



THE INDIUM CORPORATION OF AMERICA®\EUROPE®\ASIA-PACIFIC®
INDIUM CORPORATION (SUZHOU)®

SAFETY DATA SHEET

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

Product Identifier: TACFLUX 018
MSDS Number: MSDS- IN TF018
Revised Date: 17 DECEMBER 2013
Product Use: Industrial Use (Mixture) - Soldering flux.

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

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2. HAZARDS IDENTIFICATION**PRIMARY ROUTES OF ENTRY:**

Eye Inhalation Skin Ingestion NTP IARC OSHA Not Listed

Carcinogen listed in**Classification:**

Risk Phrases: R36/37/38, R42/43



Signal Word: Warning

Hazard statement(s)

H317 May cause an allergic skin reaction
 H320 Causes eye irritation
 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled
 EUH208 Contains rosin. May produce an allergic reaction

Precautionary statement(s)

P233 Keep container tightly closed
 P261 Avoid breathing dust/fume/gas/mist/vapours/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)
 P501 Dispose of in accordance with applicable regulations

POTENTIAL HEALTH EFFECTS:

- Eye Contact:** Causes eye irritation if not promptly removed.
- Ingestion:** May cause irritation and damage to mouth, esophagus and the gastrointestinal tract.
- Inhalation:** Vapors or fumes from this material may cause local irritation to the respiratory system. Rosin may cause occupational asthma.
- Skin Contact:** May cause skin irritation or dermatitis. Rosin may cause skin sensitization.
- Chronic:** Prolonged or repeated exposures to heated material may cause irritation or be harmful.

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

Components	% wt	CAS Registry #/ EINECS#
ROSIN	30-40	65997-05-9/NLP No. 500-163-2
POLYGLYCOL ETHER	30-40	9038-95-3
PROPRIETARY (confidential)	20-40	-

THIS PRODUCT DOES NOT CONTAIN ANY EU REPORTABLE SUBSTANCES OF VERY HIGH CONCERN (SVHC).

<http://www.indium.com>

4. FIRST AID MEASURES**Description of first aid measures:**

- Eye Contact:** Hold eyelids apart and flush eyes with plenty of 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.

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 serious irritation.

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

Extinguishing Media: Use extinguishers appropriate for the surrounding fire conditions. Water, CO2, foam media.

Special hazards arising from the substance or mixture:

May produce toxic fumes of carbon monoxide, if burning.

Advice for Firefighters

Fire fighters must wear approved self-contained breathing apparatus and full protective clothing.

Material product is not flammable. No other information is available.

6. ACCIDENTAL RELEASE MEASURES

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. If on floor wear foot protection to avoid any direct contamination to shoes and boots. Material is sticky and gluey and may cause a slip/fall hazard for clean-up crew.

Environmental Precautions: Dispose contaminated cloth rags or paper towels following all applicable governmental regulations. Material is non-hazardous. 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

Precautions Keep containers tightly closed when not in use. Use care to avoid spills. Use only with

For Safe Handling: production equipment specifically designed for use with flux. Wear appropriate personal protective equipment when working or handling solder paste. 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.

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.

Specific End Use(s): Soldering applications

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control Parameters:

				<u>TWA</u>	<u>STEL</u>
		<u>CAS#/EINECS#</u>		mg/m3	mg/m3
ROSIN	30-40	65997-05-9/NLP No. 500-163-2	(EU) 0.05	N.E.	0.15 (sensitiser)
POLYGLYCOL ETHER	30-40	9038-95-3		N.E.	N.E.
PROPRIETARY (CONFIDENTIAL)	20-40	-	N.E.	N.E.	N.E.

N.E. = Not established

STEL= short term exposure limit TWA= time weighted average

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. Contains organic related compounds.

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/shower 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

Information on basic physical and chemical properties:

Appearance:	Yellow solid flux	Boiling Point/Range:	Not determined
Odor:	Mild characteristic odor.	Melting Point/Freezing Point:	Not applicable
Odor Threshold:	Not established	Evaporation Rate:	Not applicable
Specific Gravity:	Not applicable.	pH:	Not applicable
Vapour Pressure:	Not applicable.	Solubility in Water:	Insoluble
Vapour Density:	(air=1) Not applicable.	Partition coefficient:	Not established
Relative Density:	Not established	Flammability:	Not applicable
Flash Point:	Not applicable	Method:	Not applicable
Auto-ignition Temperature:	Not applicable	Flammable Limits:	Limits not established
UEL/LEL Limits:	Not applicable	Decomposition Temp:	Not applicable
Viscosity:	Not established	Explosive properties:	Not applicable
Oxidizing Properties:	Not established		

Other Information: Above data for the whole mixture.

10. STABILITY AND REACTIVITY

Reactivity:	Stable.
Chemical Stability:	Stable
Possibility of Hazardous Reactions:	Not established
Conditions To Avoid:	None known
Incompatible Materials:	Avoid contact with acids, bases or oxidizing agents.
Hazardous Decomposition / Combustion:	Harmful organic fumes and toxic oxide fumes may form at elevated temperatures.
Hazardous Polymerization:	Will not occur.

11. TOXICOLOGICAL INFORMATION

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

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 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:

12. ECOLOGICAL INFORMATION

This section is subject to future development. Product mixtures not tested.

Toxicity: No information available

Persistence and degradability: No information available

Bioaccumulative potential: No information available

Mobility in soil: No information available

Results of PBT and vPvB assessments: No data is available

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

Product contains substances that are harmful to the aquatic environment with long lasting effects.

13. DISPOSAL CONSIDERATION

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. Non - hazardous flux.

RoHS (Restriction of Hazardous Substances): Compliant with RoHS 2 (2011/65/EU)..

14. TRANSPORT INFORMATION

Transport in accordance with applicable regulations and requirements.

Flux is non-hazardous.

Not regulated/non-hazardous under US DOT (United States Department of Transportation).

Not regulated/non-hazardous under international shipping requirements.

Not regulated under IATA.

UN proper shipping name: None

Transport hazard class(s): None

Packing group: None

Environmental hazards: None

Special precautions for user: None

Transport in bulk: Not applicable

15. REGULATORY INFORMATION

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

The information in this Material 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.

Risk Phrases:

R42/43 May cause sensitization by inhalation or by skin contact

R36/37/38 Irritating to eyes, respiratory system and skin

Safety Phrases:

S20/21 When using do not eat, drink or smoke

S23 Do not breathe fumes

S24/25 Avoid contact with skin and eyes

S27 Take off immediately all contaminated clothing

S28 After contact with skin wash immediately with plenty of soap and water

S36/37/39 Wear suitable protective clothing, gloves and eye/face protection

S7 Keep container tightly closed

Revised Date: 17 DECEMBER 2013

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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).

The information and recommendations contained herein are, to the best of The Indium Corporation of America's knowledge and belief, accurate and reliable as of the date issued. The Indium Corporation of America does not warrant or guarantee their accuracy or reliability, and The Indium Corporation of America shall not be liable for any loss or damage arising out of the user thereof. The information and recommendations are offered for the user's consideration and examination, and it is the user's responsibility to satisfy itself that they are suitable and complete for its particular use. If buyer repackages this product, legal counsel should be consulted to insure proper health, safety and other necessary information is included on the container.