

## MATERIAL SAFETY DATA SHEET

Isopropyl Alcohol 99%

### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product ID:** IPA4, IPA10, IPA250  
**Product Name:** Isopropyl Alcohol 99%  
**Synonyms:** Propanol-2, Isopropanol  
**Chemical Family:** Alcohol  
**Application:** Use as a solvent only in industrial manufacturing processes.  
**Distributed by:** Solvet  
 411- 19<sup>th</sup> Street South East  
 Calgary, Alberta Canada  
 T2E6J7  
[www.solvvet.ca](http://www.solvvet.ca)

For information, call: (403) 456-2245  
 Emergency number: (613) 996-6666 (CANUTEC)  
 1-800 463- 5060 OR  
 (418) 656-8090 (Control Poison Center)

### 2. HAZARDS IDENTIFICATION

**Potential Acute Health Effects:**

**Eye Contact:** Cause serious eye irritation, Symptoms of exposure may include: a burning sensation, redness, swelling and blurred vision.

**Skin Contact:** May cause mild skin irritation. Prolonged or repeated skin contact may cause drying, cracking or irritation.

**Inhalation:** Headache, nausea, vomiting, dizziness, drowsiness and loss of consciousness may occur.

**Ingestion:** Although ingestion is unlikely, liquid would irritate upper digestive tract if swallowed. Ingestion of this product would cause headache, dizziness, fatigue and central nervous system depression.

### 3. COMPOSITION / INFORMATION ON INGREDIENTS

Ingredients	Percentage (W/W)	LD50s and LC50s Route & Species:
Isopropyl Alcohol 67 – 63-0	60 - 100	Derma LD50 (Rabbit) 12800 mg/kg Inhalation LC50 (Rat) 12000 ppm/8H Oral LD50 (Mouse) 3600 mg/kg Oral LD50 (Rat) 5045 mg/kg

Note: No additional remark.

#### 4. FIRST AID MEASURES

<b>Eye Contact:</b>	In case of contact, or suspected contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention immediately after flushing.
<b>Skin Contact:</b>	In case of contact, immediately flush skin with plenty of water for at least 15 minutes. Get medical attention. Remove contaminated clothing and launder before reuse.
<b>Inhalation:</b>	Remove person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, get immediate medical attention.
<b>Ingestion:</b>	Do NOT induce vomiting. Never give anything by mouth to an unconscious or convulsing person. Seek immediate medical attention. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into the lungs.
<b>Notes to Physician:</b>	Treatment based on sound judgement of physician and individual reactions of patient.

#### 5. FIRE FIGHTING MEASURES

<b>Flash Point:</b>	12°C / 54°F
<b>Flash Point Method:</b>	Abel
<b>Auto ignition Temperature:</b>	425°C / 797°F
<b>Flammable Limits in Air (%):</b>	Lower: 2 Upper: 12
<b>Extinguishing Media:</b>	Alcohol foam. Carbon dioxide. Dry chemical.
<b>Special Exposure Hazards:</b>	Carbon monoxide may be evolved if incomplete combustion occurs. Vapors are heavier than air and may accumulate in low areas. Vapors may travel along the ground to be ignited at distant locations. Use water spray to cool fire-exposed containers and structures. Closed containers may explode in fire. Always stay away from ends of containers due to explosive potential. Do not allow runoff to enter waterways.

**Hazardous Decomposition/ Combustion Materials (under fire conditions):** Oxides of carbon.

**Special Protective Equipment:** Fire fighters should wear full protective clothing, including self-contained breathing equipment.

**NFPA RATING FOR THIS PRODUCT ARE:** HEALTH 2, FLAMMABILITY 3, INSTABILITY 0

**HMIS RATING FOR THIS PRODUCT ARE:** HEALTH 2, FLAMMABILITY 3, REACTIVITY 0

**Hazard symbol:**



## 6. ACCIDENTAL RELEASE MEASURES

- Personal Precautionary Measures:** Avoid contact with spilled or released material. Immediately remove all contaminated clothing. Wear appropriate protective equipment.
- Environmental Precautionary Measures:** Prevent from entering sewers, waterways or low areas. Consult local authorities. Spills or releases should be reported, if required to the appropriate local, state and federal agencies.
- Procedure for Clean Up:** Shut off leaks, if possible without personal risks. Remove all possible sources of ignition in the surrounding area. Dike area to prevent spill from spreading. For large liquid spills (>1 drum), transfer by mechanical means such as vacuum truck to a salvage tank for recovery or safe disposal. Do not flush away residues with water. Retain as contaminated waste. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely. For small liquid spills (<1 drum), transfer by mechanical means to a labelled, sealable container for product recovery or safe disposal. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely.

