

ISOPROPYL ALCOHOL 99%

Section 1. Identification

Product identifier	: ISOPROPYL ALCOHOL 99%
Product code	: Not available.
Other means of identification	: Not available.
Product type	: Liquid.
<u>Relevant identified uses of the substance or mixture and uses advised against</u>	
Identified uses	: General purpose organic solvent.
Manufactured/supplied	: CHAPTEC Inc. 470 avenue Laurendeau Montreal-East, QC Canada H1B-5M2 Tel: +1-514-498-3620
Emergency telephone number (with hours of operation)	: CANUTEC: +1-613-996-6666 or *666 (cellular) POISON CONTROL CENTER: (800) 463-5060 24/7

Section 2. Hazard identification

Classification of the substance or mixture	: FLAMMABLE LIQUIDS - Category 2 ACUTE TOXICITY (oral) - Category 4 SKIN CORROSION/IRRITATION - Category 2 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) - Category 3
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GHS label elements
Hazard pictograms

Signal word	: Danger
Hazard statements	: H225 - Highly flammable liquid and vapor. H311 + H331 - Toxic in contact with skin or if inhaled. H302 - Harmful if swallowed. H319 - Causes serious eye irritation. May cause drowsiness, confusion and dizziness.
<u>Precautionary statements</u> Prevention	: P280 - Wear protective gloves. Wear protective clothing. Wear eye or face protection. P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P271 - Use only outdoors or in a well-ventilated area. P260 - Do not breathe vapor. P270 - Do not eat, drink or smoke when using this product. Grounding and classified equipment explosion-proof.
Response	: P308 + P311 - IF exposed or concerned: Call a POISON CENTER or physician. P304 + P340 + P311 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician. P301 + P312 + P330 - IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell. Rinse mouth. P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. P302 + P361+P364 + P352 + P312 + P362+P364 - IF ON SKIN: Take off immediately all contaminated clothing and wash it before reuse. Wash with plenty of soap and water. Call a POISON CENTER or physician if you feel unwell. Take off contaminated clothing and wash it before reuse. P332 + P313 - If skin irritation occurs: 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.

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Section 2. Hazard identification

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

Storage : P405 - Store locked up and ventilated place.

Disposal : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Other means of identification : Not available.

Ingredient name	% (w/w)	CAS number
Isopropyl alcohol	80 - 100	67-63-0

The exact percentage (concentration) in the composition has been withheld as a trade secret in accordance with the amended HPR as of April 2018.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First-aid measures

Description of necessary first aid measures

Eye contact:

Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 20 minutes. Get medical attention. If necessary, call a poison center or physician.

Inhalation:

Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Skin contact:

Wash with plenty of soap and water. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 20 minutes. Get medical attention. If necessary, call a poison center or physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion:

Do not induce vomiting. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. If necessary, call a poison center or physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Harmful if inhaled, effect on central nervous system, hypotension, respiratory arrest

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Section 4. First-aid measures

Skin contact	: Toxic in contact with skin. Causes skin irritation.
Ingestion	: Harmful if swallowed, not very toxic. In large quantities: confusion, redness of the face, low blood pressure, heart rhythm disorder.
<u>Over-exposure signs/symptoms</u>	
Eye contact	: Adverse symptoms may include the following: Severe irritation and excessive pain in relation to the degree of irritation: tearing, redness
Inhalation	: No known significant effects or critical hazards.
Skin contact	: Adverse symptoms may include the following: irritation redness
Ingestion	: Harmful if swallowed. May cause central nervous system effects, such as headache, nausea, dizziness, abdominal pain, confusion and difficulty breathing. Small amounts ingested as a result of normal handling should not cause injury; however, ingestion of larger amounts may cause injury. Signs and symptoms of excessive exposure may include: redness of the face, low blood pressure, and irregular heartbeat.
<u>Indication of immediate medical attention and special treatment needed, if necessary</u>	
Notes to physician	: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	: Cases of severe intoxication may require hemodialysis.
Protection of first-aiders	: No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures**Extinguishing media**

