

SAFETY DATA SHEETS

This SDS packet was issued with item:

071149699

The safety data sheets (SDS) in this packet apply to the individual products listed below. Please refer to invoice for specific item number(s).

71496611

PRODUCT NAME:	ISOPROPYL ALCOHOL	Page 1 of 6
MSDS NO:	6010	EFFECTIVE DATE: August 5, 2014

DISTRIBUTED BY:

Commercial Alcohols

Bruce Energy Centre
4th Concession
Tiverton, Ontario
N0G 2T0

275 Bloomfield Road
Chatham,
Ontario
N7M 5J5

2 Chelsea Lane
Brampton, Ontario
L6T 3Y4

EMERGENCY PHONE NUMBER: CANUTEC (613) 996-6666

TRANSPORTATION

PRIMARY CLASS:	3	CLASS NAME:	FLAMMABLE LIQUID	UN#:	1219
SUBSIDIARY CLASS:	NONE				
SHIPPING NAME:	Isopropanol				

I. EMERGENCY AND FIRST AID PROCEDURE

<u>INGESTION</u>	- Never give anything by mouth if victim is rapidly losing consciousness or is unconscious or convulsing. - DO NOT INDUCE VOMITING. - Have victim drink about 250ml (8fl. oz.) of water to dilute material in stomach. - If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. - Seek medical assistance.
<u>SKIN</u>	- Flush contaminated area with water for at least 20 minutes. - Remove contaminated clothing under running water. - Completely decontaminate clothing before re-use, or discard. - If irritation occurs seek medical attention.
<u>INHALATION</u>	- Remove victim to fresh air. - Artificial respiration should be given if breathing has stopped and cardiopulmonary resuscitation if heart has stopped. - Oxygen may be given if necessary. - Seek medical attention immediately.
<u>EYES</u>	- Immediately flush eyes with water for at least 20 minutes, holding the eyelids open. - Seek medical attention immediately.
<u>NOTES TO PHYSICIAN</u>	

THE INFORMATION AND RECOMMENDATIONS CONTAINED HEREIN ARE BASED UPON DATA BELIEVED TO BE CORRECT. HOWEVER, NO GUARANTEE OR WARRANTY OF ANY KIND, EXPRESSED OR IMPLIED, IS MADE WITH RESPECT TO INFORMATION AND RECOMMENDATIONS CONTAINED HEREIN.

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II. FIRE AND EXPLOSION HAZARD DATA

FLASH POINT, °C • 12 (Tag closed cup, ASTM D-56)

**OTHER
IMPORTANT DATA**

COMPONENT	% V/V	FLAMMABLE LIMITS, % V/V		VAPOUR PRESSURE KPA AT 20°C	VAPOUR DENSITY (AIR = 1)	AUTOIGNI- TION POINT, °C
		LOWER	UPPER			
(1) Isopropanol	100	2.5	12.0	4.40	2.1	399

**EXTINGUISHING
MEDIA**

- Apply alcohol-type or all-purpose-type foams by manufacturers' recommended techniques for large fires.
- Use carbon dioxide or dry chemical media for small fires.
- Water is generally unsuitable and may help to spread the fire.

**SPECIAL
FIREFIGHTING
PROCEDURES**

- Use water spray to cool fire-exposed containers and structures.
- Use water spray to disperse vapours; reignition is possible.
- Use self-contained breathing apparatus and protective clothing.

**UNUSUAL
FIRE AND
EXPLOSION
HAZARDS**

- Vapours form from this product and may travel or be moved by air currents and ignited by pilot lights, other flames, sparks, heaters, electrical equipment, static discharges or other ignition sources at locations distant from handling point.

III. IDENTIFICATION

CHEMICAL NAME ISOPROPANOL

**CHEMICAL
FAMILY**

ALCOHOLS

FORMULA (1) CH₃ - CHOH - CH₃

**MOLECULAR
WEIGHT**

(1) 60.09

SYNONYMS • 2-propanol, dimethyl carbinol, isopropanol, IPA.

