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

MATERIAL SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier: INDIUM HI GRADE #16-1011
MSDS Number: MSDS-4081 **Revised Date:** 19 MAY 2004
Product Use: FLUX THINNER

MANUFACTURER:

In America:
The Indium Corporation of America
1676 Lincoln Ave., Utica NY 13502
Information: (315) 853-4900

In Europe:
Indium Corporation of Europe
7 Newmarket Ct.
Kingston, Milton Keynes, UK, MK 10 OAG
Information: +44 [0] 1908 580400

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

EMERGENCY PHONE:
CHEMTREC 24 hrs.
USA: 1 (800) 424-9300
Outside USA: 1 (703) 527-3887

2. COMPOSITION / INFORMATION ON INGREDIENTS

Components	% wt	CAS Registry #	PEL mg/m³	TLV-TWA mg/m³	TLV-STEL mg/m³
ISOPROPANOL	90-95	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	5-10		N.E.	N.E.	N.E.

Symbol: X_n, F Risk Phrases: R20/21/22, R36/37/38, R11
N.E. = Not established 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.**

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: 55°F **Method:** Closed Cup

Auto-ignition Temperature:

Flammable Limits: Upper: 12 ; Lower 2.0

Extinguishing Media: Dry chemical, Water or CO_2. 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. Additional protection may be required in confined areas.

Skin: Compatible chemical resistant gloves. Use gloves such as nitrile, which are compatible with alcohol.

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:	Colorless	**Boiling Point:**	81°C (177F)
Odor:	Alcohol odor.	**Evaporation Rate:**	1.7
Specific Gravity:	0.8080	**pH:**	N/A
Vapor Pressure:	32 mm HG @ 68F	**Solubility in Water:**	Soluble
Vapor Density:	2.1 (air=1)	**% Volatiles by volume:**	100

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

North America Emergency Guide Book – 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, as set, by the Dept of Industrial Health of the Republic of Singapore.

SARA 313 Listing - 40 CFR 372.65: None

All ingredients are listed on the EPA TSCA Inventory.

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.

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:**	2
	Fire:	3
	Reactivity:	0
Revised Date:	19 MAY 2004	
Prepared by:	Nancy Swarts, Indium Corporation of America	
Approved by:	Nancy Swarts, Indium Corporation of America	

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