

Isopropyl alcohol

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MATERIAL SAFETY DATA SHEET**SECTION 1 - IDENTIFICATION****Product identifier** : **Isopropyl alcohol****Product Code(s)** : 30099**Product Use** : Solvent**Chemical Family** : Alcohols**Supplier's name and address:****A.R. Medicom Inc**1200 55th Avenue
Montreal, QC, Canada
H8T 3J8**Manufacturer's name and address:****Refer to Supplier****Information Telephone #** : (514) 636-6262 or (800) 308-6589**24 Hr. Emergency Tel #** : (613) 996-6666 (CANUTEC)**SECTION 2 - HAZARDS IDENTIFICATION**

Classification : WHMIS information: This product is a WHMIS Controlled Product. It meets one or more of the criteria for a controlled product provided in Part IV of the Canadian Controlled Products Regulations (CPR). WHMIS classification:
Class B2 (Flammable Liquids);
Class D2B (Materials Causing Other Toxic Effects, Toxic Material).

OSHA: This material is classified as hazardous under OSHA regulations (29CFR 1910.1200). Hazardous classification:
Flammable liquid ;
Acute Health Hazard;
Chronic Health Hazard.

Emergency Overview : Clear colourless liquid. Alcohol odour.
Warning! Flammable liquid and vapour. Vapour may cause flash fire! May be harmful or fatal if swallowed. Can enter the lungs and cause damage. May be harmful if inhaled. May cause respiratory irritation. May cause headache, nausea, dizziness and other symptoms of central nervous system depression. Causes eye irritation. Prolonged or repeated skin contact may cause drying and irritation. Prolonged overexposure may cause liver and kidney effects.

POTENTIAL HEALTH EFFECTS:**Signs and symptoms of short-term (acute) exposure**

Inhalation : Inhalation of vapours or mists may cause irritation to the nose, throat and upper respiratory tract. Symptoms may include pain, headache, nausea, vomiting, dizziness, drowsiness and other central nervous system effects.

Skin : Direct skin contact may cause slight or mild, transient irritation. May be absorbed through the skin.

Eyes : May cause moderate to severe irritation.

Ingestion : May cause irritation of mouth, throat, and stomach. Symptoms may include pain, headache, nausea, vomiting, dizziness, drowsiness and other central nervous system effects. Material is an aspiration hazard. Aspiration into the lungs during swallowing or subsequent vomiting may cause chemical pneumonitis, which can be fatal.

Effects of long-term (chronic) exposure

: Prolonged skin contact may cause dermatitis (rash), characterized by red, dry, itching skin.
Prolonged overexposure may cause liver and kidney effects.

Carcinogenic status : See TOXICOLOGICAL INFORMATION, Section 11.

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Additional health hazards : See TOXICOLOGICAL INFORMATION, Section 11.

Potential environmental effects

: See ECOLOGICAL INFORMATION, Section 12.

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

<u>Ingredients</u>	<u>CAS #</u>	<u>Wt.%</u>
Isopropanol	67-63-0	99.00 - 100.00

SECTION 4 - FIRST AID MEASURES

- Inhalation** : Immediately remove person to fresh air. If breathing has stopped, give artificial respiration. Keep warm and in a quiet place. If breathing is difficult, give oxygen by qualified medical personnel only. Get medical attention.
- Skin contact** : For skin contact, flush with water for at least 15 minutes, while removing contaminated clothing. If irritation persists, seek prompt medical attention. Wash contaminated clothing before re-use.
- Eye contact** : Immediately flush eyes with running water for at least 20 minutes. Get medical attention.
- Ingestion** : Do NOT induce vomiting. If vomiting occurs spontaneously, keep victim's head lowered (forward) to reduce the risk of aspiration. Never give anything by mouth to an unconscious person. Seek immediate medical attention/advice.
- Notes For Physician** : Treat symptomatically. This product is a CNS depressant.

SECTION 5 - FIRE FIGHTING MEASURES
Fire hazards/conditions of flammability

- : Flammable liquid and vapour. Will ignite when exposed to heat, flame and other sources of ignition. Vapours are heavier than air and collect in confined and low-lying areas. Vapour can travel considerable distance and flashback to a source of ignition. Closed containers may rupture if exposed to excess heat or flame due to a build-up of internal pressure.

Flammability classification (OSHA 29 CFR 1910.1200)

- : Flammable Liquid Class 1B.

Oxidizing properties

- : None known.