USE • General purpose organic solvent, printing, pharmaceuticals, resins, etc

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IV. PHYSICAL DATA

BOILING POINT, °C at 760mm Hg	82.0
FREEZING POINT, °C	-89.0
DENSITY, kg/L @ 20°C	0.786
COEFFICIENT OF WATER/OIL DISTRIBUTION	Separates from oil
pH	Not Applicable
DISTILLATION RANGE, °C	81.3-83.0
MISCIBILITY IN WATER	Complete
% VOLATILES BY VOLUME	100
EVAPORATION RATE (butyl acetate = 1)	2.3

APPEARANCE AND ODOUR

- Colourless liquid with typical lower alcohol odour.
- The odour threshold of isopropanol is between 40 and 200 ppm, according to the Canadian Centre of Occupational Health and Safety.

V. INGREDIENTS AND TOXICOLOGICAL DATA

INGREDIENT	% V/V	CAS NO.	TLV, ppm	LC50, ppm/4h. RAT, INHAL.	LD50, mg/kg RAT, ORAL	LD50, mg/kg RABBIT, SKIN
(1) Isopropanol	100	67-63-0	400	16,970	4,420	13,000

REFERENCES: ACGIH (1988-1989), RTECS (1983).

VI. WHMIS CLASSIFICATION AND SYNERGISTIC MATERIALS

WHMIS CLASSIFICATION

- Flammable liquid, eye irritant.

SYNERGISTIC MATERIALS

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VII. HEALTH HAZARD DATA

<u>INGESTION</u>	Ingestion of isopropanol may cause drowsiness, gastrointestinal pain, cramps, nausea, vomiting and diarrhoea; unconsciousness and death may follow massive exposures.
<u>SKIN ABSORPTION</u>	No adverse effects with normal skin. However, potentially harmful amounts of material may be absorbed across markedly abraded skin when contact is sustained, particularly in children.
<u>INHALATION</u>	- Mild irritation of the upper respiratory tract may begin at approximately 400 ppm. - High concentrations may cause drowsiness, lack of coordination and deep narcosis.
<u>SKIN CONTACT</u>	- Mild irritant. - Repeated or prolonged exposure may lead to drying and cracking.
<u>EYE CONTACT</u>	- Severe eye irritant. - Isopropanol vapours can irritate eyes beginning at approximately 400 ppm. - Eye damage from contact with liquid is reversible and proper treatment will result in healing within a few days. Damage is usually mild to moderate conjunctivitis, seen mainly as redness of the conjunctiva.
<u>EFFECT OF REPEATED OVEREXPOSURE</u>	
<u>MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE</u>	
<u>OTHER EFFECTS OF OVEREXPOSURE</u>	

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VIII. REACTIVITY DATA

<u>STABILITY</u>	Stable
<u>CONDITIONS TO AVOID</u>	Sources of ignition
<u>INCOMPATIBILITY</u>	Oxidizing materials
<u>HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS</u>	Carbon dioxide and/or carbon monoxide.
<u>HAZARDOUS POLYMERIZATION</u>	Will not occur
<u>CONDITIONS TO AVOID</u>	None currently known

IX. SPILL OR LEAK PROCEDURES

<u>SPILL</u>	- Contain spilled material. - Provide adequate ventilation and protective equipment. - Remove sources of heat, sparks or flames. - Spill should be collected in suitable containers or absorbed on a suitable absorbent material for subsequent disposal.
<u>WASTE DISPOSAL</u>	Waste material should be disposed of in an approved incinerator or in a designated landfill site, in compliance with all federal, provincial and local government regulations.

X. SPECIAL PROTECTION INFORMATION

<u>RESPIRATORY EQUIPMENT</u>	- Up to 1000 ppm, an approved organic vapour cartridge respirator can be used. - For concentrations above 1000 ppm, an air-supplying respirator is recommended. - The user should consult a respirator guide, such as the Canadian Standards Association's guide Z94.4-M1982.
<u>VENTILATION</u>	- The ventilation system should be non-sparking, grounded and separate from other exhaust ventilation systems. - Local ventilation is recommended when handling.
<u>PROTECTIVE GLOVES</u>	Neoprene, butyl or natural rubber.
<u>EYE PROTECTION</u>	Chemical resistant monogoggles when handling
<u>OTHER PROTECTIVE EQUIPMENT</u>	Eye bath, safety shower and other protective equipment as required.

