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
SDS Number: SDS-4159 **Revised Date:** 28 JUNE 2016
Product Use: INDUSTRIAL USE (mixture) - WAVE SOLDER FLUX

MANUFACTURER:

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

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

In Asia:
Indium Corporation of America
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

In China:
Indium Corporation (Suzhou), Co., Ltd
No. 428 Xinglong Street
Suzhou Industrial Park
Suchun Industrial Square
Unit No. 14-C
Jiangsu Province, China 215126
Information: (86) 512-6283-4900

2. HAZARDS IDENTIFICATION

PRIMARY ROUTES OF ENTRY: **Carcinogen listed in**

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

GHS:

Signal Word: Danger

Hazard Statement(s):

H225 Highly Flammable liquid and vapor
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
P240 Ground container and receiving equipment
P242 Use spark resistant tools
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 + P364 Take off contaminated clothing and wash before reuse
P301 + P314 IF SWALLOWED: Get Medical advice/attention if you feel unwell
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 (15 mins)

Isopropyl alcohol:
Flammable Liquid - Category 2
Serious eye damage/eye irritant - Category 2
Specific target organ systemic toxicity (single exposure) – Category 3 Central Nervous system

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 #/EINECS	PEL mg/m³	TLV-TWA mg/m³	TLV-STEL mg/m³
ISOPROPANOL	80-90	67-63-0/200-661-7			
		(US)	980	983	1225
(**PROPAN-2-OL)**		(EU)	-	999	1250
		(Canada)	-	983	1228
		(Mexico)	980	-	1225
		(China)	-	350	700
		(Singapore)	983	-	1230
PROPRIETARY	1-20	-	N.E.	N.E.	N.E.

N.E. = Not established EU = European Exposure Limits

4. FIRST AID MEASURES

Eye Contact: Hold eyelids apart and flush eyes with plenty of tepid 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.

Oral LD50 (isopropyl alcohol)

LD50 Oral- rat- 5,045 mg/kg

Inhalation LC50 (isopropyl alcohol)

LC50 inhalation-rat-8h-16000 ppm

Dermal LD50

LD50 – Dermal- rabbit-12,800 mg/kg

RTECS: Isopropyl alcohol NT8050000

12. ECOLOGICAL INFORMATION

Product not tested.

LC50-Pimephales promelas (fathead minnow)- 9,640 mg/l – 96h (isopropyl alcohol)

EC50-Daphnia magna (water flea) – 5,102 mg/l – 24h (isopropyl alcohol)

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. Regulated under DOT (Department of Transportation and IATA)

UN1219, Isopropanol, 3, PG II

North American Emergency Guide Book – Guide # 129

Marine Pollutant: No

15. REGULATORY INFORMATION

The information in this 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.).

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.

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-2015 and NOM-010-STPS-2014.

Regulatory Information China:
GB/T 16483-2008, GB/T 17519-2013, Safety Data Sheets for Chemical Products
GB 30000.2-29-2013, Rules for classification and labeling of chemicals (GHS)
Decree No. 591: Regulations on the Control Over Safety of Hazardous Chemicals.
This product has been classified using the Chinese Occupational Exposure Limit for Hazardous Agents in the Workplace, GBZ2-2002.

RoHS 2 (Restriction of Hazardous Substances) Compliance Statement: This product complies with the requirements of the EU Directive 2011/65/EU regarding the restriction of certain hazardous substances in electronic equipment. This product does not contain any metals and does not contain any flame-retardants.

This product has been classified in accordance with: Malaysian – OCCUPATIONAL SAFETY AND HEALTH (CLASSIFICATION, LABELING AND SAFETY DATA SHEET OF HAZARDOUS CHEMICALS) REGULATION OCTOBER 2013 – (CLASS).

16. OTHER INFORMATION

HMIS Hazard Rating:	**Health:**	2
	Fire:	3
	Reactivity:	0
Revised Date:	28 JUNE 2016	
Prepared by:	Nancy Swarts, Indium Corporation of America	
Approved by:	Nancy Swarts, Indium Corporation of America	

The information and recommendations contained herein are, to the best of The Indium Corporation of America's knowledge and belief, accurate and reliable as of the date issued. The Indium Corporation of America does not warrant or guarantee their accuracy or reliability, and The Indium Corporation of America shall not be liable for any loss or damage arising out of the user thereof. The information and recommendations are offered for the user's consideration and examination, and it is the user's responsibility to satisfy itself that they are suitable and complete for its particular use. If buyer repackages this product, legal counsel should be consulted to insure proper health, safety and other necessary information is included on the container.

Note: This SDS 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.