Explosion data: Sensitivity to mechanical impact / static discharge

- : Not expected to be sensitive to mechanical impact. May be sensitive to static discharge. Vapours in the flammable range may be ignited by a static discharge of sufficient energy.

Suitable extinguishing media : Dry chemical, foam, carbon dioxide and water fog. Do not use water jet, as this may spread burning material.

Special fire-fighting procedures/equipment

- : Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode. Move containers from fire area if safe to do so. Water spray may be useful in cooling equipment exposed to heat and flame. Avoid spreading burning liquid with water spray used for cooling purposes.

Hazardous combustion products

- : Carbon oxides; Other unidentified organic compounds.

NFPA Rating

0 - Minimal	1 - Slight	2 - Moderate	3 - Serious	4 - Severe
: <i>Health:</i> 1 <i>Flammability:</i> 3 <i>Instability:</i> 0 <i>Special Hazards:</i> None.				

SECTION 6 - ACCIDENTAL RELEASE MEASURES

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- Personal precautions** : Restrict access to area until completion of clean-up. Keep all other personnel upwind and away from the spill/release. Individuals involved in the cleanup must wear appropriate personal protective equipment. Refer to protective measures listed in sections 7 and 8.
- Environmental precautions** : Ensure spilled product does not enter drains, sewers, waterways, or confined spaces.
- Spill response/cleanup** : Remove all sources of ignition. Ventilate area of release. Stop the spill at source if it is safe to do so. Use only non-sparking tools and equipment in the clean-up process. Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g. sand), then place absorbent material into a container for later disposal (see Section 13). Notify the appropriate authorities as required.
- Prohibited materials** : Do not use combustible absorbents, such as sawdust.
- Special spill response procedures** : If a spill/release in excess of the EPA reportable quantity is made into the environment, immediately notify the national response center in the United States (phone: 1-800-424-8802).
US CERCLA Reportable quantity (RQ): None reported.

SECTION 7 - HANDLING AND STORAGE

- Safe Handling procedures** : Wear chemically resistant protective equipment during handling. Use only in well-ventilated areas. Do not ingest. Avoid breathing vapours. Avoid contact with eyes, skin and clothing. Ground all equipment during handling. Keep away from heat, sparks, and open flames. Avoid contact with strong oxidizing agents. Keep container tightly closed when not in use. Wash thoroughly after handling. Empty containers retain residue (liquid and/or vapour) and can be dangerous. Do not cut, weld, drill or grind on or near this container. Do not use pressure to empty drums.
- Storage requirements** : Store in a cool, dry, well ventilated area, away from heat and ignition sources. Store away from incompatibles and out of direct sunlight. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. No smoking in the area. Inspect periodically for damage or leaks.
- Incompatible materials** : Oxidizing agents; Acids; Alkali metals.
- Special packaging materials** : Always keep in containers made of the same materials as the supply container.

SECTION 8 - EXPOSURE CONTROLS AND PERSONAL PROTECTION
Exposure Limits

<u>Ingredients</u>	<u>ACGIH TLV</u>		<u>OSHA PEL</u>	
	<u>TWA</u>	<u>STEL</u>	<u>PEL</u>	<u>STEL</u>
Isopropanol	200 ppm	400 ppm	400 ppm	N/Av

Ventilation and engineering measures

- : Do not use in closed or confined space. Use general or local exhaust ventilation to maintain air concentrations below recommended exposure limits.

Respiratory protection

- : Use NIOSH/MSHA approved full-face respirator with an organic vapour cartridge if the recommended exposure limit is exceeded. Advice should be sought from respiratory protection specialists. Respirators should be selected based on the form and concentration of contaminants in air, and in accordance with OSHA (29 CFR 1910.134) or CSA Z94.4-02.

Skin protection

- : Solvent-resistant gloves. Advice should be sought from glove suppliers.

Eye / face protection

- : Chemical splash goggles are recommended. Do not wear contact lenses. A full face shield may also be necessary.

Other protective equipment

- : An eyewash station and safety shower should be made available in the immediate working area. Depending on conditions of use, an impervious apron should be worn. Remove and wash contaminated clothing before re-use.

