



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

SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier: WF-9942 NO-RESIDUE LEAD FREE FLUX

MSDS Number: MSDS-4159

Revised Date: 23 JANUARY 2012

Product Use: INDUSTRIAL USE (mixture) - WAVE SOLDER FLUX

MANUFACTURER:

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2. HAZARDS IDENTIFICATION

PRIMARY ROUTES OF ENTRY:

⊗Eye ⊗Inhalation ⊗Skin ⊗Ingestion NTP IARC OSHA ⊗Not Listed

Carcinogen listed in

GHS:



Flammable Liquid – Category 2

Signal Word: Danger

Hazard Statement(s):

H225 Highly Flammable liquid and vapor
H316 Causes mild skin irritation
H319 Causes serious eye irritation
H336 May cause drowsiness or dizziness

Precautionary statement(s)

P210 Keep away from heat/sparks/open flames/hot surfaces. – No smoking
P233 Keep container tightly closed
P261 Avoid breathing dust/fume/gas/mist/vapors/spray
P270 Do not eat, drink or smoke when using this product
P273 Avoid release to the environment
P280 Wear protective gloves/protective clothing/eye protection/face protection
P362 Take off contaminated clothing and wash before reuse
P302 + P352 IF ON SKIN: Wash with plenty of soap and water
P304 + 341 IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing
P305 + 351 IF IN EYES: Rinse continuously with water for several minutes

POTENTIAL HEALTH EFFECTS:

Eye Contact: Vapors may be irritating, liquid may damage eye tissue.

Ingestion: May cause irritation.

Inhalation: Vapor may cause headaches and or dizziness. Avoid inhalation of vapors. May cause irritation to respiratory tract.

Skin Contact: Prolonged contact may cause irritation.

Chronic: Over exposure to vapors may be harmful. Not established.

NOTE: **The Indium Corporation does not recommend, manufacture, market or endorse any of its products for human consumption.**

WARNING: Applicable in the State of California: 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 not intentionally added)

3. COMPOSITION / INFORMATION ON INGREDIENTS

Components	% wt	CAS Registry #	PEL mg/m ³	TLV-TWA mg/m ³	TLV-STEL mg/m ³
ISOPROPANOL	90-95	67-63-0 (US)	980	983	1225
(PROPAN-2-OL)		(EU)	-	999	1250
		(Canada)	-	983	1228
		(Mexico)	980	-	1225
		(China)	-	350	700
		(Singapore)	983	-	1230
PROPRIETARY	5-10		N.E.	N.E.	N.E.
Symbol: XI, F	Risk Phrases: R36/37/38, R11, R67				
N.E. = Not established	EU = European Exposure Limits				

PRODUCT DOES NOT CONTAIN ANY EU SUBSTANCES OF VERY HIGH CONCERN (SVHC)

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:** 750 F
- Flammable Limits:** Upper: 12 @77°F; Lower 2 @ 77°F
- Extinguishing Media:** Water. 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. Ground containers. Keep away from sources of ignition and heat.

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. Overall general exhaust ventilation recommended in order to keep exposures to as low as possible. Do not use in confined areas unless vented properly.

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. Use respiratory protection in confined areas. Air purifying respirators will offer no protection in oxygen deficient areas. Ensure that the protection factors of the respirator are not exceeded.

Skin: Compatible chemical resistant gloves. Use gloves such as nitrile, which are compatible with alcohols. Latex gloves are not recommended.

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

Appearance:	Colorless	Boiling Point:	80°C (175°F)
Odor:	Alcohol odor.	Evaporation Rate:	1.7
Specific Gravity:	0.833 +/- 0.003 @ 60° F	pH:	4.0
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.
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12. ECOLOGICAL INFORMATION

Product not tested.

13. DISPOSAL CONSIDERATION

Waste Disposal Method: Dispose of in accordance with all Federal, State and Local environmental regulations.

14. TRANSPORT INFORMATION

Transport in accordance with applicable regulations and requirements.

UN1219, Isopropanol, 3, PG II



North American Emergency Guide Book – Guide # 129

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.).

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 in accordance with 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 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 amounts of 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

R67 Vapors may cause drowsiness and dizziness

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

RoHS (Restriction of Hazardous Substances) Compliance Statement: This product complies with the requirements of the EU Directive 2002/95/EC regarding the restriction of certain hazardous substances in electronic equipment. This product does not contain any metals and does not contain any flame-retardants.

16. OTHER INFORMATION

HMIS Hazard Rating:	Health:	2
	Fire:	3
	Reactivity:	0

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Approved by: Nancy Swarts, Indium Corporation of America

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Note: This MSDS may be translated into an international language. If there is any misinterpretation or misunderstanding of any words or phrases that may occur within any translation the ENGLISH language shall always prevail.