



## SAFETY DATA SHEET

### 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Identifier:** WAVE SOLDER FLUX GS-5425

**SDS Number:** SDS-5425

**Revised Date:** 5 APRIL 2018

**Product Use:** Industrial Use - Wave Solder Flux

#### MANUFACTURER:

##### In America:

The Indium Corporation of America®.

34 Robinson Rd., Clinton, NY 13323

Information: (315) 853-4900

[nswarts@indium.com](mailto:nswarts@indium.com)

##### EMERGENCY PHONE:

**CHEMTREC 24 hrs.**

**USA: 1 (800) 424-9300**

**Outside USA: +1 (703) 527-3887**

##### In Europe:

The Indium Corporation of America® (European Operations)

7 Newmarket Ct

Kingston, Milton Keynes, UK, MK 10 OAG

Information: +44 [0] 1908 580400

##### In China:

Indium Corporation (Suzhou), Co., Ltd.

No. 428 Xinglong Street

Suzhou Industrial Park

Suchun Industrial Square

Unit No. 14-C

Jiangsu Province, China 215126

Information: (86) 512-6283-4900

##### In Asia:

Indium Corporation of America

Asia-Pacific Operations-Singapore

29 Kian Teck Avenue

Singapore 628908

Information: +65 6268-8678

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

⊗Eye    ⊗Inhalation    ⊗Skin    ⊗Ingestion    NTP    IARC    OSHA    ⊗Not Listed

**Carcinogen listed in**

GHS:



Signal Word: Danger

**Hazard statement(s):**

H225            Highly flammable liquid and vapor  
 H319            Causes serious eye irritation  
 H336            May cause drowsiness or dizziness

**Precautionary statement(s)**

P210            Keep away from heat/sparks/open flames/hot surfaces. – No smoking  
 P233            Keep container tightly closed  
 P240            Ground container and receiving equipment  
 P242            Use spark resistant tools  
 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 + P341    IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing  
 P305 +P351    IF IN EYES: Rinse continuously with water for several minutes (15 mins)

**Classification:**

Flammable Liquid - Category 2  
 Serious eye damage/eye irritant - Category 2  
 Specific target organ systemic toxicity (single exposure) – Category 3 Central Nervous system

**POTENTIAL HEALTH EFFECTS:**

**Eye Contact:**    Vapors may be irritating, liquid may damage eye tissue.

**Ingestion:**        May cause persistent nausea, vomiting and abdominal pain.

**Inhalation:**        Vapor may cause headaches and or dizziness. Irritating to respiratory tract

**Skin Contact:**    Prolonged contact may cause irritation.

**Chronic:**            Isopropanol: target organs- liver, kidneys, nerves, gastrointestinal tract

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



**WARNING:** This product can expose you to chemicals including [1,4-dioxane] which is known to the State of California to cause cancer and can cause birth defects or reproductive harm. For more information go to

[www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

### 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>
ISOPROPANOL	90-95	67-63-0 (US)	980	983	1225
PROPAN-2-OL		(EU)	-	999	1250
		(Canada)	-	983	1228
		(Singapore)	983	-	1230
		(Mexico)	-	980	1225
		(China)	-	350	700
PROPRIETARY	0 - 5	-	N.E.	N.E.	N.E.
ORGANIC ACID	0 - 5	68603-87-2 (US)	N.E.	N.E.	N.E.

N.E. = Not established      EU = European 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 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

- Flash Point:** 12°C (54°F)      **Method:** Closed Cup
- Auto-ignition Temperature:** None
- Flammable Limits:** Upper: 12.7 @77°F; Lower 2 @ 77°F
- Extinguishing Media:** Dry chemical. Use extinguishers appropriate for the surrounding fire conditions.
- Special Fire Fighting Procedures:** Wear protective clothing. Use water to cool fire exposed containers.

### 6. ACCIDENTAL RELEASE MEASURES

**Spill or Leak Procedures:** DO NOT allow material to enter sewer system or waterway. Wear personal protective equipment. Eliminate sources of ignition. Ventilate area in accordance with regulations. Dispose of following all Federal, State and Local regulations. In the EU refer to the Special Waste Regulations.

## 7. HANDLING AND STORAGE

- Handling Precautions:** Keep containers tightly closed when not in use. Use care to avoid spills. Wear personal protective equipment.
- Storage Precautions:** Store product in tightly capped original containers in a cool, dry area. 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 recommended.

### Personal protection:

- Eyes:** Chemical safety glasses/goggles. Face shield for splash hazards.
- Respirator:** An authority approved or compliant marked air-purifying respirator with a fume/organic chemical cartridge is recommended where airborne concentrations are expected to be elevated.
- Skin:** Compatible chemical resistant gloves.
- Other:** Lab coat, eye-wash fountain in work area. Avoid the use of contact lenses in high fume/splash areas.
- Work/Hygienic Practices:** 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>       | 79°C (175°F)                  |
| <b>Odor:</b>             | Alcohol odor.  | <b>Melting Point:</b>       | Not applicable                |
| <b>Specific Gravity:</b> | 0.815 @ 60° F  | <b>pH:</b>                  | 3.2 (as is) 3.6 (1% solution) |
| <b>Vapor Pressure:</b>   | 33 mm HG @68°F | <b>Solubility in Water:</b> | Soluble                       |
| <b>Vapor Density:</b>    | 2.1 (air=1)    |                             |                               |

## 10. STABILITY AND REACTIVITY

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

## 11. TOXICOLOGICAL INFORMATION

- Carcinogenicity:** NTP: No  
OSHA: No

**IARC:** No

Product contains trace levels of 1, 4 Dioxane CAS# 123-91-1 PEL 100 ppm/TLV 20 ppm

**LD50:** Not established.**LC50:** Not established.

Isopropanol: LD50 oral- rat – 5,045 mg/kg

LC50 inhalation – rat – 8h – 16000 ppm

LD50 dermal – rabbit – 12,800 mg/kg RTECS: NT8050000

**12. ECOLOGICAL INFORMATION**

Product not tested.

Isopropanol: Toxicity to fish – LC50 –Pimephales promelas (fathead minnow) – 9,640mg/l – 96h

**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. Generally Classified as hazardous waste. Possible fuels blending option. Reclaim or recycle where possible.

**14. TRANSPORT INFORMATION**

Transport in accordance with applicable regulations and requirements. Hazardous material:

UN1219, Isopropanol, 3, PGI



Flammable label North American Emergency Guide Book : Guide #129

Marine pollutant: No

**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 Division 2 Flammable, 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 the Mexican guidelines, NOM-018-STPS-2015 and NOM-010-STPS-2014.

Malaysia:

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). (GHS)

In China:

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

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

GB/T 16483-2008, GB/T 17517-2013

This product has been classified using the Chinese Occupational Limit for Hazardous Agents in the Workplace, GBZ2-2007. All ingredients are listed on the China Chemical Inventory



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SARA 313 Listing - 40 CFR 372.65: trace levels of 1, 4 Dioxane

All ingredients are listed on the EPA TSCA Inventory.

Ingredients are listed on the Canadian Domestic Substance List.

## 16. OTHER INFORMATION

<b>HMIS Hazard Rating:</b>	<b>Health:</b>	2
	<b>Fire:</b>	3
	<b>Reactivity:</b>	0

**Revised Date:** 5 APRIL 2018

**Prepared by:** Nancy Swarts, Indium Corporation of America

**Approved by:** Nancy Swarts, Indium Corporation of America

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