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General hygiene considerations

- : Avoid breathing vapours. Avoid contact with skin, eyes and clothing. Do not eat, drink, smoke or use cosmetics while working with this product. Upon completion of work, wash hands before eating, drinking, smoking or use of toilet facilities. Remove soiled clothing and wash it thoroughly before reuse.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

Physical state	: Liquid.	Appearance	: Clear colourless liquid.
Odour	: Alcohol odour.	Odour threshold	: 40 - 200 ppm
pH	: N/Av		
Boiling point	: 82°C (180°F)	Specific gravity	: 0.786
Melting/Freezing point	: - 89°C (- 128°F)	Coefficient of water/oil distribution	: Separates from oil
Vapour pressure (mmHg @ 20° C / 68° F)	: 4.40 kPa at 20°C	Solubility in water	: Complete
Vapour density (Air = 1)	: 2.1	Evaporation rate (n-Butyl acetate = 1)	: 2.3
Volatile organic Compounds (VOC's)	: N/Av	Volatiles (% by weight)	: 100%
Flash point	: 12°C (53.6°F)	Auto-ignition temperature	: 399°C (750°F)
Flash point Method	: Tag closed cup	Upper flammable limit (% by vol.)	: 12.0%
Lower flammable limit (% by vol.)	: 2.5%	Flashback observed	: N/Ap
Flame Projection Length	: N/Ap		
Viscosity	: N/Av		
Absolute pressure of container	: N/Ap		

Section 10: Stability And Reactivity

Stability and reactivity	: Stable at ambient temperatures and pressures. Closed containers may build up pressure when exposed to heat and flame. May release peroxides on exposure to light and air, or on contact with incompatibles. Rate of peroxide formation is not known.
Hazardous polymerization	: Hazardous polymerisation does not occur.
Conditions to avoid	: Keep out of direct sunlight. Keep away from excessive heat, open flames, sparks and other possible sources of ignition. Do not use in areas without adequate ventilation.

Materials To Avoid And Incompatibility

- : See Section 7 (Handling and Storage) for further details.

Hazardous decomposition products

- : Peroxides. Refer to Section 5 for additional 'Hazardous combustion products'.

SECTION 11 - TOXICOLOGICAL INFORMATION

Target organs	: Eyes, skin, respiratory system, digestive system, central nervous system. Liver; Kidneys.
Routes of exposure	: <i>Inhalation:</i> YES <i>Skin Absorption:</i> YES <i>Skin & Eyes:</i> YES <i>Ingestion:</i> YES
Toxicological data	: There is no available data for the product itself, only for the ingredients. See below for individual ingredient acute toxicity data.

Ingredients	LC₅₀(4hr)	LD₅₀	
	inh, rat	(Oral, rat)	(Rabbit, dermal)
Isopropanol	17,000 ppm	4720 mg/kg	12,890 mg/kg

Carcinogenic status	: No components are listed as carcinogens by ACGIH, IARC, OSHA or NTP.
Reproductive effects	: Not expected to cause reproductive effects.

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- Teratogenicity** : This product contains Isopropanol. Isopropanol is no longer considered a developmental toxin. Teratogenic / fetotoxic effects were observed in animals, however the effects were observed in the presence of maternal toxicity or at concentrations where maternal toxicity is expected to occur.
- Mutagenicity** : Not expected to be mutagenic in humans.
- Epidemiology** : Not available.
- Sensitization to material** : Not expected to be a skin or respiratory sensitizer.
- Synergistic materials** : N/Av
- Irritancy** : Moderate to severe eye irritant. Mild skin irritant..
- other important hazards** : CNS depression may result from extreme exposures.
- Conditions aggravated by overexposure** : Pre-existing eye, skin, respiratory, liver, kidney and central nervous system disorders.



SECTION 12 - ECOLOGICAL INFORMATION

- Ecotoxicity** : The product should not be allowed to enter drains or water courses, or be deposited where it can affect ground or surface waters.
The acute toxicity of Isopropanol is (OECD SIDS):
Toxicity to fish - LC50/96h/Fathead minnows = 9640 mg/L
Toxicity to daphnia - EC50/24h/Daphnia magna (Water flea) = > 10,000 mg/L
- Mobility** : No data is available on the product itself.
- Persistence** : Isopropanol is considered to be readily biodegradable.
- Bioaccumulation potential** : No data is available on the product itself.
- Other Adverse Environmental effects** : No data is available on the product itself.

SECTION 13 - DISPOSAL CONSIDERATIONS

- Handling for Disposal** : Handle waste according to recommendations in Section 7. Do not cut, weld, drill or grind on or near this container.
- Methods of Disposal** : Improper disposal can cause damage to the environment. Dispose in accordance with all applicable federal, state, provincial and local regulations. Contact your local, state, provincial or federal environmental agency for specific rules.
- RCRA** : If this product, as supplied, becomes a waste in the United States, it may meet the criteria of a hazardous waste as defined under RCRA, Title 40 CFR 261. It is the responsibility of the waste generator to determine the proper waste identification and disposal method. For disposal of unused or waste material, check with local, state and federal environmental agencies.

