



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

MATERIAL SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier: INDIUM HI GRADE WAVE SOLDER FLUX #3541

MSDS Number: MSDS-HG014

Revised Date: 09 MARCH 2004

Product Use: No Clean Wave Solder Flux

MANUFACTURER:

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2. COMPOSITION / INFORMATION ON INGREDIENTS

Components	% wt	CAS Registry #	PEL mg/m ³	TLV-TWA mg/m ³	TLV-STEL mg/m ³
ISOPROPANOL	85-90	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	5-15		N.E.	N.E.	N.E.
ROSIN	0 - 5	8050-09-7 (US)	N.E.	N.E.	N.E.
		(EU)	0.05	N.E.	0.15(sensitiser)

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

Risk Phrases: R20/21/22, R36/37/38, R11
EU = European Exposure Limits

3. HAZARDS IDENTIFICATION

PRIMARY ROUTES OF ENTRY:

Eye
 Inhalation
 Skin
 Ingestion
 NTP
 IARC
 OSHA
 Not Listed

Carcinogen listed in

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.**

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: 398°C (750°F)

Flammable Limits: Upper: 12 @77°F; Lower 2 @ 77°F

Extinguishing Media: Dry chemical, Water or CO₂. Use extinguishers appropriate for the surrounding fire conditions.

Special Fire Fighting

Procedures: 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 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.

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 and lower pH chemicals.

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

Appearance:	Liquid, Light Yellow	Boiling Point:	79°C (175°F)
Odor:	Alcohol odor.	Evaporation Rate:	1.7
Specific Gravity:	0.806 @ 60° F	pH:	Not available
Vapor Pressure:	33 mm HG @68 F	Solubility in Water:	Soluble
Vapor Density:	2.1 (air=1)	% Volatiles by volume:	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., (isopropanol), 3, UN 1993, II

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, as 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,

SARA 313 Listing - 40 CFR 372.65: None

All ingredients are listed on the EPA TSCA Inventory.

EC Classification, Packaging and Labeling Requirements:

Symbol and Hazard Classification of Product

X_n,F

Risk Phrases:

- R20/21/22 Harmful by inhalation, in contact with skin and if swallowed
- 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

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