



## SAFETY DATA SHEET

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

**1.1 Product Identifier:** 3592 LIQUID FLUX

**SDS Number:** SDS-HG011

**Revised Date:** 5 JULY 2018

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

**Product Use:** Industrial Use - Wave Solder 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 NY 13323

Technical & Safety Information: (315) 853-4900

Safety & SDS Information: [nswarts@indium.com](mailto:nswarts@indium.com)

Corporation web page: <http://www.indium.com>

**In Europe:**

**The Indium Corporation of America® (European Operations)**

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Kingston, Milton Keynes, UK, MK 10 OAG

Information: (normal business hours) +44 [0] 1908 580400

EU Contact: [aday@indium.com](mailto:aday@indium.com)

**In China:**

Indium Corporation (Suzhou) Co., Ltd.

No. 428 Xinglong Street

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Suchun Industrial Square

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Jiangsu Province, China 215126

Information: (86) 512-6283-4900

**In Asia:**

The Indium Corporation of America

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****PRIMARY ROUTES OF ENTRY:**

☒Eye

☒Inhalation

☒Skin

☒Ingestion

NTP

**Carcinogen listed in**

IARC

OSHA

☒Not Listed

**2.1 Classification of substance or mixture: (mixture)****2.2 Label Elements**

Labeling according to Regulation (EC) No. 1272/2008

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/Bond container and receiving equipment  
 P241 Use explosion-proof electrical/ventilating/lightening/equipment  
 P242 Use only non-sparking 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 + 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 Liquid – Category 2

Eye irritation – Category 2A

Specific target organ toxicity- single exposure – Category 3- central nervous system

**2.3 OTHER HAZARDS:****POTENTIAL HEALTH EFFECTS:**

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

**Ingestion:** May cause persistent nausea, vomiting and abdominal pain. Irritating to digestive tract.

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

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

**Chronic:** Not established.

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

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

Components	% wt	CAS Registry #
ISOPROPANOL (PROPAN-2-OL)	85-90	67-63-0 (US)
ORGANIC ACID	1 - 5	68603-87-2 (US)
PROPRIETARY	5 -14	-

N.E.- not established

**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:**

Skin contact may cause irritation. Eye exposure may cause 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.

## SECTION 5. FIRE FIGHTING MEASURES

**5.1 Extinguishing Media:** Use extinguishers appropriate for the surrounding fire conditions. Foam, dry chemical, water spray. Product is flammable.

**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.

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. Use anti - static tools. Keep sources of ignition away.

**6.2 Environmental Precautions:** Dispose contaminated cloth rags or paper towels following all applicable governmental regulations. Material is flammable. May not have any reclaim value.

**6.3 Methods and material for containment and cleaning up:**

Spill or leak procedures: Absorb all liquids. Throw spill clean - up debris into metal container for proper disposal.

**6.4 Reference to other sections:** See Section 8 for exposure levels.

## SECTION 7. HANDLING AND STORAGE

**7.1 Precautions For 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 flammable materials. 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. Ground containers and receiving equipment. Use spark resistant tools.

**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. Keep away from sources of ignition.

**7.3 Specific End Use(s):** Soldering related applications

**SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION****8.1 Control Parameters:**

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	85-90	67-63-0 (US)	980	983	1225
(PROPAN-2-OL)		(EU)	-	999	1250
		(Canada)	-	983	1228
		(Mexico)	980	-	1225
		(China)	-	350	700
		(Singapore)	983	-	1230
ORGANIC ACID	1 - 5	68603-87-2 (US)	N.E.	100 (ppm)	100 (ppm)
PROPRIETARY	5 -14	-	N.E.	N.E.	N.E.

N.E.- not established

**8.2 Exposure Controls:**

**Engineering Controls:** Exhaust ventilation with face velocity >2.1 cubic feet/minute in confined areas. Otherwise use general exhaust ventilation, to reduce potential exposure.

**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.

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES****9.1 Information on basic 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>	0.826-0.808	<b>pH:</b>	4.0 (as is) 3.5 (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)	<b>% Volatiles by volume:</b>	not established
<b>Relative Density:</b>	Not established	<b>Flammability:</b>	No information available
<b>Flash Point:</b>	12°C (54°F)	<b>Method:</b>	Closed Cup

<b>Auto-ignition Temperature:</b> 399°C (750°F)	<b>Flammable Limits:</b> Upper: 12 ; Lower 2
<b>Decomposition Temp:</b> Not applicable	<b>% Volatiles by volume:</b> Not established
<b>Viscosity:</b> Not established	<b>Explosive properties:</b> Not applicable
<b>Oxidizing Properties:</b> 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:** Direct heat, open flames and storage in aluminum

**10.5 Incompatible Materials:** Anhydrides, halogens, phosphorus, trichlorides, monomers, aldehydes

**10.6 Hazardous Decomposition / Combustion:** Harmful organic fumes and toxic oxide fumes may form at elevated temperatures. Carbon dioxide/carbon monoxide

**10.7 Hazardous Polymerization:** Will not occur.

## SECTION 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects:

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

### 11.2 Symptoms related to the physical, chemical and toxicological characteristics:

May cause irritation by inhalation.

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

May cause irritation by inhalation and ingestion.

**Mixture versus substance information:** None known

### Other Information:

**Carcinogenicity:** NTP: No (National Toxicity Program)

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

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

Oral LD50 (isopropyl alcohol)

LD50 Oral- rat- 5,045 mg/kg

Inhalation LC50 (isopropyl alcohol)

LC50 inhalation-rat-8h-16000 ppm

Dermal LD50

LD50 – Dermal- rabbit-12,800 mg/kg

RTECS: Isopropyl alcohol NT8050000

## SECTION 12. ECOLOGICAL INFORMATION

Product mixtures not tested.

**12.1 Toxicity:** No information available

**12.2 Persistence and degradability:** No information available

**12.3 Bio accumulative 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.

LC50-Pimephales promelas (fathead minnow)- 9,640 mg/l – 96h (isopropyl alcohol)

EC50-Daphnia magna (water flea) – 5,102 mg/l – 24h (isopropyl alcohol)

## 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.

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

## SECTION 14. TRANSPORT INFORMATION

Transport in accordance with applicable international regulations and requirements.

Flux is hazardous.

**14.1 UN Number:** 1219

**14.2 UN proper shipping name:** Isopropanol

**14.3 Transport hazard class(s):** 3

**14.4 Packing group:** II

**14.5 Environmental hazards:** None

**14.6 Special precautions for user:** None

**14.7 Transport in bulk:** Not applicable

**Shipping Name:** UN 1219, Isopropanol, 3, PG II



## SECTION 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.

All ingredients are listed on EINECS.

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. 2015/830

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

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

**Revised Date:** 5 JULY 2018

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

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

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