SECTION 14: TRANSPORT INFORMATION

Regulatory Information	UN Number	Shipping Name	Class	Packing Group	Label
TDG	UN1219	ISOPROPANOL	3	II	
TDG Additional information	May be shipped as LIMITED QUANTITY when transported in containers no larger than 1.0 Litre, in packages not exceeding 30 kg gross mass. Under the TDGR, refer to Section 1.17 for additional exemption information, if shipping under this exemption.				
49CFR/DOT	UN1219	Isopropanol	3	II	
49CFR/DOT Additional information	May be shipped as LIMITED QUANTITY when transported in containers no larger than 1.0 Litre, in packages not exceeding 30 kg gross mass. Refer to 49 CFR Section 173.150.				

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SECTION 15 - REGULATORY INFORMATION

US Federal Information:

TSCA: All listed ingredients appear on the Toxic Substances Control Act (TSCA) inventory.

CERCLA Reportable Quantity (RQ) (40 CFR 117.302): None reported.

SARA TITLE III: Sec. 302, Extremely Hazardous Substances, 40 CFR 355: No Extremely Hazardous Substances are present in this material.

SARA TITLE III: Sec. 311 and 312, MSDS Requirements, 40 CFR 370 Hazard Classes: Fire Hazard; Acute Health Hazard. Chronic Health Hazard. Under SARA Sections 311 and 312, the EPA has established threshold quantities for the reporting of hazardous chemicals. The current thresholds are 500 pounds for the threshold planning quantity (TPQ), whichever is lower, for extremely hazardous substances and 10,000 pounds for all other hazardous chemicals.

SARA TITLE III: Sec. 313, Toxic Chemicals Notification, 40 CFR 372: This product may be subject to SARA notification requirements, since it contains Toxic Chemical constituents above their de minimus concentrations. This product contains: Isopropanol.

US State Right to Know Laws:

California Proposition 65: To the best of our knowledge, this product does not contain any chemicals known to the State of California to cause cancer or reproductive harm.

Other U.S. State "Right to Know" Lists: The following chemicals are specifically listed by individual States: Isopropanol (CA, MA, MN, NJ, PA, RI).

International Information:

WHMIS information: Refer to Section 2 for a WHMIS Classification for this product.

Canadian Environmental Protection Act (CEPA) information: All ingredients listed appear on the Domestic Substances List (DSL).

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and this MSDS contains all the information required by the CPR.

SECTION 16 - OTHER INFORMATION

HMIS Rating	:	* - Chronic hazard	0 - Minimal	1 - Slight	2 - Moderate	3 - Serious	4 - Severe
		Health: *2		Flammability: 3		Reactivity: 0	

Legend

: ACGIH: American Conference of Governmental Industrial Hygienists
CA: California
CAS: Chemical Abstract Services
CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980
CFR: Code of Federal Regulations
CNS: Central Nervous System
DOT: Department of Transportation
HMIS: Hazardous Materials Identification System
HSDB: Hazardous Substances Data Bank
IARC: International Agency for Research on Cancer
Inh: Inhalation
LC: Lethal Concentration
LD: Lethal Dose
MA: Massachusetts
MN: Minnesota
MSHA: Mine Safety and Health Administration
N/Ap: Not Applicable
N/Av: Not Available

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NFPA: National Fire Protection Association
NIOSH: National Institute of Occupational Safety and Health
NJ: New Jersey
NTP: National Toxicology Program
OSHA: Occupational Safety and Health Administration
PA: Pennsylvania
PEL: Permissible exposure limit
RCRA: Resource Conservation and Recovery Act
RI: Rhode Island
RTECS: Registry of Toxic Effects of Chemical Substances
SARA: Superfund Amendments and Reauthorization Act
STEL: Short Term Exposure Limit
TDG: Canadian Transportation of Dangerous Goods Act & Regulations
TLV: Threshold Limit Values
TWA: Time Weighted Average
WHMIS: Workplace Hazardous Materials Identification System

References

- : 1. ACGIH, Threshold Limit Values and Biological Exposure Indices for 2012
2. International Agency for Research on Cancer Monographs, searched 2012
3. Canadian Centre for Occupational Health and Safety, CCIInfoWeb databases (Chempendium, HSDB and RTECs). (2012)
4. Material Safety Data Sheets from manufacturer.
5. US EPA Title III List of Lists (July 2011)
6. California Proposition 65 List (16 March 2012)

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