



Material Safety Data Sheet

LA2224
Isopropyl alcohol 70/30

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Id: LA2224
Product Name: Isopropyl alcohol 70/30
Synonyms: Propanol-2, Isopropanol
Chemical Family: Alcohol
Application: Use as a solvent only in industrial manufacturing processes.

Distributed By:
Univar Canada Ltd.
9800 Van Horne Way
Richmond, BC
V6X 1W5

Prepared By: The Safety, Health and Environment Department of Univar Canada Ltd.
Preparation date of MSDS: 06/Jun/2012
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2. COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	Percentage (W/W)	LD50s and LC50s Route & Species:
Isopropyl Alcohol 67-63-0	70	Dermal LD50 (Rabbit) 12800 mg/kg Inhalation LC50 (Rat) 16970 ppm/4H Oral LD50 (Mouse) 3600 mg/kg Oral LD50 (Rat) 5045 mg/kg
Water 7732-18-5	Balance	Oral LD50 (Rat) >90 mL/kg

Note: No additional remark.

3. HAZARDS IDENTIFICATION

Potential Acute Health Effects:

Eye Contact: Causes severe eye irritation. 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 Contact: May cause mild skin irritation. Prolonged or repeated skin contact may cause drying, cracking or irritation. May cause systematic intoxication through skin absorption.

3. HAZARDS IDENTIFICATION

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

Ingestion: Ingestion of Isopropyl Alcohol may cause irritation of the digestive tract with stomach pain, heartburn, nausea, vomiting, or diarrhea, however there may be no symptoms at all. Ingestion of this product would cause headache, dizziness, fatigue and central nervous system depression.

4. FIRST AID MEASURES

Eye Contact: Immediately flush eyes with copious quantities of water for at least 20 minutes holding lids apart to ensure flushing of the entire surface. Seek immediate medical attention.

Skin Contact: In case of contact, immediately flush skin with plenty of water for at least 20 minutes. Get medical attention. Remove contaminated clothing and launder before reuse.

Inhalation: If symptoms are experienced, remove source of contamination or move victim to fresh air. If symptoms persist, get medical attention. If the affected person is not breathing, apply artificial respiration. If breathing is difficult, give oxygen. In situations where administering oxygen is appropriate, first aiders must be trained in the safe use and handling of oxygen. It is preferable to administer oxygen under a doctor's supervision or advice. If the heart has stopped, trained personnel should begin cardiopulmonary resuscitation (CPR) immediately. Immediate medical assistance is required.

Ingestion: 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.

Notes to Physician: Treatment based on sound judgment of physician and individual reactions of patient.

5. FIRE FIGHTING MEASURES

Flash Point: 21 °C / 69.8 °F

Flash Point Method: Tag Closed Cup ASTM D56

Autoignition Temperature: 399°C / 750°F

Flammable Limits in Air (%): Lower: 2.5% Upper: 12%

Extinguishing Media: Alcohol foam. Carbon dioxide. Dry chemical.

Special Exposure Hazards: Isolate and restrict area access. Move containers from fire area if you can do it without risk. Stop leak only if safe to do so. 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 or sewer.

Hazardous Decomposition/Combustion Materials (under fire conditions): Carbon monoxide. Carbon dioxide.

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

NFPA RATINGS FOR THIS PRODUCT ARE: HEALTH 1, FLAMMABILITY 3, INSTABILITY 0

HMIS RATINGS FOR THIS PRODUCT ARE: HEALTH 1, FLAMMABILITY 3, REACTIVITY 0

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 municipal, provincial 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 small liquid spills (< 1 drum), transfer by mechanical means to a labeled, 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.

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.

7. HANDLING AND STORAGE

Handling: Avoid contact with eyes, skin and clothing. Avoid breathing vapor. 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 (≤ 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 flame, 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 vapor 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 entry 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 vapor 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:

Natural rubber gloves. Butyl rubber gloves. Neoprene gloves. Viton gloves.

