



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

SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier: INDALLOY FLUX 3

SDS Number: SDS-IN LF003

Revised Date: 8 FEBRUARY 2016

Product Use: Industrial Use - Paste Flux for soldering applications.

MANUFACTURER:

In America:

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2. HAZARDS IDENTIFICATION

PRIMARY ROUTES OF ENTRY:

⊗Eye ⊗Inhalation ⊗Skin ⊗Ingestion

Carcinogen listed in

NTP IARC OSHA ⊗Not Listed

GHS:



Signal Word: Danger

Hazard Statement(s)

H302 Harmful if swallowed
 H314 Causes severe skin burns and eye damage
 H317 May cause an allergic skin reaction
 H335 May cause respiratory irritation
 H341 Suspected of causing genetic defects
 H361 Suspected of damaging fertility or the unborn child
 H373 May cause damage to organs through prolonged or repeated exposure
 H411 Toxic to aquatic life with long lasting effects

Precautionary statement(s)

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 (15mins)

Classification:

Acute toxicity (oral) – Cat 4
 Acute toxicity- (inhalation) – Cat 4
 Skin corrosion – Cat 1B
 Skin sensitivity- Cat 1
 Aquatic (chronic) – Cat 2
 Reproductive toxicity – Cat 2
 Mutagenicity- Cat 2
 Specific target organ, single exposure, respiratory- Cat 2

POTENTIAL HEALTH EFFECTS:

Eye Contact: Irritating to the eyes. May cause burns to the eyes.

Ingestion: Harmful if swallowed.

Inhalation: Heated vapor concentrations may be harmful if inhaled. Severe irritant to respiratory tract can occur.

Skin Contact: May cause severe irritation. Causes burns with direct contact.

Chronic: Eyes: Prolonged contact might cause more severe burns.
 Skin: Prolonged contact might cause more severe

Ingestion: May cause osseous fluorosis (increased radiographic density of the bones). May cause kidney damage, asthma and symptoms resembling rheumatism.
 Inhalation: Not determined
 Target organ: Chronic ingestion may cause kidney damage.
 May aggravate an existing dermatitis.
 Long term over exposure to inorganic tin compound can cause a benign dust-induced lung condition, called Stannosis. Usually this condition does not interfere with normal lung function.

EMERGENCY OVERVIEW: DANGER: Harmful if swallowed. Causes severe burns. Avoid physical contact with eyes, mucous membranes and skin. CONTAINS FLUORIDES AND ZINC CHLORIDES. Do not take internally. Soldering may produce fumes and gases. Prolonged or repeated over-exposure by skin contact may cause dermatitis. Use adequate ventilation. KEEP OUT OF THE REACH OF CHILDREN.

NOTE: The Indium Corporation does not recommend, manufacture, market or endorse any of it's product's 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
Zinc Chloride	8.51-8.96	7646-85-7/231-592-0	1	1(fume)	2
		(EU)		1(fume)	2
		(Canada)		1	2
		(Singapore)	1(fume)	-	2
		(China)	-	1(fume)	2
Organic Fluorides	17.92-18.87	1341-49-7/215-676-4	2.5	2.5	N.E.
Stannous Chloride (Tin (II) Chloride dehydrate)	10 -15	7772-99-8/231-868-0 10025-69-1	N.E.	N.E.	N.E.
Monoethanolamine	56.6	141-43-5/205-483-3	6	2ppm	15
		(EU)	-	7.6	15
		(Canada)	-	7.5	15
		(Singapore)	7.5	-	15
Monoethanolamine (IDLH) 30 ppm					

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 quickly.

Ingestion: If patient is conscious, ONLY induce vomiting as directed by trained personnel and ONLY administer soluble calcium in any form as an internal antidote, as directed by a physician. 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: >200 F (93 C) **Method:** Not available

Auto-ignition Temperature: Not established.

Flammable Limits: Limits not established, not flammable.

Extinguishing Media: Use extinguishers appropriate for the surrounding fire conditions. Dry chemical, foam or carbon dioxide. Water spray to cool.

Special Fire Fighting Procedures: Firefighters must wear NIOSH approved self-contained breathing apparatus (SCBA) and full protective clothing.

