	Not applicable.	Solubility in Water:	Not established
Vapor Density:	(air=1) Not applicable.		

10. STABILITY AND REACTIVITY

General:	Stable.
Conditions to Avoid:	High temperatures, open flame, oxidizing agents, strong reducing agents.
Incompatible Materials:	Excessive heat
Hazardous Decomposition / Combustion:	Not established
Hazardous Polymerization:	Will not occur.

11. TOXICOLOGICAL INFORMATION

Carcinogenicity:	NTP: No		
	OSHA: No		
	IARC: No		
LD50:	Not established.	LC50:	Not established.
Other:	Methyl ethyl ketone LD50 Oral, rat, 2,737 mg/kg LD50 Dermal, rabbit, 6,480 mg/kg		

12. ECOLOGICAL INFORMATION

This section is subject to future development. Product not tested.
WGK Germany – Water hazard Class – Class 1

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. Flammable

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



North American Emergency Guide Book – Guide # 128

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 Mexican regulations: NOM-018-STPS-2015 and NOM-010-STPS-2014.

Malaysia:

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). (GHS)

In China:

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 using the Chinese Occupational Limit for Hazardous Agents in the Workplace, GBZ2-2007

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 - Methyl Ethyl Ketone CAS# 78-93-3

All ingredients are listed on the EPA TSCA Inventory.

16. OTHER INFORMATION

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

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