Suitable extinguishing media	: Use dry chemical, CO ₂ , water spray (fog) or foam. No direct jet on the area.
Unsuitable extinguishing media	: Do not use water jet or water-based fire extinguishers which can spread the fire.
Specific hazards arising from the chemical	: Highly flammable liquid and vapor. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The flame of the product is invisible.
Hazardous thermal decomposition products	: Decomposition products depend on temperature, air supply and presence of other materials.
Special protective actions for fire-fighters	: Firefighters must wear a self-contained breathing apparatus and full response gear. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
Special protective equipment for fire-fighters	: It is imperative that fire-fighters wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

- Spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g., sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Vapors are heavier than air.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. See also Section 8 for additional information on hygiene measures. Remove contaminated clothing and protective equipment before entering eating areas.
- Conditions for safe storage, including any incompatibilities** : Cool and ventilated place, no sources of heat or ignition nearby. Peroxides can form on contact with air. Peroxides can be explosive. Shelf life in barrel = 20 months. Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

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Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Isopropyl alcohol	<p>CA Alberta Provincial (Canada). 8 hrs OEL: 200 ppm 8 hours. 8 hrs OEL: 492 mg/m³ 8 hours.</p> <p>OEL British Columbia Provincial (Canada). STEL: 400 ppm TWA 200 ppm.</p> <p>CA Ontario Provincial (Canada). STEL: 400 ppm TWA 400 ppm.</p> <p>OEL Quebec Provincial (Canada). TWA: 400 ppm / 985 mg/m³. STEL: 1230 mg/m³. Immediate danger for lifeDIVS: 2000 ppm.</p> <p>ACGIH Exposure limit. STEL: 400 ppm. TLV-TWA: 200 ppm.</p>

Appropriate engineering controls

: Electrical mechanical devices must be explosion proof. An air induction respirator is recommended when the concentration in the air exceeds the exposure limits. Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. Use explosion-proof ventilation equipment.

Environmental exposure controls

: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

Individual protection measures

Hygiene measures

: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin protection

Hand protection

: Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection

: Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection

: Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection

: Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use. An air induction respirator is recommended when the concentration in the air exceeds the exposure limits.

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Section 9. Physical and chemical properties

Appearance	
Physical state	: Liquid.
Color	: Colorless.
Odor	: Alcohol.
Odor threshold	: Not available.
pH	: Not available.
Melting point	: -89°C / -128°F)
Boiling point	: 82°C / 180°F)
Flash point	: Closed cup: 12°C (53.6°F) [Tagliabue.] ASTM D56
Evaporation rate	: 1.5 (Butyl acetate = 1)
Flammability (solid, gas)	: Not available.
Lower and upper explosive (flammable) limits	: Lower: 2.0% Upper: 12%
Vapor pressure	: 3 hPa @ 20°C.
Vapor density	: 2.1
Relative density	: 0.780 at 0,790 @ 20°C (68 °F).
Solubility	: Completely soluble in water.
Partition coefficient: n-octanol/water	: Not available.
Auto-ignition temperature	: 425°C / 727°F
Decomposition temperature	: Not available.
Viscosity	: Dynamic 2.4 mPa/s @ 20°C.
Flow time (ISO 2431)	: Not available.

Section 10. Stability and reactivity

Reactivity	: Stable.
Chemical stability	: The product is stable.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur. Decomposes at high temperature, avoided ignition source.
Conditions to avoid	: Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
Incompatible materials	: Reactive or incompatible with the following materials: Strong acid, aldehyde, halogen and organohalogen.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced. The polymerization will not occur.

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Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Isopropyl alcohol	LC50 Inhalation Vapor	Rat	72600 mg/m ³	4 hours
	LD50 Dermal	Rabbit	4059 mg/kg	-
	LD50 Oral	Rat	1870 mg/kg	-

Irritation/Corrosion

There is no data available.

Sensitization

There is no data available.

Mutagenicity

There is no data available.

Carcinogenicity

There is no data available.

Reproductive toxicity

There is no data available.

Teratogenicity

There is no data available.

Specific target organ toxicity (single exposure)

Name	Category	Target organs
Isopropyl alcohol	Category 3	Narcotic effects

Specific target organ toxicity (repeated exposure)

There is no data available.

Aspiration hazard.

There is no data available.

Information on the likely routes of exposure : Dermal contact. Eye contact. Inhalation. Ingestion.

