



SAFETY DATA SHEET

SDS00502
ISOPROPYL ALCOHOL 70/30

Preparation Date: 21/Jun/2017

Version: 1

1. IDENTIFICATION

Product identifier

Product Name ISOPROPYL ALCOHOL 70/30

Other means of identification

Product Code(s) SDS00502

Synonyms Propanol-2, Isopropanol

Recommended use of the chemical and restrictions on use

Recommended Use Use as a solvent only in industrial manufacturing processes.

Restricted Uses No information available

Initial Supplier Identifier

Univar Canada Ltd.
9800 Van Horne Way
Richmond, BC V6X 1W5
Telephone: 1-866-686-4827

Emergency telephone number

24 Hour Emergency Phone Number (CANUTEC): 1-888-226-8832 (1-888-CAN-UTEC)

2. HAZARD IDENTIFICATION

Hazardous Classification of the substance or mixture

| | |
|--|------------|
| Flammable liquids | Category 2 |
| Serious eye damage/eye irritation | Category 2 |
| Specific target organ toxicity (single exposure) | Category 3 |

Label elements

Hazard pictograms



Signal Word: Danger

Hazard statements

Highly flammable liquid and vapor
Causes serious eye irritation
May cause drowsiness or dizziness

Precautionary Statements

Prevention

Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Wear protective gloves/protective clothing/eye protection/face protection
Wash face, hands and any exposed skin thoroughly after handling
Avoid breathing dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area
Ground and bond container and receiving equipment
Use non-sparking tools
Take action to prevent static discharges
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
Keep container tightly closed
Use explosion-proof electrical/ ventilating / lighting/ equipment
Keep cool

Response

IF exposed or concerned: Get medical advice/attention
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower
IF INHALED: Remove person to fresh air and keep comfortable for breathing
In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish

Storage

Store locked up
Store in a well-ventilated place. Keep container tightly closed

Disposal

Dispose of contents/container to an approved waste disposal plant

Other Information

May be harmful if swallowed

Unknown acute toxicity No information available

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Not applicable.

Mixture

| Chemical Name | CAS No | Weight-% | Synonyms |
|-------------------|---------|----------|-------------------|
| Isopropyl Alcohol | 67-63-0 | 70 - 80% | Isopropyl Alcohol |

4. FIRST AID**Description of first aid measures****General advice**

IF exposed or concerned: Get medical advice/attention. Show this safety data sheet to the doctor in attendance.

Inhalation

Remove to fresh air. If breathing has stopped, give artificial respiration. Get medical attention immediately.

Eye contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

Skin contact

Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Get medical attention if irritation develops and persists.

Ingestion

Do NOT induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Call a physician.

Self-protection of the first aider

Remove all sources of ignition. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Use personal protective equipment as required. See section 8 for more information. Avoid contact with skin, eyes or clothing.

Most important symptoms and effects, both acute and delayed:

May cause mild skin irritation. Causes severe eye irritation. Ingestion of this product would cause headache, dizziness, fatigue and central nervous system depression. Prolonged or repeated skin contact may cause drying, cracking or irritation. Headache, nausea, vomiting, dizziness, drowsiness and loss of consciousness may occur. 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. 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. May cause systematic intoxication through skin absorption. 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.

Indication of any immediate medical attention and special treatment needed:**Note to physicians**

Treatment based on sound judgment of physician and individual reactions of patient.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Dry chemical. Carbon dioxide. Alcohol foam.

CAUTION: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the substance or mixture

Use water spray to cool fire-exposed containers and structures. Vapors are heavier than air and may accumulate in low areas. Vapors may travel along the ground to be ignited at distant locations. Do not allow runoff to enter waterways or sewer. 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. Closed containers may explode in fire. Always stay away from ends of containers due to explosive potential. Carbon monoxide may be evolved if incomplete combustion occurs.

Hazardous combustion products

Carbon monoxide. Carbon dioxide.

Special protective equipment for fire-fighters

Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protection equipment.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Evacuate personnel to safe areas. Use personal protective equipment as required. See section 8 for more information. Avoid contact with skin, eyes or clothing. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Pay attention to flashback. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material.

Environmental precautions

Refer to protective measures listed in Sections 7 and 8. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains.

Methods and materials for containment and cleaning up

Stop leak if you can do it without risk. Do not touch or walk through spilled material. A vapor suppressing foam may be used to reduce vapors. Dike far ahead of spill to collect runoff water. Keep out of drains, sewers, ditches and waterways. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.

