



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

MATERIAL SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier: NC-771

MSDS Number: MSDS-IN LF013

Revised Date: 19 OCTOBER 2004

Product Use: No-Clean-Wave Solder Liquid Flux

MANUFACTURER:

In America:

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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
2-PROPANOL					
(ISOPROPYL ALCOHOL)	85-95	67-63-0 (US)	980	983	1230
		(EU)	N.E.	999	1250
		(Canada)	N.E.	983	1228
		(Singapore)	983	-	1230

	(Mexico)	-	980	1225
	(China)	-	350	700
PROPRIETARY	5-15	N.E.	N.E.	N.E.

Symbol: X_nF

Risk Phrases: R11, R20/21/22, R36/37/38, R42

N.E. = Not established

EU = European Union Occupational Exposure Limits

3. HAZARDS IDENTIFICATION

PRIMARY ROUTES OF ENTRY:

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

POTENTIAL HEALTH EFFECTS:

- Eye Contact:** Moderately irritating to the eyes and if not removed promptly, may result in serious eye injury. Do not allow material to come in contact with the eyes.
- Ingestion:** Harmful if swallowed. May cause irritation and damage to the mouth, esophagus and gastrointestinal tract. May have systematic effects.
- Inhalation:** Heated vapor concentrations may be harmful if inhaled. Moderately toxic. Moderately irritating to respiratory tract.
- Skin Contact:** May cause mild skin irritation. Allergic reactions are possible, especially with repeated or prolonged exposure.
- Chronic:** Not established.
- Note:** **The Indium Corporation does not recommend, manufacture, market or endorse any of its product's 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:	16°C(60°F)	Method:	Closed cup equilibrium method.
Auto-ignition Temperature:	Not established.		
Flammable Limits:	Flammable, limits not established		
Extinguishing Media:	Use extinguishers appropriate for the surrounding fire conditions.		
Special Fire Fighting Procedures:	Firefighters must wear NIOSH approved self-contained breathing apparatus and full protective clothing.		

6. ACCIDENTAL RELEASE MEASURES

Spill or Leak Procedures: Wear a respirator and appropriate Personal Protective (See Exposure Controls/Personal Protective Section). Absorb spill with inert material (e.g., dry sand or earth), then place in a chemical waste container. 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. Avoid breathing vapors from heated material. Avoid contact with eyes, skin and clothing. Use with adequate ventilation.

Storage Precautions: Store product in tightly capped original containers in a cool, dry area. Keep away from heat and flame. Store away from incompatible materials. Empty containers may be hazardous as they contain product residue.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls: Local exhaust ventilation may be necessary to control any air contaminants to within their Exposure limits during the use of this product. Additionally, the odor threshold of isopropyl alcohol is 50 ppm and ventilation may be required to keep annoyance odors to the minimum levels. Ventilation is recommended when heating product.

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 under certain circumstances where airborne concentrations are expected to be elevated.

Skin: Compatible chemical resistant gloves. Protective outer garment, apron. Sleeves as appropriate.

Other: Eyewash fountain in work area. Avoid the use of contact lenses in high fume areas.

Work/Hygienic Practices: Maintain good housekeeping. Clean up spills immediately. 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:	Clear Liquid	Boiling Point:	Not applicable.
Odor:	Mild alcoholic odor.	Melting Point:	Not applicable
Specific Gravity:	Not applicable.	pH:	Not applicable

Vapor Pressure: Not applicable. **Solubility in Water:** Soluble

Vapor Density: (air=1) Not applicable.

10. STABILITY AND REACTIVITY

General: Stable.
Conditions to Avoid: Open flame or other sources of ignition and high temperatures.
Incompatible Materials: Not established
Hazardous Decomposition / Combustion: Elemental oxides
Hazardous Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

Carcinogenicity: NTP: No
OSHA: No
IARC: No
LD50: Not established. **LC50:** Not established.
Other: None known

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., (Isopropyl Alcohol), 3, UN1993, II

North American Emergency Guide Book 2004: 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: No information available.

This product complies with the requirements under the EU Directive 2002/95/EC (RoHS).

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 Agent in the Workplace, GBZ2-2002.

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:

- R11 Highly Flammable
 R20/21/22 Harmful by inhalation, in contact with skin and if swallowed
 R36/37/38 Irritating to eyes, respiratory system and skin
 R42 May cause sensitization by inhalation

Safety Phrases:

- S20/21 When using do not eat, drink or smoke
 S23 Do not breathe fumes/gas/vapor/spray
 S24/25 Avoid contact with skin and eyes
 S36/37/39 Wear suitable protective clothing, gloves and eye/face protection
 S28 After contact with skin wash immediately with plenty of soap and water
 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:	2
	Fire:	3
	Reactivity:	0
Revised Date:	19 OCTOBER 2004	
Prepared by:	Nancy Swarts, Indium Corporation of America	
Approved by:	Nancy Swarts, Indium Corporation of America	

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