



**INDIUM CORPORATION OF AMERICA®\EUROPE®\ASIA-PACIFIC®**

## MATERIAL SAFETY DATA SHEET

### 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Identifier:** INDIUM WAVE SOLDER FLUX #3541

**MSDS Number:** MSDS-HG014

**Revised Date:** 15 FEBRUARY 2007

**Product Use:** No Clean Wave Solder Flux

#### MANUFACTURER:

##### In America:

The Indium Corporation of America  
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Information: (315) 853-4900

##### EMERGENCY PHONE:

**CHEMTREC 24 hrs.**

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

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No. 428 Xinglong Street  
Suzhou Industrial Park  
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Jiangsu Province, China 215126  
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##### In Asia:

Asia-Pacific Operations-Singapore  
29 Kian Teck Avenue  
Singapore 628908  
Information: +65 6268-8678

### 2. 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	60-70	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	24-35	-	N.E.	N.E.	N.E.

<b>NAPHTHA</b>	5	8030-30-6(US)	400	1590	-
		(Canada)	-	1600	2000
		(Singapore)	1370	-	-
<b>ROSIN</b>	5.0-6.0	8050-09-7 (US)	N.E	N.E	N.E.
		(EU)	0.05	N.E.	0.15(sensitiser)

Symbol: Xi, F  
N.E. = Not established

Risk Phrases: R36/37/38, R11  
EU = European Exposure Limits

### 3. HAZARDS IDENTIFICATION

#### PRIMARY ROUTES OF ENTRY:

Eye   
Inhalation   
Skin   
Ingestion   
 Carcinogen listed in   
 NTP   
 IARC   
 OSHA   
Not Listed

#### 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.

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

**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 chemicals known to the State of California to cause cancer and birth defects or other reproductive harm.

### 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

<b>Flash Point:</b>	12°C (54°F)	<b>Method:</b>	Closed Cup
<b>Auto-ignition Temperature:</b>	398°C (750°F)		
<b>Flammable Limits:</b>	Upper: 12 @77°F; Lower 2 @ 77°F		
<b>Extinguishing Media:</b>	Dry chemical, Water or CO <sub>2</sub> . Use extinguishers appropriate for the surrounding fire conditions.		
<b>Special Fire Fighting Procedures:</b>	Wear protective clothing and self - contained breathing apparatus. Use water to cool fire exposed containers. Flammable vapors may travel great distances to ignition source and flash back.		

## 6. ACCIDENTAL RELEASE MEASURES

**Spill or Leak Procedures:** Do not allow chemical product 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.

**Respirator:** A NIOSH approved or EU compliant CE 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. Use gloves such as nitrile, which are compatible with alcohols.

**Other:** Lab coat, eye-wash fountain in work area. Avoid the use of contact lenses in high fume 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, Light Yellow	<b>Boiling Point:</b>	79°C (175°F)
<b>Odor:</b>	Alcohol odor.	<b>Evaporation Rate:</b>	1.7
<b>Specific Gravity:</b>	0.806 @ 60° F	<b>pH:</b>	Not available

<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>	90

## 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:** National Toxicity Program **NTP:** No  
Occupational Safety & Health Administration **OSHA:** No  
International Agency for Research on Cancer **IARC:** No

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

## 12. ECOLOGICAL INFORMATION

This section is subject to future development.

**Biodegradability:** Data not established.

**Aquatic Toxicity:** Data not established.

## 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.

## 14. TRANSPORT INFORMATION

Transport in accordance with applicable regulations and requirements.

Flammable Liquid, N.O.S., 3, UN 1993, II (isopropanol, naphtha)

Flammable label

North American Emergency Guidebook – Guide #128

## 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 the hazard criteria of the Canadian Controlled Products Regulation (CPR).

WHMIS: Class B2 Flammable Liquid

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 under the Mexican regulations NOM-018-STPS-2000 and NOM-010-STPS-1999.

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

**WARNING:** This product contains chemicals known to the State of California to cause cancer and birth defects or other reproductive harm. (trace levels of 1,4 dioxane)

SARA 313 Listing - 40 CFR 372.65: ( 0.019-0.08% 1,4 dioxane)

All ingredients are listed on the EPA TSCA Inventory.

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

S23 Do not breathe fumes

S24/25 Avoid contact with skin and eyes

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:**      **Health:**            1  
   **Fire:**                    3  
   **Reactivity:**        0

**Revised Date:**            15 FEBRUARY 2007

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

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

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