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Harmful if inhaled, effect on central nervous system, hypotension, respiratory arrest

Skin contact : Toxic in contact with skin. Causes skin irritation.

Ingestion : Harmful if swallowed, not very toxic. In large quantities: confusion, redness of the face, low blood pressure, heart rhythm disorder.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Adverse symptoms may include the following: Severe irritation and excessive pain in relation to the degree of irritation: tearing, redness

Inhalation : No known significant effects or critical hazards.

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Section 11. Toxicological information

- Skin contact** : Adverse symptoms may include the following:
irritation
redness
- Ingestion** : Harmful if swallowed. May cause central nervous system effects, such as headache, nausea, dizziness, abdominal pain, confusion and difficulty breathing. Small amounts ingested as a result of normal handling should not cause injury; however, ingestion of larger amounts may cause injury. Signs and symptoms of excessive exposure may include: redness of the face, low blood pressure, and irregular heartbeat.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : No known significant effects or critical hazards.

Potential delayed effects : Confusion, nausea, dizziness.

Long term exposure

Potential immediate effects : No known significant effects or critical hazards.

Potential delayed effects : No known significant effects or critical hazards.

Potential chronic health effects

General : No known significant effects or critical hazards.

Carcinogenicity : CIRC: Groupe 1 et 3.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : Teratogenic, in animals.

Developmental effects : Weight loss for animal fetus.

Fertility effects : Positive and negative mutagenic effect for invitro cell.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	1.870 mg/kg
Skin	4059 mg/kg

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Isopropyl alcohol	Acute EC50 1000 mg/L Fresh water	Algae - Desmodesmus	72 hours
	Acute EC50 1000 mg/L Fresh water	Algae - Desmodesmus	96 hours
	Acute LC50 11130 mg/l Marine water	Fish - Pimephale Promelas	96 hours
	CL50 1400000 µg/L Fresh water	Fish - Pimephale Promelas	96 hours
	Acute EC50 13299 mg/L Marine water	Crustaceans - Daphnia Magna	48 hours
	Acute CL50 212500 µg/L Fresh water	Fish - Pimephales Promelas	96 hours
	Chronic NOEC 2400 µg/L Fresh water	Crustaceans - Daphnia Magna	48 hours
	Chronic NOEC 75.6 mg/L Fresh water	Algae - Desmodesmus	96 hours

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Section 12. Ecological information

Persistence and degradability

There is no data available.

Bioaccumulative potential

Product/ingredient name	LogPow	BCF	Potential
Isopropyl alcohol	N/D	N/D	low

Mobility in soil




Soil/water partition coefficient (KOC) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling empty containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

	TDG Classification	IMDG	IATA
UN number	UN1219	UN1219	UN1219
UN proper shipping name	ISOPROPANOL	ISOPROPANOL	ISOPROPANOL
Transport hazard class(es)	3 	3 	3 
Packing group	II	II	II
Environmental hazards	No.	No.	No.

Additional information

TDG Classification

: Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.18-2.19 (Class 3).

IMDG

: **Emergency schedules** F-E, S-D

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Section 14. Transport information

- Emergency Response** : 131
- Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Section 15. Regulatory information

Canadian lists

- Canada inventory (DSL NDSL)** : All components are listed or exempted.
- Canadian NPRI** : The following components are listed: Isopropyl alcohol
- CEPA Toxic substances** : None of the components are listed.

Section 16. Other information

Procedure used to derive the classification

Classification	Justification
FLAMMABLE LIQUIDS - Category 2 ACUTE TOXICITY (oral) - Category 4 SKIN CORROSION/IRRITATION - Category 2 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) - Category 3	On basis of test data Expert judgment Expert judgment On basis of test data On basis of test data

History

- Date of issue** : 10-10-2021
- Date of previous issue** : Not applicable.
- Version** : 3
- Prepared by** : ChapTec
- Key to abbreviations** : ATE = Acute Toxicity Estimate
 BCF = Bioconcentration Factor
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals IATA = International Air Transport Association IBC = Intermediate Bulk Container IMDG = International Maritime Dangerous Goods
 LogPow = logarithm of the octanol/water partition coefficient
 MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
 UN = United Nations
 HPR = Hazardous Products Regulations

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.