## 7. HANDLING AND STORAGE

- Handling:** Avoid contact with eyes, skin and clothing. Avoid breathing vapour. Use with adequate ventilation. Wash thoroughly after handling. Electrostatic charges may be generated during pumping. Electrostatic discharge may cause fire. Ensure electrical continuity by bonding and grounding (earthing) all equipment. Restrict line velocity during pumping in order to avoid generation of electrostatic discharge ( $\leq 10$  m/ sec.) Avoid splash filling. Do NOT use compressed air for filling, discharging, or handling operations. Extinguish any naked flames. Do not smoke. DO NOT handle or store near an open flames, heat, or other sources of ignition.
- Handling Temperature:** Ambient.
- Storage:** Store in a cool, dry, well-ventilated area, away from heat and ignition sources. Use explosion-proof ventilation to prevent vapour accumulation. Can attack aluminum at elevated temperature. Store at ambient temperature. Keep away from aerosols, flammables, oxidizing agents and corrosives. Place away from incompatible materials.

**8. EXPOSURE CONTROLS/ PERSONAL PROTECTION**

- Engineering Controls:** For personnel entry into confined spaces (i.e. bulk storage tanks) a proper confined space procedure must be followed including ventilation and testing of tank atmosphere. Local ventilation recommended where mechanical ventilation is ineffective in controlling airborne concentrations below the recommended occupational exposure limit. Concentrations in air should be maintained below lower explosive limit at all times or below the recommended threshold limit value if unprotected personnel are involved. Make up air should always be supplied to balance air exhausted (either generally or locally). Electrical and mechanical equipment should be explosion proof. Mechanical ventilation is recommended for all indoor situations to control fugitive emissions.
- Respiratory Protection:** NIOSH approved supplied air respirator when airborne concentrations exceed exposure limits. Use a NIOSH approved chemical cartridge respirator with organic vapour cartridges or use a NIOSH approved supplied air respirator. For high airborne concentrations, use a NIOSH approved supplied air respirator, either self-contained or airline breathing apparatus, operated in positive pressure mode.
- Gloves:** Use gloves chemically resistant to this material when prolonged or frequently repeated contact could occur. Examples of preferred glove barrier materials include: Polyethylene gloves. Natural rubber gloves. Neoprene gloves. Nitrile gloves. Ethyl Vinyl Alcohol Laminate (EVAL). Polyvinylchloride (PVC) gloves. Examples of acceptable glove barrier materials include: Polyvinyl Alcohol gloves.  
The selection of a specific gloves for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other Chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials as well as the instructions/specifications provided by the glove supplier.
- Skin Protection:** Skin contact should be prevented through the use of suitable protective clothing, glove and footwear, selected for conditions of use and exposure potential. Consideration must be given both to durability as well as permeation resistance.
- Eyes:** Chemical goggles; also wear a face shield if splashing hazard exists.
- Other Personal Protection Data:** Ensure that eyewash stations and safety showers are proximal to the work-station location.

Ingredients	Exposure Limit - ACGIH	Exposure Limit - OSHA	Immediately Dangerous to Life or Health - IDLH
Isopropyl Alcohol	400 ppm STEL 200 ppm TWA	400 ppm TWA 980 mg/m <sup>3</sup> TWA 1225 mg/m <sup>3</sup> STEL 500 ppm STEL	2000 ppm

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical State:</b>	Liquid
<b>Colour:</b>	Colourless
<b>Odour:</b>	Alcohol
<b>pH:</b>	Not Available
<b>Specific Gravity:</b>	0.78 – 0.79 @ 20°C
<b>Boiling Point:</b>	82 - 83°C / 180 – 181°F
<b>Freezing/ Melting Point:</b>	-89°C / -128.2°F
<b>Vapour Pressure:</b>	33 hPa @ 20°C
<b>Vapour Density:</b>	2.1
<b>% Volatile by Volume:</b>	Not Available
<b>Evaporation Rate:</b>	1.5
<b>Solubility:</b>	Completely miscible
<b>VOCs:</b>	Not Available
<b>Viscosity:</b>	Dynamic 2.4 mPa.s @ 20°C
<b>Molecular Weight:</b>	Not Available
<b>Other:</b>	Not Available

## 10. STABILITY AND REACTIVITY

<b>Chemical Stability:</b>	Stable
<b>Hazardous Polymerization:</b>	Will not occur
<b>Conditions to Avoid:</b>	Product can decompose at elevated temperatures. Avoid contact with heat, sparks, open flame, and static discharge.
<b>Materials to Avoid:</b>	Aldehydes. Halogenated organics. Halogens. Strong acids. Strong oxidizers.
<b>Hazardous Decomposition Products:</b>	Hazardous decomposition products depend upon temperature, air supply and the presence of other materials.
<b>Additional Information:</b>	No additional remark.

