SAFETY DATA SHEET

User must review the contents of this (SDS) and determine what is applicable to their own country laws under Health and Safety and apply them as necessary. This (SDS) will not reference every countries Health and Safety Laws. It is the user’s responsibility to determine what is applicable to them, including but not limited to review of any specific chemical lists and apply the requirements as necessary.

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier: ISOPROPYL ALCOHOL (IPA)
SDS Number: SDS-HG4026
Product Use: INDUSTRIAL THINNER - SOLVENT

MANUFACTURER:

In America:
The Indium Corporation of America®.
34 Robinson Rd., Clinton, NY  13323
Information: (315) 853-4900
nswarts@indium.com

EMERGENCY PHONE:
CHEMTREC 24 hrs.
USA: 1 (800) 424-9300
Outside USA: +1 (703) 527-3887
In China: Emergency 86+ 4008417580

In Europe:
The Indium Corporation of America® (European Operations)
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
- Carcinogen listed in 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/Bond container and receiving equipment
- P241 Use explosion-proof electrical/ventilating/lightening/equipment
- P242 Use only non-sparking 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)

Classification:

- Flammable Liquid – Category 2
- Eye irritation – Category 2A
- Specific target organ 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 persistent nausea, vomiting and abdominal pain.

Inhalation: Vapor may cause headaches and or dizziness. High concentrations may cause central nervous system depression.

Skin Contact: Prolonged contact may cause irritation and dermatitis.

Chronic: Repeated skin contact can cause dryness.

NOTE: The Indium Corporation does not recommend, manufacture, market or endorse any of its’ products for human consumption.
3. COMPOSITION / INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Components</th>
<th>% wt</th>
<th>CAS Registry #</th>
<th>PEL</th>
<th>TLV-TWA</th>
<th>TLV-STEL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>mg/m³</td>
<td>mg/m³</td>
<td>mg/m³</td>
</tr>
<tr>
<td>ISOPROPANOL</td>
<td>100</td>
<td>67-63-0 (US)</td>
<td>980</td>
<td>983</td>
<td>1225</td>
</tr>
<tr>
<td>PROPA-2-OL</td>
<td></td>
<td>(EU)</td>
<td>-</td>
<td>999</td>
<td>1250</td>
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<td></td>
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<td>(Canada)</td>
<td>-</td>
<td>983</td>
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<tr>
<td></td>
<td></td>
<td>(Mexico)</td>
<td>-</td>
<td>980</td>
<td>1225</td>
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<tr>
<td></td>
<td></td>
<td>(China)</td>
<td>-</td>
<td>350</td>
<td>700</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(Germany)</td>
<td>-</td>
<td>980</td>
<td>-</td>
</tr>
</tbody>
</table>

N.E. = Not established  EU = European Exposure Limits  IDLH Level 12,000 ppm

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 (53°F)  **Method:**  Closed Cup

**Auto-ignition Temperature:**  750°F

**Flammable Limits:**  Upper: 12%; Lower 2%

**Extinguishing Media:**  Dry chemical, CO₂, Dry sand, alcohol foam. 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. Use non-sparking tools. Ventilate area in accordance with regulations. Dispose of following all Federal, State and Local regulations. In the EU refer to the Special Waste Regulations. Classified as a flammable liquid.
7. HANDLING AND STORAGE
Handling: 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. Keep away from sources of ignition. 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 when there is a potential for exposure. Heating of product requires ventilation and care when heating a flammable material.

Personal protection:
Eyes: Chemical safety glasses/goggles. Face shield/goggles for splash hazards.
Respirator: An approved or compliant marked air-purifying respirator with a fume/organic chemical cartridge is recommended where airborne concentrations are expected to be elevated.
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/splash areas.
Work/Hygienic Practices: Maintain good housekeeping. Clean up spills immediately.

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Colorless liquid</td>
</tr>
<tr>
<td>Odor</td>
<td>Alcohol odor. 22ppm threshold</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>0.790 @ 60°F</td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>44 mm HG @ 25°F</td>
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<tr>
<td>Vapor Density</td>
<td>2.1 (air=1)</td>
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<tr>
<td>Molecular Weight</td>
<td>60.1</td>
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<tr>
<td>Molecular Formula</td>
<td>C3 H8 O</td>
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<tr>
<td>Boiling Point</td>
<td>82°C (180°F)</td>
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<tr>
<td>Evaporation Rate</td>
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<tr>
<td>pH</td>
<td>Neutral</td>
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<tr>
<td>Solubility in Water</td>
<td>Miscible</td>
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<tr>
<td>% Volatiles by volume</td>
<td>100</td>
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<tr>
<td>Flash Point</td>
<td>54°F (12C)</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

General: Stable.
Conditions to Avoid: Direct heat, open flames and storage in aluminum.
Incompatible Materials: Anhydrides, halogens, aluminum, oxidizing agents
Hazardous Decomposition / Combustion: No data available.
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.

NIOSH RTECS – NT8050000

Oral rat LD50 - 4396 mg/kg
Dermal rat LD50 – 12800 mg/kg
Dermal rabbit – 12870 mg/kg
Inhalation rat – 72.6 mg/l 4 h

RTECS: NT8050000

12. ECOLOGICAL INFORMATION

Freshwater Algae – 1000 mg/l EC50 >72h
Freshwater Fish – 1400000 ug/l LC50 96h
Water Flea – 13299 mg/l EC50 48 h
No other information is available.

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. Flammable liquid classification. Recycle/reuse if possible. Empty containers should be considered as hazardous as they contain product residues.

14. TRANSPORT INFORMATION

Transport in accordance with applicable international regulations and requirements.

Shipping: UN 1219, Isopropanol, 3, PG II

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).

WHMIS: Class B2 Flammable Liquid, 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.

SARA 313 Listing - 40 CFR 372.65: Only those who manufacture by the strong acid process are subject.

All ingredients are listed on the EPA TSCA Inventory, listed on the Philippines Inventory of Chemicals and Chemical Substances 2000, listed on the Canadian DSL and listed under EINECS # 200-661-7.

This product has been classified under the Mexican regulations NOM-018-STPS-2015 and NOM-010-STPS-2014.

In China:

This product has been classified using the Chinese Occupational Limit for Hazardous Agents in the Workplace, GBZ2-2007. Decree No. 591: Regulations on the Control over Safety of Hazardous Chemicals

GB 30000.2-29-2013, Rules for classification and labeling of chemicals. (GHS)

GB/T 16483-2008, GB/T 17517-2013

This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

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).

CERCLA: Reportable Quantity (RQ) 100 lbs.

16. OTHER INFORMATION

<table>
<thead>
<tr>
<th>HMIS Hazard Rating</th>
<th>Health:</th>
<th>2</th>
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<tbody>
<tr>
<td></td>
<td>Fire:</td>
<td>3</td>
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<tr>
<td></td>
<td>Reactivity:</td>
<td>0</td>
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</table>

Revised Date: 21 DECEMBER 2018

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.