Take precautionary measures against static discharges. Dam up. Soak up with inert absorbent material. Pick up and transfer to properly labeled containers.

7. HANDLING AND STORAGE

Precautions for safe handling

Handling Temperature: Ambient. Avoid breathing vapor. Avoid contact with eyes, skin and clothing. Use with adequate ventilation. Wash thoroughly after handling. DO NOT handle or store near an open flame, heat, or other sources of ignition. Do Not smoke. Take precautionary measures against static discharges.

Conditions for safe storage, including any incompatibilities

Store in a cool, dry, well ventilated area, away from heat and ignition sources. Place away from incompatible materials. Use explosion-proof ventilation to prevent vapor accumulation. Store at ambient temperature. Can attack aluminum at elevated temperature. Keep away from aerosols, flammables, oxidizing agents and corrosives.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Limits

| Chemical Name | Alberta OEL | British Columbia OEL | Ontario | Quebec OEL | Exposure Limit - ACGIH | Immediately Dangerous to Life or Health - IDLH |
|------------------------------|--|-------------------------------|-------------------------------|---|------------------------------------|--|
| Isopropyl Alcohol 67-63-0 | TWA: 200 ppm TWA: 492 mg/m ³ STEL: 400 ppm STEL: 984 mg/m ³ | TWA: 200 ppm STEL: 400 ppm | TWA: 200 ppm STEL: 400 ppm | TWA: 400 ppm TWA: 985 mg/m ³ STEL: 500 ppm STEL: 1230 mg/m ³ | 400 ppm STEL 200 ppm TLV-TWA | 2000 ppm |

Consult local authorities for recommended exposure limits

Appropriate engineering controls

Engineering controls

Electrical and mechanical equipment should be explosion proof. Local ventilation recommended where mechanical ventilation is ineffective in controlling airborne concentrations below the recommended occupational exposure limit. Make up air should always be supplied to balance air exhausted (either generally or locally). 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. 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. Mechanical ventilation is recommended for all indoor situations to control fugitive emissions.

Individual protection measures, such as personal protective equipment

Eye/face protection

Tight sealing safety goggles.

Hand protection

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

Skin and body protection

Wear suitable protective clothing. Long sleeved clothing. Chemical resistant apron. Antistatic boots.

Respiratory protection

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. NIOSH approved supplied air respirator when airborne concentrations exceed exposure limits.

General hygiene considerations

Do not eat, drink or smoke when using this product. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Wash hands before breaks and immediately after handling the product. Avoid contact with skin, eyes or clothing. Wear suitable gloves and eye/face protection.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance

| | |
|----------------|--------------------------|
| Physical state | Liquid |
| Color | Clear |
| Odor | Alcohol |
| Odor threshold | No information available |

| <u>PROPERTIES</u> | <u>Values</u> | <u>Remarks • Method</u> |
|-------------------------------------|---------------------------|-------------------------|
| pH | No data available | none known |
| Melting point / freezing point | -88.5 °C / -127 °F | |
| Initial boiling point/boiling range | 82 °C / 180 °F | |
| Flash point | 21 °C / 70 °F | Tag Closed Cup ASTM D56 |
| Evaporation rate | 2.3 | |
| Flammability (solid, gas) | No data available | none known |
| Flammability Limit in Air | | none known |
| Upper flammability limit: | 12 | |
| Lower flammability limit: | 2.5 | |
| Vapor pressure | 4.4 (kPa) | none known |
| Relative vapor density | 2.07 | none known |
| Specific Gravity | 0.876 | |
| Water solubility | Completely soluble | |
| Solubility in other solvents | No data available | |
| Partition coefficient | No data available | none known |
| Autoignition temperature | 399 °C / 750 °F | |
| Decomposition temperature | No data available | none known |
| Kinematic viscosity | No data available | none known |
| Dynamic viscosity | No data available | none known |
| Explosive properties | No information available. | |
| Oxidizing properties | No information available. | |
| Molecular weight | 60.09 | |
| VOC Percentage Volatility | 100% | |
| Liquid Density | No information available | |
| Bulk density | No information available | |

10. STABILITY AND REACTIVITY

Reactivity/Chemical Stability

Stable

Possibility of hazardous reactions

No additional remark.

Hazardous polymerization

Will not occur.

Conditions to avoid

Avoid any source of ignition.

Incompatible materials

Strong oxidizers. Strong bases. Strong acids.

Hazardous decomposition products

Carbon monoxide. Carbon dioxide.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation

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

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.

Ingestion

Ingestion of this product would cause headache, dizziness, fatigue and central nervous system depression. 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.

