



**INDIUM CORPORATION OF AMERICA®/ EUROPE®/ ASIA PACIFIC®**  
**INDIUM CORPORATION (SUZHOU)®**  
**SAFETY DATA SHEET**

## 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Identifier:** INDIUM TRICHLORIDE IN DENATURED ETHANOL

**SDS Number:** SDS-5380

**Revised Date:** 24 APRIL 2015

**Product Use:** Industrial use - Indium Trichloride Solution ( $\text{InCl}_3$ ) in Ethanol

### MANUFACTURER:

#### In America:

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

#### EMERGENCY PHONE:

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

#### In Europe:

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

#### 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

#### In Asia:

Indium Corporation of America  
Asia-Pacific Operations-Singapore  
29 Kian Teck Avenue  
Singapore 628908  
Information: +65 6268-8678

<http://www.indium.com>

## 2. HAZARDS IDENTIFICATION

**PRIMARY ROUTES OF ENTRY:**

\*Eye      \*Inhalation      \*Skin      \*Ingestion      NTP

**CARCINOGEN LISTED IN:**

IARC      OSHA      \*Not Listed

GHS:



Signal Word: Danger

Hazard statement(s)

- H225 Highly flammable liquid and vapor
- H303 May be harmful if inhaled
- H314 Causes severe skin burns and eye damage
- 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/bond container and receiving equipment
- 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
- 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)

Classification

- Flammable liquid- Category 3
- Acute toxicity, inhalation- Category 5
- Skin corrosion- Category 1C
- Specific target organ toxicity, single exposure, narcotic effect- Category 3

**POTENTIAL HEALTH EFFECTS:**

- Eye Contact:** May cause severe irritation and possible burns.
- Ingestion:** May be harmful if swallowed. May cause burns to the gastrointestinal tract. Kidney and liver damage from injected indium compounds has been reported based on limited animal testing.
- Inhalation:** May cause respiratory irritation. Severe exposure could cause pulmonary damage. Harmful by inhalation.

<b>Skin Contact:</b>	May cause skin irritation or burns. Harmful by skin absorption
<b>Chronic:</b>	Kidney and liver damage from injecting indium compounds has been reported based on limited animal testing.
<b>Other:</b>	Hygiene practices should be in place when handling this product. Avoid breathing fumes/vapors.
<b>Target Organs:</b>	Nerves, Liver, Eyes, Kidneys, CNS, Gastrointestinal tract, Cardiovascular system
	<b>The Indium Corporation does not recommend, manufacture, market or endorse any of its products for human consumption.</b>
<b>Warning:</b>	<b>This product contains a chemical known to the State of California to cause cancer and/or birth defects (or other reproductive harm). ( Trace levels of lead).</b>

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

Components	% wt	CAS Registry #	PEL mg/m <sup>3</sup>	TLV-TWA mg/m <sup>3</sup>	TLV-STEL mg/m <sup>3</sup>
<b>INDIUM TRICHLORIDE</b>	12 - 18	10025-82-8	0.1 (as Indium*)	0.1	-
		(EU)	-	0.1 (as Indium)	0.3
		(Canada)	-	0.1 (as Indium)	0.3
		(Singapore)	0.1(as indium)	-	-
		(Mexico)	-	0.1(as indium)	0.3
		(China)	-	0.1(as indium)	0.3
<b><u>DENATURED ETHANOL</u></b>	82 – 88				
ETHANOL	(85)	64-17-5/200-578-6			
ISOPROPANOL	(14)	67-63-0/200-661-7			
PROPYL ACETATE	(1)	109-60-4			
ETHANOL		64-17-5 (US)	1900	1884	-
		(EU)	-	1920	-
		(Canada)	-	1884	2355
		(Singapore)	1880	-	-
		(Mexico)	-	1900	-
ISOPROPANOL ( PROPAN-2-OL)		67-63-0 (US)	980	983	1225
		(EU)	-	999	1250
		(Canada)	-	983	1228
		(Mexico)	980	-	1225

	(China)	-	350	700
	(Singapore)	983	-	1230
PROPYL ACETATE	109-60-4 (US)	840	835	1040
	(EU)	-	849	1060
	(Canada)	-	835	1040
	(Singapore)	835	-	1040
	(Mexico)	-	840	1050

N.E. = Not established    X<sub>n</sub>, C, F    RISK PHRASES: R20/21/22, R36/37/38

\* Indium CAS# 7440-74-6

#### 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:** 9C (48F)                      **Method:** Not established.
- Auto-ignition Temperature:** Not established.
- Flammable Limits:** Limits not established. Flammable.
- Extinguishing Media:** Use extinguishers appropriate for the surrounding fire conditions. Foam, dry chemical or carbon dioxide.
- 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:** Isolate spill and clean up with absorbent. Remove all sources of ignition. Vapors can accumulate in low areas. Place material in proper waste container. An approved air purifying respirator with (multigas) acid gas/particulate/organic vapor cartridge and other personal protective equipment such as gloves is recommended. Avoid discharge to drain. Dispose of in accordance with Federal, State and Local regulations. In Europe dispose of following the Special Waste Regulations. Indium may have reclaim value.

