



## SAFETY DATA SHEET

### 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Identifier:** 1081 FLUX

**SDS Number:** SDS-HG4023

**Revised Date:** 17 AUGUST 2018

**Product Use:** Industrial Use – Water Soluble Solder Flux

**MANUFACTURER:**

The Indium Corporation of America®  
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NSWARTS@INDIUM.COM

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**In China:**

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**In Asia:**

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Asia-Pacific Operations-Singapore  
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Information: +65 6268-8678

**2. HAZARDS IDENTIFICATION**

**PRIMARY ROUTES OF ENTRY:**

\*Eye      \*Inhalation      \*Skin      \*Ingestion      NTP      IARC      OSHA      \*Not Listed

**Carcinogen listed in**

GHS:



Symbol: Warning  
 Hazard statement(s)

- H225            Highly flammable liquid and vapor
- H302            Harmful if swallowed
- H312            Harmful in contact with skin
- H318            Causes serious eye damage
- H332            Harmful if inhaled
- H336            May cause drowsiness or dizziness
- H402            Harmful to aquatic life

Precautionary statement(s)

- P210            Keep away from heat/sparks/open flames/hot surfaces. – No smoking
- P233            Keep container tightly closed
- P240            Ground/Bond container and receiving 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 liquids- Category 2
- Acute oral toxicity- Category 4
- Acute dermal toxicity- Category 4
- Serious eye irritation- Category 1
- Acute toxicity, inhalation- Category 4
- Specific target organ toxicity- single exposure – Category 3- central nervous system
- Acute aquatic – Category 3

**POTENTIAL HEALTH EFFECTS:**

- Eye Contact:**      Vapors may be irritating, liquid may damage eye tissue.
- Ingestion:**        May result in gastric disturbances such as nausea and vomiting. May be harmful.
- Inhalation:**        May cause throat irritation, headache or dizziness. May be harmful.
- Skin Contact:**     May cause irritation or defatting of the skin with irritation, dryness and cracking.

**Chronic:** Not established.



**WARNING:** This product can expose you to chemicals including [trace amounts of acetaldehyde, methyl isobutyl ketone] which are known to the State of California to cause cancer and [methanol, methyl isobutyl ketone ] which are known to the State of California to cause birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

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

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

Components	% wt	CAS Registry #	PEL mg/m <sup>3</sup>	TLV-TWA mg/m <sup>3</sup>	TLV-STEL mg/m <sup>3</sup>
WATER	10-15	7732-18-5 (US)	N.E.	N.E.	N.E.
PROPRIETARY	20-35	-	N.E.	N.E.	N.E.
CARBOXYLIC ACID	5-10	77-92-9	N.E.	N.E.	N.E.
<b>MIXTURE:</b>					
ETHYL ALCOHOL	50-55	64-17-5(US)	-	1884	-
		(EU)	-	1920	-
and		(Singapore)	1880	-	-
		(Mexico)	-	1900	-
ISOPROPYL ALCOHOL		67-63-0/200-661-7			
		(US)	980	983	1230
		(EU)	N.E.	999	1250
		(Canada)	N.E.	983	1228
		(Singapore)	983	-	1230
		(Mexico)	-	980	1225
		(China)	-	350	700

N.E. = Not established

### 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

<b>Flash Point:</b>	20C(68F)	<b>Method:</b>	TCC
<b>Auto-ignition Temperature:</b>	Not available		
<b>Flammable Limits:</b>	Upper limit 33. Lower limit 3.3.		
<b>Extinguishing Media:</b>	Use extinguishers appropriate for the surrounding fire conditions: large fires use alcohol resistant foam/water to cool containers/ small fires use dry chemicals/ CO2, water spray or alcohol resistant foam.		
<b>Special Fire Fighting Procedures:</b>	Standard fire - fighting equipment: clothing and SCBA. Alcohol vapors are heavier than air and may travel a considerable distance to a source of ignition and flash back.		

## 6. ACCIDENTAL RELEASE MEASURES

**Spill or Leak Procedures:** Do not allow material to enter sewer system or waterway. Wear personal protective equipment, such as gloves and depending on the quantity a respirator with organic cartridges may be required. Clean up by absorption. Eliminate sources of ignition. Keep unnecessary personnel away. Put clean-up materials in a properly labeled metal drum. Dispose of following all Federal, State and Local regulations. In the EU refer to the Special Waste Regulations.

