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## Section 01 - Identification

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<b>Product Identifier</b>	Isopropyl Alcohol 70%
<b>Other Means of Identification</b>	Isopropanol, 2-propanol, dimethylcarbinol, 2-hydroxypropane, IPA, isopropyl alcohol, propan-2-ol, sec-propyl alcohol, 2-propyl alcohol.
<b>Product Use and Restrictions on Use</b>	Cleaning
<b>Initial Supplier Identifier</b>	Advance Chemicals Ltd. 1500 Quebec Avenue Saskatoon, SK. Canada S7K 1V7
<b>Prepared By</b>	ClearTech Industries Inc. Technical Writer Phone: 1 (800) 387-7503
<b>24-Hour Emergency Phone</b>	Phone: 1 (306) 664 – 2522

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## Section 02 - Hazard Identification

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### GHS-Classification

<b>Serious Eye Damage/Irritation</b>	Category 2
<b>STOT-Single Exposure</b>	Category 3

### Physical Hazards

<b>Flammable Liquid</b>	Category 2
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### **Warning**

### **Hazards Statements**

H319 – Causes serious eye irritation.  
H336 – May cause drowsiness or dizziness.  
H225 – Highly flammable liquid and vapour.

### **Pictograms**



### **Precautionary Statements**

P210 – Keep away from heat, sparks, open flames, and hot surfaces. — No smoking.  
P233 – Keep container tightly closed.  
P403 + P235 – Store in a well-ventilated place. Keep cool.

P405 – Store locked up.  
 P271 – Use only outdoors or in a well-ventilated area.  
 P240 – Ground/bond container and receiving equipment.  
 P241 – Use explosion-proof electrical, ventilating, lighting, and equipment.  
 P242 – Use only non-sparking tools.  
 P243 – Take precautionary measures against static discharge.  
 P370 + P378 – In case of fire: Use carbon dioxide, dry chemical powder, appropriate foam, water spray or fog for extinction.  
 P261 – Avoid breathing mist, vapours or spray.  
 P304 + P340 – IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
 P312 – Call a POISON CENTER or doctor/physician if you feel unwell.  
 P280 – Wear protective gloves, protective clothing, eye protection, and face protection.  
 P303 + P361 + P353 – IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.  
 P305 + P351 + P338 – IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P337 + P313 – If eye irritation persists: Get medical advice/attention.  
 P501 – Dispose of contents/container in accordance with all federal, provincial, and/or local regulations including the Canadian Environmental Protection Act.

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## Section 03 - Composition / Information on Ingredients

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Chemical Name	CAS Number	Weight %	Unique Identifiers
Isopropanol	67-63-0	70%	
Water	7732-18-5	30%	

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## Section 04 - First Aid Measures

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<b>Inhalation</b>	Remove source of contamination or move victim to fresh air. Give artificial respiration only if breathing has stopped. If breathing is difficult, give oxygen. Seek medical attention.
<b>Skin Contact / Absorption</b>	Remove contaminated clothing. Rinse skin with lukewarm, gently flowing water for 5 minutes. If irritation persists, repeat flushing and seek medical attention. Completely decontaminate clothing, shoes and leather goods before re-use or discard.
<b>Eye Contact</b>	Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for 30 minutes, while forcibly holding the eyelids open to ensure complete irrigation of the eye tissue. If a contact lens is present, remove only if easy to do so. Seek immediate medical attention.
<b>Ingestion</b>	NEVER give anything by mouth if victim is rapidly losing consciousness, is unconscious or convulsing. Have victim rinse mouth thoroughly with water. DO NOT INDUCE VOMITING. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Have victim rinse mouth with water again. Seek medical attention.
<b>Additional Information</b>	Not Available

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## Section 05 - Fire Fighting Measures

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<b>Suitable Extinguishing Media</b>	Carbon dioxide, dry chemical powder, appropriate foam, water spray or fog. Water may be effective for cooling, but may not be effective for extinguishing a fire because it may not cool 2-propanol below its flash point. Firefighting foams, such as multipurpose alcohol-resistant foam, are recommended for most flammable liquid fires.
<b>Unsuitable Extinguishing Media</b>	Not Available
<b>Specific Hazards Arising From the Chemical</b>	During a fire, irritating/toxic gases, such as carbon monoxide and carbon dioxide, and other toxic and irritating gases, smoke and fumes may be generated. The vapour can accumulate in confined spaces, resulting in a toxicity and flammability hazard. Closed containers may rupture violently and suddenly release large amount of product when exposed to fire or excessive heat for a sufficient period of time.

