



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

SAFETY DATA SHEET

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

1.1 Product Identifier:

Product Name FLIP CHIP FLUX NC-510

SDS Number: SDS- 4571

Revised Date: 26 JULY 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
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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

SECTION 2. HAZARDS IDENTIFICATION**2.1 Classification of the substance or mixture****2.2 Label elements**

Pictogram



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
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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 irritation- Category 2

Eye irritation – Category 2A

Hazardous to aquatic environment, long term hazard-Category 1

2.3 OTHER HAZARDS:**PRIMARY ROUTES OF ENTRY:**

Eye
Inhalation
Skin
Ingestion
NTP
IARC
OSHA
Not Listed

Carcinogen listed in**POTENTIAL HEALTH EFFECTS:**

- Eye Contact:** Causes serious eye irritation if not promptly removed.
- Ingestion:** May cause irritation.
- Inhalation:** Heated vapor concentrations may cause irritation if inhaled.
- Skin Contact:** May cause skin irritation .
- Chronic:** Not established.

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

Components	% wt	CAS Registry #/ EINECS#
POLYGLYCOL ETHER	65-80	9038-95-3
CARBOXYLIC ACID (fatty acids)	5 -10	67762-36-1
ALCOHOLS	10-25	68603-15-6

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SECTION 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:

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 .

SECTION 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.

5.4 Further information:

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

SECTION 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.

6.2 Environmental Precautions: Dispose contaminated cloth rags or paper towels following all applicable governmental regulations. Material is non - hazardous. 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. See Section 13 for disposal.

SECTION 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

SECTION 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	65-85	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 TWA = time weighted average- (8 hr work day). STEL= short term exposure level (15 minutes)

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/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.

SECTION 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 available	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 flammable/ignitable
Flash Point:	Not flammable	Method:	EPA Method SW 1030
Auto-ignition Temperature:	Not applicable	Flammable Limits:	Not applicable
UEL/LEL Limits:	Not applicable	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.

SECTION 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.
- Hazardous Polymerization:** Will not occur.

SECTION 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)		
<u>Interactive effects:</u>	None known		

Symptoms related to the physical, chemical and toxicological characteristics:

May cause irritation. May cause eye irritation.

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

May cause irritation.

Mixture verses substance information: None known

Other Information:

Carcinogenicity Listing:

NTP:No (National Toxicity Program), **OSHA:** No (US Occupational Safety & Health Administration)

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

Contains an ingredient: Drauze test, rabbit, eye: 100 ul Moderate
 Drauze test, rabbit, skin: 500 ul Severe
 Oral, rat: LD50 = 2100 mg/kg
 Skin, rabbit : LD50 = 5 ml/kg

SECTION 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.

8% 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..

SECTION 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. Contains an ingredient that is classified as a severe marine pollutant.

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

SECTION 14. TRANSPORT INFORMATION

Transport in accordance with applicable regulations and requirements.

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

IMDG (International Maritime Dangerous Goods Code)

14.1 UN number	3082
14.2 UN proper shipping name:	Environmentally hazardous substance, liquid, N.O.S.
14.3 Transport hazard class(s):	9
14.4 Packing group:	III
14.5 Environmental hazards:	Marine Pollutant
<u>Special precautions for user:</u>	None
<u>Transport in bulk:</u>	Not applicable

UN 3082, Environmentally Hazardous Substance, Liquid, N.O.S., 9, PG III (phenol) (Marine Pollutant)



Note: Based on recent testing, this product does not meet the classification of Class 8 (Corrosive) under the US Department of Transportation requirements. Therefore, this is not hazardous under shipping requirements except for transportation over water. This is however still classified as a severe marine pollutant.

SECTION 15. REGULATORY INFORMATION

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

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.

Complies with RoHS 2 (2011/65/EU)

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.

SECTION 16. OTHER INFORMATION

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

Revised Date: 26 JULY 2017

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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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