## 7. HANDLING AND STORAGE

<b>Handling Precautions:</b>	Keep containers tightly closed when not in use. Use care to avoid spills. Wear personal protective equipment. Ground containers and dispensing equipment. Keep away from sources of ignition.
<b>Storage Precautions:</b>	Store product in tightly capped original containers in a cool, dry area away from sources of ignition. Refer to product label for specific storage temperature requirements. Rotate stock to ensure use before expiration date on the label.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Engineering Controls:** Face velocity >2.1 cubic feet/minute in confined areas. Exhaust ventilation is required to keep exposure limits as low as possible.

### Personal protection:

<b>Eyes:</b>	Chemical safety glasses/goggles. Face shield for splash hazards.
<b>Respirator:</b>	An approved or compliant marked air-purifying respirator with a fume/organic chemical cartridge is recommended where airborne concentrations are expected to be elevated or when working in confined areas.
<b>Skin:</b>	Compatible chemical resistant gloves (rubber/neoprene or vinyl). Latex not recommended.
<b>Other:</b>	Lab coat, eyewash fountain in work area. Avoid the use of contact lenses in high fume areas.
<b>Work/Hygienic Practices:</b>	Maintain good housekeeping. Clean up spills immediately. 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**

<b>Appearance:</b>	Liquid, clear	<b>Boiling Point:</b>	78°C (173°F)
<b>Odor:</b>	Alcoholic	<b>Melting Point:</b>	Not applicable
<b>Specific Gravity:</b>	0.963 +/- 0.005	<b>pH:</b>	4.98
<b>Vapor Pressure:</b>	40 mm HG @19°C	<b>Solubility in Water:</b>	Miscible
<b>Vapor Density:</b>	1.59	<b>Evaporation Rate:</b>	2.64
<b>Volatile by Volume:</b>	65%		

**10. STABILITY AND REACTIVITY**

<b>General:</b>	Stable.
<b>Conditions to Avoid:</b>	Direct heat, open flames and storage in aluminum.
<b>Incompatible Materials:</b>	phosphorus, halogens, anhydrides, monomers, aldehydes, trichlorides
<b>Hazardous Decomposition / Combustion:</b>	Carbon dioxide/carbon monoxide.
<b>Hazardous Polymerization:</b>	Will not occur.

**11. TOXICOLOGICAL INFORMATION**

<b>Carcinogenicity:</b>	<b>NTP:</b> No		
	<b>OSHA:</b> No		
	<b>IARC:</b> No		
<b>LD50:</b>	Not established.	<b>LC50:</b>	Not established.

**12. ECOLOGICAL INFORMATION**

Product not tested. Contains a substance that is harmful to aquatic life.

**13. DISPOSAL CONSIDERATION**

<b>Waste Disposal Method:</b>	Dispose of in accordance with all Federal, State and Local environmental regulations. In Europe follow the Special Waste Regulations. Flammable liquid.
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**14. TRANSPORT INFORMATION**

Transport in accordance with applicable international regulations and requirements.  
 Shipping: UN 1987, Alcohols N.O.S. (ethyl alcohol, isopropanol), 3, PG II  
 North American Emergency Guide Book – Guide #127



UN 1987 Flammable Liquid

## 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 Flammable Division 2  
D2B Toxic Material Causing Other Toxic Effects (eye irritation in animals).

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 in accordance with: Malaysian – OCCUPATIONAL SAFETY AND HEALTH (CLASSIFICATION, LABELING AND SAFETY DATA SHEET OF HAZARDOUS CHEMICALS) REGULATION OCTOBER 2013 – (CLASS).

Regulatory Information China:

GB/T 16483-2008, GB/T 17519-2013, Safety Data Sheets for Chemical Products

GB 30000.2-29-2013, Rules for classification and labeling of chemicals (GHS)

Decree No. 591: Regulations on the Control Over Safety of Hazardous Chemicals.

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



**WARNING:** This product can expose you to chemicals including [trace amounts of acetaldehyde, methyl isobutyl ketone] which are known to the State of California to cause cancer and [methanol, methyl isobutyl ketone ] which are known to the State of California to cause birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

SARA 313 Listing - 40 CFR 372.65:

Ethyl Alcohol

All ingredients are listed on the EPA TSCA Inventory.

**16. OTHER INFORMATION**

<b>HMIS Hazard Rating:</b>	<b>Health:</b>	1
	<b>Fire:</b>	3
	<b>Reactivity:</b>	0
<b>Revised Date:</b>	17 AUGUST 2018	
<b>Prepared by:</b>	Nancy Swarts, Indium Corporation of America	
<b>Approved by:</b>	Nancy Swarts, Indium Corporation of America	

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