## 11. TOXICOLOGICAL INFORMATION

### Principle Route of Exposure

- Ingestion:** Low toxicity. Small amounts swallowed incidental to normal handling operations are not likely cause injury. Swallowing larger amounts may cause injury. May cause central nervous system effects, such as headache, nausea, vomiting, abdominal pain, dizziness, confusion and breathing difficulties. Signs and symptoms of excessive exposure may include: Facial flushing. Low blood pressure. Irregular heartbeats. Aspiration into the lungs during ingestion or vomiting may lead to chemical pneumonitis.
- Skin Contact:** Prolonged exposure not likely to cause significant skin irritation. May cause drying and flaking of the skin. Prolonged skin contact is unlikely to result in absorption of harmful amounts.
- Inhalation:** With good ventilation, single exposure is not likely to be hazardous. In poorly ventilated areas, vapors or mists may accumulate and cause respiratory irritation. Prolonged excessive exposure may cause adverse effects. Excessive exposure (400 ppm) to isopropanol may cause eye, nose and throat irritation. Incoordination, confusion, hypotension, hypothermia, circulatory collapse, respiratory arrest and death may follow a longer duration or higher levels. Observations in animals include middle ear lining damage upon exposure to vapors of isopropanol. However, the relevance of this to humans is unknown.
- Eye Contact:** May cause pain disproportionate to the level of irritation to eye tissue. May cause moderate eye irritation. May cause corneal injury. Vapour may cause eye irritation experienced as mild discomfort and redness. May cause lachrymation (excessive tears).
- Additional Information:** Isopropanol is a moderate to severe eye irritant and a mild skin irritant. Repeated or prolonged skin contact can cause drying and cracking of the skin (dermatitis). There are no reports of harmful effects developing following short-term exposure to Isopropanol. Exposure produced mild-moderate irritation of the nose and throat. It can probably cause central nervous system (CNS) depression, based on animal information and comparison to related alcohols. Symptoms may include headache, nausea, dizziness, vomiting and incoordination. High exposures may result in unconsciousness and death. Ingestion of large amounts can result in symptoms of CNS depression. Isopropanol can probably be inhaled into the lungs (aspirated) during ingestion or vomiting. Aspiration can result in severe, life-threatening lung damage. In rats and mice long term exposure by inhalation or ingestion has produced decreased body weight, a reversible increase in motor activity, increased liver weight, and signs of central nervous system (CNS) depression. Decreased testes weight has been observed in mice, while increased testes weight has been observed in rats exposed to high concentrations. Kidney injury has been observed in rats (especially males) and mice exposed to high concentrations. These effects are believed to be species specific and unlikely to occur in humans. Observations in animals include: Lethargy. Isopropanol toxicity is synergistic with chloroform and carbon tetrachloride resulting in hepatotoxicity.

### Acute Test of Product:

- Acute Oral LD50:** 5045 mg/kg (rat)  
**Acute Dermal LD50:** 12800 mg/kg (rabbit)  
**Acute Inhalation LC50:** 16000 ppm for 8 hrs  
**Carcinogenicity:**

Ingredients	IARC - Carcinogens	ACGIH - Carcinogens
Isopropyl Alcohol	Group 3	A4: Not classifiable for human and animals.

**Carcinogenicity Comment:** No additional information available.

**Reproductive Toxicity/ Teratogenicity/ Embryo toxicity/ Mutagenicity:** There is no human information available for Isopropanol. However, Isopropanol is considered teratogenic/ embryotoxic based on animal information. One inhalation rat study show that 2-propanol is fetotoxic (caused reduced fetal weight gain) in the absence of maternal toxicity. Other studies have shown no effect or effects in the presence of maternal toxicity. Positive and negative mutagenic results have been obtained in mammalian cells in vitro and negative results in bacteria.