**Special Protective Equipment and Precautions for Fire-Fighters** Wear NIOSH-approved self-contained breathing apparatus and protective gear.

**Further Information** Not Available

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## Section 06 - Accidental Release Measures

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**Personal Precautions / Protective Equipment / Emergency Procedures** Wear appropriate personal protective equipment. Ventilate area. Only enter area with PPE. Stop or reduce leak if safe to do so. Flush with water to remove any residue.

**Environmental Precautions** Prevent material from entering waterways, sewers or confined spaces.

**Methods and Materials for Containment and Cleaning Up** SMALL SPILLS: Soak up spill with absorbent material which does not react with spilled chemical. Put material in suitable, covered, labelled containers. Flush area with water. LARGE SPILLS: Contact fire and emergency services and supplier for advice. Contain spill with earth, sand, or absorbent material which does not react with spilled material. Remove liquid by explosion-proof pumps or vacuum equipment. Place in a suitable, covered, labelled containers. Contaminated absorbent material may pose the same hazards as the spilled product.

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## Section 07 - Handling and Storage

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**Precautions for Safe Handling** This material is a FLAMMABLE liquid and an EYE IRRITANT. Use proper equipment for lifting and transporting all containers. Use sensible industrial hygiene and housekeeping practices. Wash thoroughly after handling. Avoid all situations that could lead to harmful exposure.

**Conditions for Safe Storage** Store in a cool, well-ventilated area, out of direct sunlight and away from heat and ignition sources. Keep storage area clear of burnable materials. Lighted cigarettes, matches, or any other ignition sources should not be allowed around indoor or outdoor storage areas.

**Incompatibilities** Strong oxidizing agents, strong acids, alkali metals, aluminum, crotonaldehyde, phosgene, potassium t-butoxide, trinitromethane.

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## Section 08 - Exposure Controls and Personal Protection

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### Exposure Limit(s)

Component	Regulation	Type of Listing	Value
Isopropanol	ACGIH	TLV-TWA	200ppm
	ACGIH	TLV-STEL	400ppm
	OSHA	PEL-TWA	400ppm
	OSHA	PEL-STEL	500ppm

### Engineering Control(s)

**Ventilation Requirements** Mechanical ventilation (dilution or local exhaust), process or personnel enclosure and control of process conditions must be provided in accordance with all fire codes and regulatory requirements. Supply sufficient replacement air to make up for air removed by exhaust systems.

**Other** Emergency shower and eyewash must be available and tested in accordance with regulations and be in close proximity.

### Protective Equipment

**Eyes/Face** Chemical splash goggles and a face shield should be worn while product is being handled. Contact lenses should not be worn as they may contribute to severe eye injury.

<b>Hand Protection</b>	Impervious gloves of chemically resistant material (rubber or PVC) should be worn at all times. Wash contaminated clothing and dry thoroughly before reuse.
<b>Skin and Body Protection</b>	RECOMMENDED (resistance to breakthrough longer than 8 hours): Butyl rubber, neoprene rubber, nitrile rubber, Viton(R), Viton butyl rubber, Barrier (PE/PA/PE), Silver Shield/4H(R) (polyethylene/ethylene vinyl alcohol), Tychem(R) CPF3, Tychem F(R), Tychem(R) Responder (R).  CAUTION, use for short periods only (resistance to breakthrough less than 1 hour): Polyvinyl chloride.
<b>Respiratory Protection</b>	NIOSH/OSHA RECOMMENDATIONS FOR ISOPROPYL ALCOHOL CONCENTRATIONS IN AIR: UP TO 2000ppm: SAR operated in a continuous-flow mode; or a full-face piece chemical cartridge respirator with organic vapour cartridge(s); or gas mask with organic vapour canister; or powered air-purifying respirator with organic vapour cartridge(s); or full-face piece SCBA; or full-face piece SAR.  EMERGENCY OR PLANNED ENTRY INTO UNKNOWN CONCENTRATIONS OR IDLH CONDITIONS: Positive pressure, full-face piece SCBA; or positive pressure, full-face piece SAR with an auxiliary positive pressure SCBA.  ESCAPE: Gas mask with organic vapour canister; or escape-type SCBA.
<b>Thermal Hazards</b>	Not Available