6. ACCIDENTAL RELEASE MEASURES

Spill or Leak Procedures: Wear a respirator and appropriate Personal Protective (See Exposure Controls/Personal Protective Section). Absorb with clay, sand or sawdust, 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. Do not allow product to enter sewage systems or ground water.

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: Good general exhaust ventilation should be sufficient to control airborne levels.

Personal protection:

Eyes: Chemical safety glasses/goggles. Face shield for splash hazards.

Respirator: An authority approved or compliant marked air-purifying respirator with a dust/mist/organic cartridge is recommended under certain circumstances where airborne concentrations are expected to be elevated. Additional protection may be required so that 30 ppm of monoethanolamine is not exceeded.

Skin: Compatible chemical resistant rubber gloves. Protective outer garment, apron, sleeves as appropriate.

Other: Eyewash fountain/shower in work area. Avoid the use of contact lenses in high fume/splash areas.

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:	Solid-light amber	Boiling Point:	>200 F (93 C)
Odor:	Ammonia-like	Melting Point:	Not applicable
Specific Gravity:	1.33	pH:	6 - 8
Vapor Pressure:	Not applicable.	Solubility in Water:	Soluble
Vapor Density:	(air=1) Not applicable.	VOC:	0 lbs per gallon

10. STABILITY AND REACTIVITY

General: Stable. Thermal decomposition generates- corrosive vapors

Conditions to Avoid: Heat

Incompatible Materials: Strong oxidizers, sodium nitrite

Hazardous Decomposition / Combustion: Thermal decomposition of this product may result in the release of hydrogen fluoride. Other products of combustion may include ammonia and carbon monoxide.

Hazardous Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

Carcinogenicity: NTP: No
OSHA: No
IARC: No

Paste: LD50 (rat) (oral) 671 mg/kg
ATE CLP (oral) 671 mg/kg bodyweight
ATE CLP (dust,mist) 2.174 mg/l/4 h

LD50: Monoethanolamine 1,720mg/kg (rat) oral
Stannous chloride 604 (mouse) LD50
Zinc chloride 200 (guinea pig)/350 (rat) LD50

LC50: Monoethanolamine 1,210 mg/m3 inhalation 4 hrs

Irritancy of Product: Fumes evolved during soldering may be irritating to the skin, eyes and respiratory tract.

Target Organ Effect: Exposure to fluorides can affect the skin, bones, nervous system and teeth.

Suspected of damaging fertility or the unborn child.

May cause respiratory irritation.

Causes skin burns and eye damage.

12. ECOLOGICAL INFORMATION

Product – persistence and degradability- may cause long term adverse effects in the environment.

Zinc chloride is very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. If flux is released into the aquatic environment, it is expected to have toxic effects on aquatic plants, fish and invertebrates.

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. Do not discharge to sewers, on the ground or into any body of water.

14. TRANSPORT INFORMATION

Transport in accordance with applicable regulations and requirements.

Ground: UN1759, Corrosive Solid, N.O.S., 8, PG II (monoethanolamine, organic fluorides)

IATA: May be carried under the provisions for dangerous goods in limited quantities.

ADR/RID: When packaged in quantities less than 6kg this material can be shipped in Limited Quantities: Label outer package with UN1759.



UN1759, Corrosive Solid, N.O.S., 8, PG II (monoethanolmine, organic fluorides)

IMDG: UN1759, Corrosive Solid, N.O.S., 8, PG II (monoethanolamine, organic fluorides) Marine Pollutant



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).

This product has been classified in accordance with the guidelines set by the Dept. of Industrial Health of the Republic of Singapore.

This product has been classified using the Chinese Occupational Exposure Limit for Hazardous Agents in the Workplace, GBZ2-2002.

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).

California Prop 65 - none
SARA 313 Listing - 40 CFR 372.65 - None

All ingredients are listed on the EPA TSCA Inventory, Canadian Domestic Substances List or Non-Domestic Substance list and EINECS.

16. OTHER INFORMATION

HMIS Hazard Rating:	Health:	3
	Fire:	1
	Reactivity:	0

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Prepared by: Nancy Swarts, Indium Corporation of America

Approved by: Nancy Swarts, Indium Corporation of America

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