Information on toxicological effects

Symptoms

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.

Numerical measures of toxicity

Acute toxicity

The following values are calculated based on chapter 3.1 of the GHS document .

| | |
|------------------------|----------------|
| ATEmix (oral) | 2,671.00 mg/kg |
| ATEmix (dermal) | 5,799.00 mg/kg |

Unknown acute toxicity No information available

| Chemical Name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|------------------------------|----------------------|-------------------------|---------------------------------------|
| Isopropyl Alcohol 67-63-0 | = 1870 mg/kg (Rat) | = 4059 mg/kg (Rabbit) | = 72600 mg/m ³ (Rat) 4 h |

Delayed and immediate effects as well as chronic effects from short and long-term exposure**Skin corrosion/irritation**

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

Serious eye damage/eye irritation

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.

Respiratory or skin sensitization

No information available.

Germ cell mutagenicity

No information available.

Carcinogenicity

Classification based on data available for ingredients.

The table below indicates whether each agency has listed any ingredient as a carcinogen.

| Chemical Name | ACGIH | IARC | NTP | OSHA |
|------------------------------|---------------|--------------------|---------------|------|
| Isopropyl Alcohol 67-63-0 | Not available | Group 1 Group 3 | Not available | X |

Legend**IARC (International Agency for Research on Cancer)**

Group 1 - Carcinogenic to Humans

Group 3 - Not Classifiable as to Carcinogenicity in Humans

OSHA (Occupational Safety and Health Administration of the US Department of Labor)

X - Present

Reproductive toxicity

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.

Specific target organ systemic toxicity - single exposure

May cause drowsiness or dizziness.

Specific target organ systemic toxicity - repeated exposure

No information available.

Aspiration hazard

No information available.

12. ECOLOGICAL INFORMATION

No.

Ecotoxicity

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| Chemical Name | Ecotoxicity - Freshwater Algae Data | Ecotoxicity - Fish Species Data | Toxicity to microorganisms | Crustacea |
|-------------------|--|------------------------------------|-------------------------------|------------------------|
| Isopropyl Alcohol | 1000 mg/L EC50 | 11130 mg/L LC50 | Not available | EC50: =13299mg/L (48h, |

| | | | |
|---------|---|---|----------------|
| 67-63-0 | Desmodesmus subspicatus 72 h 1000 mg/L EC50 Desmodesmus subspicatus 96 h | (Pimephales promelas) 96 h static 9640 mg/L LC50 (Pimephales promelas) 96 h flow-through 1400000 µg/L LC50 (Lepomis macrochirus) 96 h | Daphnia magna) |
|---------|---|---|----------------|

Persistence and degradability No information available.

Bioaccumulation No information available.

Component Information

| Chemical Name | Partition coefficient |
|------------------------------|-----------------------|
| Isopropyl Alcohol 67-63-0 | 0.05 |

Other adverse effects No information available.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of all wastes must be done in accordance with municipal, provincial and federal regulations. 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. Recover or recycle if possible.

Empty containers should be recycled or disposed of through an approved waste management facility. 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.

14. TRANSPORT INFORMATION

TDG (Canada):

UN Number UN1219
Shipping name ISOPROPANOL
Class 3
Packing Group II
Marine pollutant No.

DOT (U.S.)

UN Number UN1219
Shipping name ISOPROPANOL
Class 3
Packing Group II
Marine pollutant No

15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture

U.S. Regulatory Rules

| | | | |
|---------------|----------------------------|-------------------------------|----------------------------|
| Chemical Name | CERCLA/SARA - Section 302: | SARA (311, 312) Hazard Class: | CERCLA/SARA - Section 313: |
|---------------|----------------------------|-------------------------------|----------------------------|

| | | | |
|-----------------------------|------------|------------|--------|
| Isopropyl Alcohol - 67-63-0 | Not Listed | Not Listed | Listed |
|-----------------------------|------------|------------|--------|

International Inventories

TSCA Complies
DSL/NDSL Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

NFPA: Health hazards 2 Flammability 3 Instability 0 Physical and chemical properties -
HMIS Health Rating: Health hazards 2 * Flammability 3 Physical hazards 0 Personal protection X

Legend Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA TWA (time-weighted average) STEL STEL (Short Term Exposure Limit)
 Ceiling Maximum limit value * Skin designation

Prepared By: The Environment, Health and Safety Department of Univar Canada Ltd.

Preparation Date: 21/Jun/2017

Revision Date: 21/Jun/2017

Disclaimer

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End of Safety Data Sheet