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XI. SPECIAL PRECAUTIONS

**PRECAUTIONS TO BE
TAKEN IN HANDLING
AND STORING**

- Keep away from heat, sparks and flames.
- Keep container closed when not in use.
- Use with adequate ventilation.
- Avoid breathing vapours.
- Avoid contact with eyes and skin.
- Wash exposed skin thoroughly after handling.
- Take precautions to prevent static electricity build-up when transferring contents.

OTHER PRECAUTIONS

- Good personal hygiene practices are suggested, such as abstaining from eating, drinking and smoking in the workplace.

XII. MSDS PREPARATION

PREPARED BY: Alcohol QA, Technical Services, and Regulatory Affairs Department

PHONE NUMBER: (905) 790-7500

DATE: August 5, 2014

COMMERCIAL ALCOHOLS URGES EACH CUSTOMER OR RECIPIENT OF THIS MSDS TO STUDY IT CAREFULLY TO BECOME AWARE OF AND UNDERSTAND THE HAZARDS ASSOCIATED WITH THE PRODUCT. THE READER SHOULD CONSIDER CONSULTING REFERENCE WORKS OR INDIVIDUALS WHO ARE EXPERTS IN VENTILATION, TOXICOLOGY OR FIRE PREVENTION, AS NECESSARY OR APPROPRIATE TO USE AND UNDERSTAND THE DATA CONTAINED IN THIS MSDS.

TO PROMOTE SAFE USE AND HANDLING OF THIS PRODUCT, EACH CUSTOMER OR RECIPIENT SHOULD

- (1) NOTIFY EMPLOYEES, AGENTS, CONTRACTORS AND OTHERS WHO MAY USE THIS MATERIAL, OF THE INFORMATION IN THIS MSDS AND ANY OTHER INFORMATION REGARDING HAZARDS OR SAFETY,
- (2) FURNISH THIS SAME INFORMATION TO EACH CUSTOMER FOR THE PRODUCT, AND
- (3) REQUEST CUSTOMERS TO NOTIFY THEIR EMPLOYEES, CUSTOMERS, AND OTHER USERS OF THE PRODUCT OF THIS INFORMATION.

SECTION 1: IDENTIFICATION

Product Identifier

Isopropyl Alcohol

Common name /Synonym 2-propanol, dimethyl carbinol, isopropanol, IPA**Other Means of Identification**

AMD Medicom Item Code(s): 30090

Company AddressAMD Medicom Inc.
2555 Chemin de l'Aviation
Pointe-Claire, Montréal, Québec, H9P 2Z2**Telephone Number (Canada):** 514-636-6262**Emergency Telephone Number:** 1-800-361-2862

SECTION 2: HAZARD IDENTIFICATION

GHS label elements, including precautionary statements

**Signal Word** DANGER!**Hazard Statement**

H225 Highly flammable liquid and vapor.

H319 Causes serious eye irritation.

H336 May cause drowsiness or dizziness.

Precautionary Statement

P501 Dispose of contents and container to an approved waste disposal plant.

P240 Ground/bond container and receiving equipment.

P337 + P313 If eye irritation persists: Get medical attention.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical attention.

P304 + P330 If INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P303 + P361 + P353 IF ON SKIN (or hair): Remove immediately all contaminated clothing. Rinse skin with water.

P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.

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.

P243 Take precautionary measures against static discharge.

P241 Use explosion-proof electrical, ventilating, and lighting equipment.

P242 Use only non-sparking tools.

P264 Wash hands thoroughly after handling.

P280 Wear protective gloves and eye and face protection.