## 12. ECOLOGICAL INFORMATION

Ecotoxicological Information:

Ingredients	Ecotoxicity – Fish Species Data	Acute Crustaceans Toxicity	Ecotoxicity – Fresh water Algae Data
Isopropyl Alcohol	LC50 96 h (Pimephales promelas) 9640 mg/L flow through LC50 96 h (Pimephales promelas) 11130 mg/L static LC50 96 h (Lepomis macrochirus) >1400000 ug/L	Not available	EC50 96 h Desmodesmus subspicatus >1000 mg/L EC50 72 h Desmodesmus subspicatus >1000 mg/L

**Other Information:**

Ecotoxicity: Material is practically non-toxic to aquatic organisms on an acute basis (LC50 or EC50 >100 mg/L in the most sensitive species tested).  
Material is readily biodegradable.

## 13. DISPOSAL CONSIDERATIONS

**Disposal of Waste Method:** Remove or recycle if possible. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations. Disposal of all wastes must be done in accordance with municipal, provincial and federal regulations.

**Contaminated Packaging:** Drain container thoroughly. After draining, vent in a safe place away from sparks and fire. Residue may cause an explosion hazard. Do not puncture, cut or weld uncleaned drums. Empty containers should be recycled or disposed of through an approved waste management facility.

**14. TRANSPORT INFORMATION**

DOT (US):  
 DOT Shipping Name: ISOPROPANOL  
 DOT Hazardous Class: 3  
 DOT UN Number: UN1219  
 DOT Packing Group: II  
 DOT Reportable Quantity (lbs): 5000 / 2270 kg  
 Note: No additional remark.  
 Marine Pollutant: No

TDG (Canada):  
 TDG Shipping Name: ISOPROPANOL  
 Hazard Class: 3  
 UN Number: UN1219  
 Packing Group: II  
 Note: No additional remark  
 Marine Pollutant: No

**15. REGULATORY INFORMATION**

U.S.TSCA Inventory Status: All components of this product are either on the Toxic Substances Control Act (TSCA) inventory List or exempt.

Canadian DSL Inventory Status: All components of this product are either on the Domestic Substances List (DSL), the Non-Domestic Substances List (NDSL) or exempt.

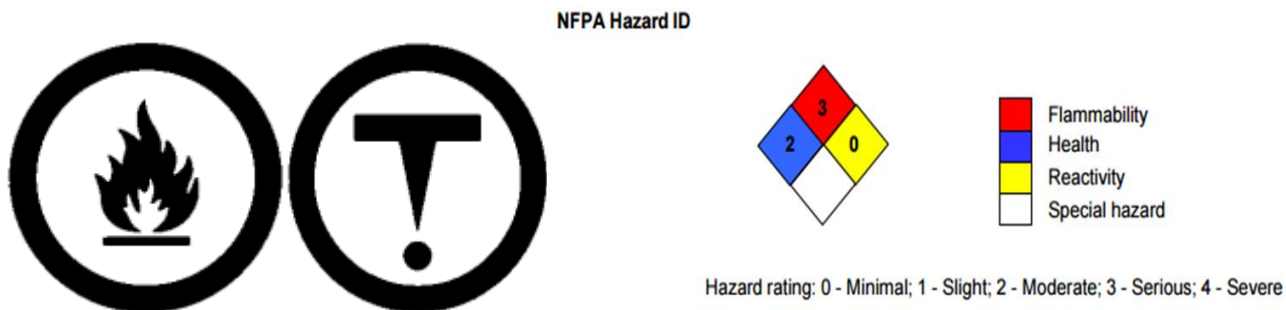
Note: Not available

U.S. Regulatory Rules

Ingredients	CERCLA/SARA- Section 302	SARA (311,312) Hazard Class	CERCLA/SARA – Section 313
Isopropyl Alcohol	Not listed	Not listed	Listed

California Proposition 65: Not listed  
 MA Right to know List: Listed  
 New Jersey Right to know List: Listed  
 Pennsylvania Right to know List: Listed

WHMIS Hazardous Class: B2 Flammable Liquids  
 D2B Toxic Materials



## 16. OTHER INFORMATION

**SDS Number:** SOL008

**SDS creation date:** March 29, 2012

**Revised date:** Jan 13, 2016

**Revision due:** Jan 30, 2018

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 Solvet 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 Solvet has been advised of the possibility of such damages.

**This product has been classified in accordance with the hazard criteria of the CPR  
and the SDS contains all of the information required by the CPR**