Skin Protection: Skin contact should be prevented through the use of suitable protective clothing, gloves 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 ³ TWA 500 ppm STEL 1225 mg/m ³ STEL	2000 ppm
Water	Not available.	Not available.	Not Available.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Liquid.

Color: Clear

Odor: Characteristic.

pH Not Available.

Specific Gravity: 0.876

Boiling Point: 82.1°C /179.78°F

Freezing/Melting Point: -26.7°C / -16.06°F

Vapor Pressure: Not Available.

Vapor Density: Not Available.

% Volatile by Volume: 100%

Evaporation Rate: 2.3

Solubility: Miscible in water.

VOCs: Not Available.

Viscosity: Not Available.

Molecular Weight: 60.09

9. PHYSICAL AND CHEMICAL PROPERTIES

Other: Not Available.

10. STABILITY AND REACTIVITY

Chemical Stability: Stable.

Hazardous Polymerization: Will not occur.

Conditions to Avoid: Avoid any source of ignition.

Materials to Avoid: Strong acids. Strong oxidizers. Strong bases.

Hazardous Decomposition Products: Carbon monoxide. Carbon dioxide. Formaldehyde.

Additional Information:

No additional remark.

11. TOXICOLOGICAL INFORMATION

Principle Routes of Exposure

Ingestion: Ingestion of Isopropyl Alcohol may cause irritation of the digestive tract with stomach pain, heartburn, nausea, vomiting, or diarrhea, however there may be no symptoms at all. Ingestion of this product would cause headache, dizziness, fatigue and central nervous system depression.

Skin Contact: May cause mild skin irritation. Prolonged or repeated skin contact may cause drying, cracking or irritation. May cause systematic intoxication through skin absorption.

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

Eye Contact: Causes severe eye irritation. 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.

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: 16000ppm for 8 hrs

Carcinogenicity:

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

Carcinogenicity Comment: No additional information available.

Reproductive Toxicity/ Teratogenicity/ Embryotoxicity/ Mutagenicity: There is no human information available for Isopropanol. However, Isopropanol is considered teratogenic/embryotoxic based on animal information. One inhalation rat study has shown that 2-propanol is fetotoxic (caused reduced fetal weight gain) in the absence of maternal toxicity. Other studies have shown no effects 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 - Freshwater Algae Data
Isopropyl Alcohol	11130 mg/L LC50 (Pimephales promelas) 96 h static 9640 mg/L LC50 (Pimephales promelas) 96 h flow-through 1400000 µg/L LC50 (Lepomis macrochirus) 96 h	Not Available.	1000 mg/L EC50 Desmodesmus subspicatus 72 h 1000 mg/L EC50 Desmodesmus subspicatus 96 h
Water	Not Available.	Not Available.	Not Available.

Other Information:

Do not allow product or runoff from fire control to enter storm or sanitary sewers, lakes, rivers, streams or public waterways. Block off drains and ditches. Spill areas must be cleaned and restored to original condition or to the satisfaction of authorities. May be harmful to aquatic life.

13. DISPOSAL CONSIDERATIONS

Disposal of Waste Method: Recover 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. Residues 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 (U.S.):

DOT Shipping Name: ISOPROPANOL

DOT Hazardous Class 3

DOT UN Number: UN1219

DOT Packing Group: II

DOT Reportable Quantity (lbs): Not Available.

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
Water	Not Listed.	Not Listed.	Not 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

Additional Information:

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

Disclaimer:

NOTICE TO READER:

Univar, expressly disclaims all express or implied warranties of merchantability and fitness for a particular purpose, with respect to the product or information provided herein, and shall under no circumstances be liable for incidental or consequential damages.

Do not use ingredient information and/or ingredient percentages in this MSDS as a product specification. For product specification information refer to a Product Specification Sheet and/or a Certificate of Analysis. These can be obtained from your local Univar Sales Office.

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*****END OF MSDS*****