GHS Classification(s)

Eye irritation (Category 2)

Flammable Liquids (Category 2)

Skin irritation (Category 2)

Specific target organ toxicity - single exposure (Category 3)

Potential Health Hazards**Eyes contact**

Severe eye irritant: isopropanol vapors can irritate eyes beginning at approx. 400 ppm. Eye damage from contact with liquid is reversible and proper treatment will result in healing within a few days. Damage is usually mild to moderate conjunctivitis, seen mainly as redness of the conjunctiva.

Skin Absorption:

No adverse effects with normal skin. However, potentially harmful amounts of material may be absorbed across markedly abraded skin when contact is sustained, particularly in children.

Skin Contact:

Mild irritant. Repeated or prolonged exposure may lead to drying and cracking.

Ingestion:

May cause drowsiness, gastrointestinal pain, cramps, nausea, vomiting and diarrhea; unconsciousness and death may follow massive exposures.

Inhalation:

Mild irritation of the upper respiratory tract may begin at approx. 400 ppm. High concentrations may cause drowsiness, lack of coordination, and deep narcosis.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**Composition:**

Isopropanol Alcohol

Isopropanol

CAS #67-62-0

EINECS #200-661-7

SECTION 4: FIRST AID MEASURES**Eye Contact:**

Immediately flush eyes with water for at least 20 minutes, holding the eyelids open. Seek medical attention immediately.

Skin Contact:

Flush contaminated area with water for at least 20 minutes. Remove contaminated clothing under running water. Completely decontaminate clothing before re-use, or discard. If irritation occurs seek medical attention.

Ingestion

Never give anything by mouth if victim is rapidly losing consciousness or is unconscious or convulsing. DO NOT INDUCE VOMITING. Have victim drink about 250ml (8fl. oz.) of water to dilute material in stomach. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Seek medical assistance.

Inhalation

Remove victim to fresh air. Artificial respiration should be given if breathing has stopped and cardiopulmonary resuscitation if heart has stopped. Oxygen may be given if necessary. See medical attention immediately.

Advice to Physician:

No specific advice

SECTION 5: FIRE FIGHTING MEASURES**Extinguishing Media:**

Alcohol-type or all-purpose-type foams by manufacturer's recommended techniques for large fires. Carbon dioxide or dry chemical media for small fires. Water is unsuitable and may help spread the fire.

Unusual Fire/ Explosion Hazards:

Vapors from this product may travel or be moved by air currents and ignited by pilot lights, other flames, sparks, heaters, electrical equipment, static discharges, or other ignition sources at locations distant from handling point.

Fire Fighting Procedures and Personal Protection: Use water spray to cool fire-exposed containers and structures & to disperse vapors (reignition is possible); use self-contained breathing apparatus and protective clothing.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Spill	Contain spilled material. Provide adequate ventilation. Provide adequate personnel protective equipment for responders. Remove sources of heat, sparks, or flames. Spill should be collected in suitable containers or absorbed on a suitable absorbent material for subsequent disposal. Such containers used to contain spilled material and absorbent should be sealed off, otherwise the collected alcohol will evaporate from them.
Waste Disposal	Waste material should be disposed of in an approved incinerator or in a designated landfill site, in compliance with all federal, provincial, and local government regulations.

SECTION 7: HANDLING AND STORAGE

Handling & Storage:	Keep away from heat, sparks, and flames. Keep container closed when not in use. Use with adequate ventilation. Avoid breathing vapors. Avoid contact with eyes and skin. Wash exposed skin thoroughly after handling. Take precautions to prevent static electricity build-up when transferring contents.
Other Precautions:	Good personal hygiene practices are suggested, such as abstaining from eating, drinking, and smoking in the workplace.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Respiratory Equipment:	Up to 1000ppm: use an approved organic vapor cartridge respirator. >1000ppm: an air-supplying respirator is recommended. The user should consult a respirator guide i.e. the Canadian Standards Association's guide Z94.4-M1982.
Ventilation:	Local ventilation is recommended when handling. The ventilation system should be non-sparking, grounded, and separate from other exhaust ventilation systems.
Protective Gloves:	Neoprene, butyl, or natural rubber.
Eye Protection:	Chemical resistant monogoggles when handling.
Other Protective Equipment:	Eye bath, safety shower, and other protective equipment as required.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Color/ Appearance	Colorless liquid
Odor	Typical lower alcohol odor
Odor threshold	Approx. 40 – 220 ppm (as per Canadian Center for Occupational Health and Safety)
pH	N/A
Boiling point	81.3-83°C. Boiling point: approx. 82.0°C.
Melting/Freezing point	Approx. -89°C
Flash point	12 (Tag closed up, ASTM d-56)
Evaporation rate	2.3 (butyl acetate = 1)
Lower flammability limit	2.5% V/V
Upper flammability limit	12% V/V
Vapor pressure	4.4 KPA @20°C, for 100% Isopropyl Alcohol
Vapor density	2.07 (air = 1)
Relative density (liquid)	0.786 @20°C
Solubility in water	Complete