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## **Section 09 - Physical and Chemical Properties**

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### **Appearance**

<b>Physical State</b>	Liquid
<b>Colour</b>	Colourless
<b>Odour</b>	Sharp, musty odour of rubbing alcohol
<b>Odour Threshold</b>	3.3-610ppm (detection); 7.6-49ppm (recognition)

### **Property**

<b>pH</b>	Not Available
<b>Melting Point/Freezing Point</b>	-29°C (-20°F)
<b>Initial Boiling Point and Boiling Range</b>	Not Available
<b>Flash Point</b>	18°C (65°C)
<b>Evaporation Rate</b>	1.5 (butyl acetate=1); 11.0 (diethyl ether=1)
<b>Flammability</b>	Flammable liquid
<b>Upper Flammable Limit</b>	12%
<b>Lower Flammable Limit</b>	2%
<b>Vapour Pressure (mm Hg, 20°C)</b>	33.1
<b>Vapour Density (Air=1)</b>	2.07
<b>Relative Density</b>	Not Available

<b>Solubility(ies)</b>	Completely soluble in water. Soluble in most organic solvents, such as ethanol, acetone, diethyl ether and chloroform; soluble in benzene.
<b>Partition Coefficient: n-octanol/water</b>	Log P <sub>ow</sub> = 0.05
<b>Auto-ignition Temperature</b>	399°C
<b>Decomposition Temperature</b>	Not Available
<b>Viscosity</b>	2.4mPa·s @ 20°C
<b>Explosive Properties</b>	Can readily form explosive mixtures with air, at or above 12°C.
<b>Specific Gravity (Water=1)</b>	0.865
<b>% Volatiles by Volume</b>	Not Available
<b>Formula</b>	C <sub>3</sub> H <sub>8</sub> O
<b>Molecular Weight</b>	60.09

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## Section 10 - Stability and Reactivity

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<b>Reactivity</b>	Not Available
<b>Stability</b>	Normally stable. However, 2-propanol may form peroxides when the anhydrous (no water) material is stored for long periods in contact with air and light. The peroxides are not hazardous unless concentrated by distillation.
<b>Possibility of Hazardous Reactions</b>	Polymerization does not occur.
<b>Conditions to Avoid</b>	Open flames, sparks, electrostatic discharge, heat and other ignition sources, light prolonged storage.
<b>Incompatible Materials</b>	Strong oxidizing agents, strong acids, alkali metals, aluminum, crotonaldehyde, phosgene, potassium t-butoxide, trinitromethane.
<b>Hazardous Decomposition Products</b>	Unstable peroxides.

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## Section 11 - Toxicological Information

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### Acute Toxicity

Component	Oral LD <sub>50</sub>	Dermal LD <sub>50</sub>	Inhalation LC <sub>50</sub>
Isopropanol (70%)	5.14 g/kg (mouse)	42.7 g/kg (rabbit)	24,286 ppm (rat, 4hr)

### Chronic Toxicity – Carcinogenicity

Component	IARC
Isopropanol	Not considered carcinogenic.

<b>Skin Corrosion/Irritation</b>	Non-irritant to very mild irritant.
<b>Ingestion</b>	Not considered toxic if ingested. No adverse effects are expected.

