



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

**SAFETY DATA SHEET**

**1. PRODUCT AND COMPANY IDENTIFICATION**

**Product Identifier:** INDIUM WAVE SOLDER FLUX #3592

**MSDS Number:** MSDS-HG011

**Revised Date:** 11 JANUARY 2010

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

**MANUFACTURER:**

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**2. HAZARDS IDENTIFICATION**

**PRIMARY ROUTES OF ENTRY:**

Eye    Inhalation    Skin    Ingestion

**Carcinogen listed in**

NTP    IARC    OSHA    Not Listed

GHS:



**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 its products for human consumption.

**WARNING:** This product contains a chemical (s) known to the State of California to cause cancer and/or birth defects (or other reproductive harm). (Contains trace amounts of 1, 4 Dioxane)

**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 (PROPAN-2-OL)	85-90	67-63-0 (US)	980	983	1225
		(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.

Symbol: XI, F

Risk Phrases: R36/37/38, R11

EU = European Exposure Limits

**4. FIRST AID MEASURES**

**Eye Contact:** Hold eyelids apart and flush eyes with plenty of 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:** 399°C (750°F)

**Flammable Limits:** Upper: 12 ; Lower 2

**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. Ground containers.

**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. Keep away from sources of ignition.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**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.

**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>	0.826-0.808	<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)		

**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>	Anhydrides, halogens, phosphorus, trichlorides, monomers, aldehydes
<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

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

<b>LD50:</b>	Not established.	<b>LC50:</b>	Not established.
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**12. ECOLOGICAL INFORMATION**

This section is subject to future development. Product not tested.

**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.
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**14. TRANSPORT INFORMATION**

Transport in accordance with applicable regulations and requirements.

UN 1219, Isopropanol, 3, PG II (mixture)



North America Emergency Guide Book – Guide #129 Flammable label

## 15. REGULATORY INFORMATION

The information in this Material 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.).

The information in this Material Safety Data Sheet meets the requirements of the EU under Chemicals (Hazard Information and Packaging for Supply) Regulations 1994 (CHIP 2) Regulation 6.

This product has been classified in accordance with the hazard criteria of the Commission Directive 91/155/EEC and EH40.

This product has been classified in accordance with Mexican regulations NOM-018-STPS-2000 and NOM-010-STPS-1999.

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 using the Chinese Occupational Exposure Limit for Hazardous Agents in the Workplace, GBZ2-2002.

**WARNING:** This product contains a chemical (s) known to the State of California to cause cancer and/or birth defects (or other reproductive harm). (Contains trace amounts of 1, 4 Dioxane)

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.

EC Classification, Packaging and Labeling Requirements:

Symbol and Hazard Classification of Product

XI,F

### Risk Phrases:

R36/37/38 Irritating to eyes, respiratory system and skin

R 11 Highly Flammable

### Safety Phrases:

S16 Keep away from sources of ignition - "No Smoking"

S20/21 When using do not eat, drink or smoke

S22	Do not breathe dust
S23	Do not breathe fumes
S24/25	Avoid contact with skin and eyes
S27	Take off immediately all contaminated clothing
S28	After contact with skin wash immediately with plenty of soap and water
S36/37/39	Wear suitable protective clothing, gloves and eye/face protection
S62	If swallowed, do not induce vomiting seek medical advice immediately and show container or label
S7	Keep container tightly closed

## 16. OTHER INFORMATION

**HMIS Hazard Rating:**

<b>Health:</b>	1
<b>Fire:</b>	3
<b>Reactivity:</b>	0

**Revised Date:** 11 JANUARY 2010

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

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

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