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES (cont'd)

Solubility in oil-coefficient of water/oil distribution	Separate from oil
Auto-ignition temperature	Approx. 399°C
% volatiles by volume	100
Chemical formula	Isopropanol: CH ₃ -CHOH-CH ₃ Molecular weight: 60.09

SECTION 10: STABILITY AND REACTIVITY

Chemical Stability: Stable
Conditions to avoid: Sources of ignition
Incompatibility with Other Material: Oxidizing materials
Hazardous Decomposition Products: Carbon dioxide and/or carbon monoxide
Hazardous Polymerization: e.g. Will not occur

SECTION 11: TOXICOLOGICAL INFORMATION

Toxicology:

INGREDIENT	% V/V	TLV, ppm	LC50, ppm/4h.	LD50, mg/kg	LD50, mg/kg
			RAT, INHAL.	RAT, ORAL	RABBIT, SKIN
Isopropanol	100 approx.	400	16,970	4,420	13,000

References: ACGIH (1988-1989), RTECS (1983)

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity (aquatic and terrestrial, where available):

Acute Fish Toxicity (ISOPROPANOL) LC50/96 hours *Pimephales promelas*: 9,640 mg/L
Toxicity to Aquatic Plants (ISOPROPANOL) EC50/72 hours *Scenedesmus subspicatus* > 1,000 mg/L
Toxicity to Microorganisms (ISOPROPANOL) EC50/3 hours Activated sludge > 1,000 mg/L

Persistence and degradability Readily biodegradable (77% degraded in 10 days). Expected to be hydrolytically stable, but rapidly degraded following atmospheric releases.

Bioaccumulative potential Bioconcentration factor (BCF) of 3.16. (Predicted bioconcentration factor). Significant bioaccumulation is not expected based on predicted BCF of 3.16.

SECTION 13: DISPOSAL CONSIDERATIONS

Spill Contain spilled material. Provide adequate ventilation and protective equipment. Remove sources of heat, sparks, or flames. Spill should be collected in suitable containers or absorbed on a suitable absorbent material for subsequent disposal.

Waste Disposal Waste material should be disposed of in an approved incinerator or in a designated landfill site, in compliance with all federal, provincial, and local government regulations.

SECTION 14: TRANSPORT AND STORAGE

Canada

UN Number: 1219
UN Shipping Name: ISOPROPANOL
Transport Hazard Class(es): Primary Class 3 Subsidiary Class: NONE
Packing Group (if applicable): II

IMDG

UN-Number: UN 1219 Class: 3 Packing Group: II

EMS-No: F-E, S-D

Proper Shipping Name: ISOPROPANOL

Marine Pollutant: No

IATA

UN-Number: 1219 Class: 3 Packing Group: II

Proper shipping name: ISOPROPANOL

SECTION 15: REGULATORY INFORMATION

All ingredients are on the following inventories or are exempted from listing:

Country Notification

Australia	AICS
Canada	DSL
China	IECS
European Union	EINECS
Japan	ENCS/ISHL
Korea	ECL
New Zealand	NZIoC
Philippines	PICCS
USA	TSCA

California Prop 65 Components

Not applicable

SECTION 16: OTHER INFORMATION**Legal disclaimer:**

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. AMD Medicom Inc. shall not be held liable for any damage resulting from handling or from contact with the product(s) listed.