



MATERIAL SAFETY DATA SHEET
Isopropanol

Section 1 - Chemical Product and Company Identification

MSDS Name: Isopropanol

Catalog Numbers: P/7490/08, P/7490/15, P/7490/17, P/7490/21, P/7490/25, P/7490/27, P/7490/DH25, P/7490/MC15, P/7490/PB08, P/7490/PB17, P/7490/PC25, P/7500/15, P/7500/17, P/7500/21, P/7500/24, P/7500/25, P/7500/27, P/7500/99, P/7500/DH25, P/7500/PB08, P/7500/PB17, P/7500/PC17, P/7501/15, P/7501/17, P/7503/08, P/7503/15, P/7503/17, P/7507/15, P/7507/17, P/7507/27, P/7507/27SS, P/7507/PB17, P/7508/17, P/7509/17, P/7510/03, P/7511/05, P/7514/27, P/7555/17, P/7555/21, P/7555/25, SP/0222

Synonyms: Isopropanol; Dimethylcarbinol; sec-Propyl alcohol; Rubbing alcohol; Petrohol; 1-Methylethanol; 1-Methylethyl alcohol; 2-Hydroxypropane; 2-Propyl alcohol; Isopropyl alcohol; Propan-2-ol; IPA; 2-Propanol.

Company Identification: Fisher Scientific UK
Bishop Meadow Road, Loughborough
Leics. LE11 5RG

For information in Europe, call: (01509) 231166

Emergency Number, Europe: 01509 231166

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name:	%	EINECS#
67-63-0	2-Propanol	>= 99.5	200-661-7

Hazard Symbols: XI F



Risk Phrases: 11 36 67

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Highly flammable. Irritating to eyes. Vapours may cause drowsiness and dizziness. Hygroscopic (absorbs moisture from the air).

Potential Health Effects

Eye: Produces irritation, characterized by a burning sensation, redness, tearing, inflammation, and possible corneal injury. May cause transient corneal injury.

Skin: May cause irritation with pain and stinging, especially if the skin is abraded. Isopropanol has a low potential to cause allergic skin reactions; however, rare cases of allergic contact dermatitis have been reported. May be absorbed through intact skin.

Ingestion: Causes gastrointestinal irritation with nausea, vomiting and diarrhea. May cause kidney damage. May cause central nervous system depression, characterized by excitement, followed by headache, dizziness, drowsiness, and nausea. Advanced stages may cause collapse, unconsciousness, coma and possible death due to respiratory failure. Aspiration of material into the lungs may cause chemical pneumonitis, which may be fatal.

Inhalation: Inhalation of high concentrations may cause central nervous system effects characterized by nausea, headache, dizziness, unconsciousness and coma. May cause narcotic effects in high concentration. Causes upper respiratory tract irritation. Inhalation of vapors may cause drowsiness and dizziness.

Chronic: Prolonged or repeated skin contact may cause defatting and dermatitis.

Section 4 - First Aid Measures

- Eyes:** In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical aid.
- Skin:** In case of contact, flush skin with plenty of water. Remove contaminated clothing and shoes. Get medical aid if irritation develops and persists. Wash clothing before reuse.
- Ingestion:** Potential for aspiration if swallowed. Get medical aid immediately. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If vomiting occurs naturally, have victim lean forward.
- Inhalation:** If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.
- Notes to Physician:** Urine acetone test may be helpful in diagnosis. Hemodialysis should be considered in severe intoxication. Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

- General Information:** As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Vapors may form an explosive mixture with air. Use water spray to keep fire-exposed containers cool. Flammable liquid and vapor. May form explosive peroxides. Vapors are heavier than air and may travel to a source of ignition and flash back. Vapors can spread along the ground and collect in low or confined areas.
- Extinguishing Media:** Water may be ineffective. Do NOT use straight streams of water. For large fires, use dry chemical, carbon dioxide, alcohol-resistant foam, or water spray. For small fires, use carbon dioxide, dry chemical, dry sand, or alcohol-resistant foam. Cool containers with flooding quantities of water until well after fire is out.

Section 6 - Accidental Release Measures

- General Information:** Use proper personal protective equipment as indicated in Section 8.
- Spills/Leaks:** Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Use water spray to dilute spill to a non-flammable mixture. Clean up spills immediately, observing precautions in the Protective Equipment section. Remove all sources of ignition. Use a spark-proof tool. Provide ventilation. A vapor suppressing foam may be used to reduce vapors.

Section 7 - Handling and Storage

- Handling:** Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Ground and bond containers when transferring material. Use spark-proof tools and explosion proof equipment. Avoid contact with eyes, skin, and clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Take precautionary measures against static discharges. Keep container tightly closed. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames. Use only with adequate ventilation. Avoid breathing vapor or mist. Do not allow to evaporate to near dryness.
- Storage:** Keep away from heat, sparks, and flame. Do not store in direct sunlight. Store in a tightly closed container. Keep from contact with oxidizing materials. Store in a cool, dry, well-ventilated area away from incompatible substances. Flammables-area. After opening, purge container with nitrogen before reclosing. