



## MATERIAL SAFETY DATA SHEET

### ISO-PROPYL ALCOHOL

Revision Number : 00

Revision Date: 00

Issuing Date: 01.01.2014

#### Section 1 - Chemical Product and Company Identification

##### Product identifier

**Product Name** : ISO-PROPYL ALCOHOL  
**Synonyms** : Dimethyl carbinol, Isopropanol  
**CAS No.** : 67-63-0  
**Chemical Formula** :  $(\text{CH}_3)_2\text{CHOH}$   
**Use** : Solvent, For industrial use only

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#### Section 2 - Composition, Information on Ingredients

Ingredient	CAS#	Percent	Hazardous
Iso-Propyl Alcohol	67-63-0	100%	Yes

See Section 8 for Exposure Guidelines and Section 15 for Regulatory Classifications.

#### Section 3 - Hazards Identification

##### EMERGENCY OVERVIEW

**Appearance** : Colorless liquid  
**Odor** : Aromatic. Pleasant resembling a mixture of ethanol and acetone. (slight)  
**Precautions** : WARNING! FLAMMABLE LIQUID AND VAPOR Keep away from heat and flame. CAUSES EYE IRRITATION AND MAY CAUSE SKIN IRRITATION. Use only with adequate ventilation. Avoid contact with skin, eyes and clothing.  
**Environmental precautions** : Do not flush into surface water or sanitary sewer system. Low toxicity to aquatic organisms such as bacteria, algae, protozoa and fish. Readily biodegradable.

##### POTENTIAL HEALTH EFFECTS

**Eyes** : Irritating to eyes. May cause corneal inflammation.  
**Skin** : Repeated or prolonged contact can cause redness, irritation and scaling of the skin (dermatitis). Normal care and personal hygiene should prevent skin effects.  
**Inhalation** : Irritation of the nose and throat, dizziness, and headache.  
**Ingestion** : Depression of central nervous system can occur. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

(See Section 11 for Toxicological Information)



#### Section 4 - First Aid Measures

<b>Eye contact</b>	Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
<b>Skin contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. When symptoms persist or in all cases of doubt seek medical advice. Wash contaminated clothing before re-use.
<b>Inhalation</b>	Remove to fresh air. If breathing is irregular or stopped, administer artificial respiration. If breathing is difficult, give oxygen. Call a physician immediately.
<b>Ingestion</b>	If swallowed, call a physician or poison control center immediately. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person

#### Section 5 - Firefighting Measures

##### FLAMMABLE PROPERTIES

<b>Flash point</b>	11.67 °C closed cup 53 °F 18.3 °C open cup 64.9 °F
<b>Autoignition temperature</b>	398.89 °C 750 °F
<b>Flammable limits in air % by volume</b>	Lower explosion limit: 2 %(V) Upper explosion limit: 12 %(V)
<b>Fire and explosion</b>	Vapours may form explosive mixture with air. Flash back possible over considerable distance. Use water spray to disperse the vapors. NFPA Class IB flammable liquid.
<b>Extinguishing media</b>	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
<b>Fire fighting instructions</b>	Self-contained breathing apparatus (SCBA) and structural firefighter's protective clothing will provide limited protection.
<b>Further information</b>	Keep containers and surroundings cool with water spray. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas

#### Section 6 - Accidental Release Measures

<b>Steps to be taken in case of spill or leak</b>	Evacuate personnel to safe areas. Remove all sources of ignition. Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see Section 13). Do not flush into surface water or sanitary sewer system.
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#### Section 7 - Handling and Storage

<b>Safe handling advice</b>	Ensure all equipment is electrically grounded before beginning transfer operations.
<b>Storage/Transport pressure</b>	Ambient.
<b>Further information on storage conditions.</b>	Keep away from heat and sources of ignition.



Section 8 - Exposure Controls, Personal Protection

**ENGINEERING MEASURES**

Air contaminant levels should be controlled below the PEL or TLV for this product (see Exposure Guidelines). Mechanical ventilation may be necessary if working with this product in enclosed areas and/or at elevated temperatures. Use explosion-resistant equipment

**PERSONAL PROTECTIVE EQUIPMENT**

**Eyes**

When contact with liquid is possible, use a face shield and/or chemical splash goggles. Otherwise use safety glasses with side shields or goggles.

**Skin**

Wear suitable protective clothing, gloves and eye/face protection.

**Inhalation**

Respiratory protection is normally not required except in emergencies or when conditions cause excessive airborne levels of mists or vapors. NIOSH-approved organic vapor airpurifying respirator, self-contained breathing apparatus, or air-supplied respirators where there may be potential for overexposure.

**EXPOSURE GUIDELINES**

Components

**2-Propanol**

Exposure limit(s)

OSHA PEL 400 ppm(983 mg/m<sup>3</sup>)

ACGIH TLV (8-hour) 400 ppm(983 mg/m<sup>3</sup>)

ACGIH STEL 500 ppm(1,230 mg/m<sup>3</sup>)

PEL= Permissible Exposure Limits

TLV= Threshold Limit Value

EL= Excursion Limit

TWA= Time Weighted Average (8 hr.)

STEL= Short Term Exposure Limit (15 min.)

WEEL= Workplace Environmental Exposure Level

Section 9 - Physical and Chemical Properties

<b>Appearance</b>	liquid
<b>Colour</b>	Colorless
<b>Odour</b>	Aromatic. Pleasant resembling a mixture of ethanol and acetone. (slight)
<b>Form</b>	liquid
<b>Boiling point/range</b>	82.22 °C 180 °F
<b>Vapour pressure</b>	33 mm Hg @ 20 °C
<b>Vapor density</b>	2.08
<b>Solubility (water)</b>	completely soluble
<b>Viscosity</b>	3.03 cSt
<b>Melting point/range</b>	-88.5 °C -127.3 °F
<b>Density</b>	0.79 g/cm <sup>3</sup>
<b>pH</b>	7
<b>Evaporation rate</b>	2.88

Section 10 - Stability and Reactivity

<b>Conditions to avoid</b>	Keep away from heat and sources of ignition.
<b>Hazardous decomposition products</b>	Combustion products include carbon dioxide, carbon monoxide and possibly other unidentified organic compounds.
<b>Incompatibility with other materials</b>	Can react with strong oxidizers, inorganic acids, and halogens.
<b>Hazardous polymerization</b>	None.



### Section 11 - Toxicological Information

<b>Additional Remarks</b>	Exposure can cause nausea, headache and vomiting. May be harmful by inhalation, ingestion, skin adsorption.
<b>Eyes</b>	Irritating to eyes.
<b>Skin</b>	Acute dermal LD50 (rabbit): 12,800 mg/kg
<b>Inhalation</b>	Acute 4 hours LC50 (rat): 16,970 mg/l
<b>Ingestion</b>	Acute oral LD50(rat): 5,045 mg/kg

#### CARCINOGENICITY

This product contains no carcinogenic substances.

### Section 12 - Ecological Information

<b>Aquatic toxicity</b>	Low toxicity to aquatic organisms such as bacteria, algae, protozoa and fish. LC50 (Leuciscus idus melanotus) 48 hours > 100 LC50 (Brown shrimp) 96 hours 467,923 mg/l EC50 (Brine shrimp) 48 hours > 100 mg/l EC50 (S. subspicatus (algae)): 72 hours > 100 mg/l
<b>Biodegradation</b>	Readily biodegradable.

### Section 13 - Disposal Considerations

<b>Waste code</b>	D001 - Ignitability (RQ 100 LB) This product has the RCRA characteristic of ignitability. Re-evaluation of the product may be required by the user at the time of disposal, since the product uses, transformations, mixtures, contamination, and spillage may change the classification.
<b>Disposal methods</b>	Dispose of only in accordance with local, state, and federal regulations. Do not contaminate any lakes, streams, ponds, groundwater or soil.
<b>Empty containers</b>	Empty containers retain product residue (liquid and/or vapor) and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND, OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Empty drums should be completely drained, triple-rinsed, properly bunged and promptly returned to a drum reconditioner, or properly disposed.

### Section 14 - Transport Information

<b>DOT description</b>	Isopropanol, 3, UN 1219, II This product is regulated as a hazardous material as defined by the Department of Transportation (DOT).
<b>IATA description</b>	Isopropanol, 3, UN 1219, II This product is regulated as a dangerous good as defined by ICAO/IATA for air transportation.
<b>IMDG description</b>	Isopropanol 3, UN 1219, II This product is regulated as a dangerous good as defined by the IMDG Code for marine transport.



Section 15 - Regulatory Information

**U.S. FEDERAL REGULATIONS**

**OSHA classification**

Flammable liquid and eye irritant

**TSCA Inventory Listing**

**Components**

2-Propanol

**CAS-No.**

67-63-0

**SARA 302 Status**

**Components**

Contains no chemicals subject to SARA 302 reporting.

**CAS-No.**

**Weight %**

**SARA 311/312 Classification**

"Fire hazard", "Immediate (acute) health hazard"

**SARA 313 Chemical**

**Components**

2-Propanol

**CAS-No.**

67-63-0

**Weight %**

100

**CERCLA Hazardous Substance**

**Components**

Contains no chemicals subject to CERCLA.

**CERCLA RQ**

**Weight %**

**INTERNATIONAL REGULATIONS**

**Workplace Hazardous Materials Information System (WHMIS) Classification**

Class B, Division 2: Flammable liquid.

Class D, Division 2, Subdivision A: Very toxic material

Class D, Division 2, Subdivision B: Toxic material.

**Australian Inventory of Chemical Substances (AICS) Listing**

Listed on the AICS.

**Japanese Minister of International Trade and Industry (MITI) Inventory Listing**

Listed on MITI.

**Canadian Domestic Substance List (DSL) Inventory Listing**

Listed on the DSL.

**European Inventory of Existing Commercial Chemical Substances (EINECS) Listing**

Listed on EINECS.

**Phillipines Inventory List (PICCS)**

Listed on PICCS.

**Korean Inventory List**

Listed on the ECL.

**China Inventory List**

Listed on the China inventory.

**STATE REGULATIONS**

**California Safe Drinking Water Act (Prop 65) Listing**

**Components**

**CAS-No.**

Contains no chemical subject to California Prop 65



Section 16 - Additional Information

**HAZARD RATINGS**

	<b>Health</b>	<b>Flammability</b>	<b>Reactivity</b>
<b>HMIS</b>	1	3	0
<b>NFPA</b>	1	3	0

*The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall PT.Pancasakti Putera Kencana be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if PT.Pancasakti Putera Kencana has been advised of the possibility of such damages.*