



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

1.1 Product Identifier: TACFLUX 010

SDS Number: SDS- IN TF010

Revised Date: 27 APRIL 2017

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

Product Use: Industrial Use (Mixture) - Soldering 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
Corporation web page: <http://www.indium.com>

In Europe:

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EU Contact: aday@indium.com

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Jiangsu Province, China 215126
Information: (86) 512-6283-4900

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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 Label elements**

Signal Word: Warning

Hazard statement(s)

H315 Causes skin irritation

H319 Causes serious eye irritation

H410 Very toxic to aquatic life with long lasting effects

Precautionary statement(s)

P233 Keep container tightly closed

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:
Skin irritant- Category 2

OTHER HAZARDS:
POTENTIAL HEALTH EFFECTS:

- Eye Contact:** May cause burns to the eyes if not removed promptly. Causes eye irritation and damage.
- Ingestion:** May cause irritation.
- Inhalation:** Heated vapor concentrations may cause irritation if inhaled. May cause burns to the respiratory tract..
- Skin Contact:** Causes skin irritation.
- Chronic:** Not established. 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#
POLYGLYCOL ETHER	65-80	9038-95-3
CARBOXYLIC ACID	5-10	67762-36-1
ALCOHOLS	10-25	68603-15-6

<http://www.indium.com>

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..
Eye exposure may cause serious 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. Water, CO2, foam media.

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.

Material product is not flammable. 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. 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.

6.2 Environmental Precautions: Dispose contaminated cloth rags or paper towels following all applicable governmental regulations. Material is non- hazardous. Product does contain a substance that is harmful to the environment.

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 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.

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.

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/m ³	mg/m ³
POLYGLYCOL ETHER	65-80	9038-95-3	N.E.	N.E.
CARBOXYLIC ACID	5-10	67762-36-1	N.E.	N.E.
ALCOHOLS	10-25	68603-15-6	N.E.	N.E.

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. 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 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	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

- 10.1 **Reactivity:** Stable.
- 10.2 **Chemical Stability:** Stable
- 10.3 **Possibility of Hazardous Reactions:** Not established
- 10.4 **Conditions To Avoid:** None known
- 10.5 **Incompatible Materials:** Avoid contact with acids, bases or oxidizing agents.
- 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:

<u>Acute toxicity:</u>	Not established	<u>Mutagenicity:</u>	Not established
<u>Irritation:</u>	Not established	<u>Toxicity for Reproduction:</u>	Not Established
<u>Corrosivity:</u>	Not applicable	<u>Absence of specific data:</u>	None available (not tested)
<u>Sensitization:</u>	Not available		
<u>Repeated dose toxicity:</u>	Not established		
<u>Carcinogenicity:</u>	Not established		
<u>Likely Routes of Entry:</u>	eyes (irritation) /skin (irritation) /inhalation (irritation) ingestion (irritation)		

Interactive effects: None known

Symptoms related to the physical, chemical and toxicological characteristics:

May cause irritation by skin and eyes.

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

None known

Mixture verses substance information: None known

11.2 Other Information:

Carcinogenicity: NTP: No (National Toxicity Program)

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

IARC: No (UN 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.

% not readily biodegradable. 2% difficult to degrade biological. Fishtoxicity – *Leuciscus idus* LC50:> 10,000 mg/l/96h

Daphniatotoxicity EC/LC50 (48h):0.6 mg/l

Bacteriatotoxicity EC/LC50(0.5h) > 10,000 mg/l log POW:45

Contains a severe marine pollutant.

Harmful to aquatic life. An environmental hazard cannot be excluded in the event of unprofessional handling or disposal

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. Non- hazardous flux.

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

14. TRANSPORT INFORMATION

Transport in accordance with applicable regulations and requirements.

UN proper shipping name: UN3082, Environmentally Hazardous Substance , Liquid

Transport hazard class(s): 9

Packing group: III

Environmental hazards: Severe Marine Pollutant

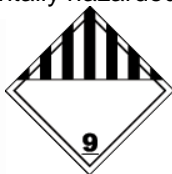
Special precautions for user: None

Transport in bulk: Not applicable

Contains a substance that is classified as a severe marine pollutant. Transport via ocean requires proper labeling/markings. Review requirements.

IMDG: (49 CFR 172.322)

UN3082, Environmentally hazardous substance, liquid, N.O.S., 9, PGIII (alkylphenol) (Severe Marine Pollutant)



Note: Based on the March 2016 third party corrosion testing, under the US Department Of Transportation regulatory testing requirements, this product does not meet the classification of Class 8 (Corrosive) under the US Department of Transportation requirements. This is classified as a severe marine pollutant.

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.

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: 27 APRIL 2017

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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.