#### 7. HANDLING AND STORAGE

<b>Handling:</b>	Keep containers tightly closed when not in use. Use care to avoid spills. Wear appropriate personal protective equipment. Use good work practices when handling flammable/corrosive material. Always thoroughly wash your hands after handling this product. DO NOT touch or rub eyes until hands are washed. Work in well ventilated areas. Ground/bond containers. Avoid areas of heat and flame.
<b>Storage Precautions:</b>	Store product in tightly capped original containers in a cool, well ventilated and dry area. Store away from heat and flame.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**Engineering Controls:** Mechanical exhaust ventilation is recommended to control any air contaminants. Avoid the use in confined areas. If ventilation is not available use of additional respirator and face protection is recommended at a minimum. Avoid the generation/accumulation of vapors in the work area.

### Personal protection:

<b>Eyes:</b>	Wear chemical safety glasses/goggles. The addition of a face shield may be necessary during some work practices.
<b>Respirator:</b>	An authority approved air-purifying respirator with an (multi-gas) acid gas/particulate/organic vapor filter is recommended under certain circumstances where airborne concentrations are expected to be elevated.
<b>Skin:</b>	Compatible acid/alcohol resistant chemical gloves are recommended.
<b>Other:</b>	Lab coat, apron, eyewash fountain in work area. Avoid the use of contact lenses in high fume/splash areas.
<b>Work/Hygienic</b>	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

<b>Appearance:</b>	Liquid-clear	<b>Boiling Point:</b>	Not established
<b>Odor:</b>	Characteristic	<b>Melting Point:</b>	Not applicable
<b>Specific Gravity:</b>	0.785 (ethanol)	<b>pH:</b>	1 - 2 (Corrosive)
<b>Vapor Pressure:</b>	Not applicable.		

## 10. STABILITY AND REACTIVITY

<b>General:</b>	Stable.
<b>Conditions to Avoid:</b>	Heat, spark, flame
<b>Incompatible Materials:</b>	Bases, peroxides, oxidizing agents, reducing agents, ammonia
<b>Hazardous Decomposition /</b>	Toxic fumes may form at elevated temperatures.
<b>Combustion:</b>	Deliquescent, hydrolyzes to form $\text{In}(\text{OH})_3$
<b>Hazardous Polymerization:</b>	Will not occur.

## 11. TOXICOLOGICAL INFORMATION

<b>Carcinogenicity:</b>	<b>National Toxicology Program (NTP):</b>	No
	<b>Occupational Safety &amp; Health Administration (OSHA):</b>	No
	<b>U.N. International Agency for Research on Cancer (IARC):</b>	No

See NIOSH RTECS# NL1400000 (indium), KQ6300000 (ethanol), NT8050000 (isopropanol), AJ3675000 (propyl acetate)

## 12. ECOLOGICAL INFORMATION

Product not tested.

## 13. DISPOSAL CONSIDERATION

**Waste Disposal Method:** Scrap indium metal may have some value. Contact a commercial reclaimer for recycling/reclaim. Otherwise, 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.

Shipping Name: UN2924, Flammable Liquid, Corrosive, N.O.S., 3 (8), PG II (denatured ethanol and indium trichloride)

North American Emergency Guide Book - Guide #132



## 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.).

This product has been classified in accordance with the hazard criteria of the Canadian Controlled Products Regulation (CPR).



Canadian WHMIS: Class E Corrosive Material  
Toxic Material Causing Other Toxic Effects

Class B Division 2 Flammable, D2B

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 using the Chinese Occupational Exposure Limit of Hazardous Agent in the Workplace, GBZ2-2002.

This product has been classified under the Mexican regulations NOM-018-STPS-2000 and NOM-010-STPS-1999.

SARA 313 listing - 40 CFR 372.65: None

California Prop 65: Warning: This product contains a chemical(s) known to the State of California to cause cancer and/or Birth defects (or other reproductive harm). (Trace levels of lead).

Swiss Poison Class: 4

All ingredients are listed on the EPA TSCA Inventory.

EC Classification, Packaging and Labeling Requirements:  
Symbol and Hazard Classification of Product X<sub>n</sub>, C, 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

#### 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

## 16. OTHER INFORMATION

<b>HMIS Hazard Rating:</b>	<b>Health:</b>	2
	<b>Fire:</b>	3
	<b>Reactivity:</b>	1

**Revised Date:** 24 APRIL 2015

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