<b>Inhalation</b>	No reports of harmful effects developing following occupational exposure. Greater concentrations may cause central nervous system depression.
<b>Serious Eye Damage/Irritation</b>	Moderate to severe eye irritant.
<b>Respiratory or Skin Sensitization</b>	Not considered a skin or respiratory sensitizer.
<b>Germ Cell Mutagenicity</b>	Not considered to be mutagenic.
<b>Reproductive Toxicity</b>	Not considered to be a reproductive toxin.
<b>STOT-Single Exposure</b>	May cause drowsiness or dizziness upon
<b>STOT-Repeated Exposure</b>	Inhalation of high concentrations may cause central nervous system depression with symptoms of headache, nausea, dizziness, vomiting and incoordination.
<b>Aspiration Hazard</b>	Not Available
<b>Synergistic Materials</b>	2-Propanol has enhanced the toxicity of carbon tetrachloride, 1,1,2-trichloroethane, chloroform, trichloroethylene, and dimethylnitrosamine in rodents.

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## Section 12 – Ecological Information

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### Ecotoxicity

Component	Toxicity to Algae	Toxicity to Fish	Toxicity to Daphnia and Other Aquatic Invertebrates
Isopropanol	EC <sub>50</sub> (Green algae order, 24hr): 1000mg/L	LC <sub>50</sub> (Pimephales promelas, 96hr): 6120mg/L	LC <sub>50</sub> (Daphnia magna, 24hr): 10000mg/L

<b>Biodegradability</b>	Product is biodegradable.
<b>Bioaccumulation</b>	Product is not expected to bioaccumulate.
<b>Mobility</b>	Expected to have very high mobility.
<b>Other Adverse Effects</b>	Isopropanol presents a low potential hazard to aquatic or terrestrial biota.

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## Section 13 – Disposal Considerations

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<b>Waste From Residues/Unused Products</b>	Dispose in accordance with all federal, provincial, and/or local regulations including the Canadian Environmental Protection Act.
<b>Contaminated Packaging</b>	Dispose in accordance with all federal, provincial, and/or local regulations including the Canadian Environmental Protection Act.

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## Section 14 – Transport Information

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<b>UN Number</b>	UN1219	
<b>UN Proper Shipping Name</b>	ISOPROPANOL	
<b>Transport Hazard Class(es)</b>	3	
<b>Packaging Group</b>	II	
<b>Environmental Hazards</b>	Not listed as a marine pollutant under Canadian TDG Regulations, schedule III.	
<b>Special Precautions</b>	Not Available	
<b>Transport in Bulk</b>	Not Available	
<b>Additional Information</b>	<u>Packing Group</u>	<u>Limited Quantity Index</u>
	II	1 L

### TDG

<b>Other</b>	Secure containers (full and/or empty) with suitable hold down devices during shipment and ensure all caps, valves, or closures are secured in the closed position.
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**TDG PRODUCT CLASSIFICATION:** This product has been classified on the preparation date specified at section 14 of this MSDS / SDS, for transportation in accordance with the requirements of part 2 of the Transportation of Dangerous Goods Regulations. If applicable, testing and/or published test data regarding the classification of this product are listed in the references at section 16 of this MSDS / SDS.

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## **Section 15 – Regulatory Information**

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**NOTE: THE PRODUCT LISTED ON THIS SDS HAS BEEN CLASSIFIED IN ACCORDANCE WITH THE HAZARD CRITERIA OF THE CANADIAN CONTROLLED PRODUCTS REGULATIONS. THIS SDS CONTAINS ALL INFORMATION REQUIRED BY THOSE REGULATIONS.**

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## **Section 16 – Other Information**

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**Preparation Date** October 30, 2015

**Note:** The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide and should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by the use of this material. It is the responsibility of the user to comply with all applicable laws and regulations.

**Attention: Receiver of the chemical goods / SDS coordinator**

As part of our commitment to the Canadian Association of Chemical Distributors (CACD) Responsible Distribution<sup>®</sup> initiative, ClearTech Industries Inc. and its associated companies require, as a condition of sale, that you forward the attached Safety Data Sheet(s) to all affected employees, customers, and end-users. ClearTech will send any available supplementary handling, health, and safety information to you at your request.

If you have any questions or concerns please call our customer service center.

**References:**

- 1) CHEMINFO
- 2) eChemPortal
- 3) TOXNET
- 4) Transportation of Dangerous Goods Canada
- 5) HSDB
- 6) ECHA

**Advance Chemicals Ltd. - Locations**

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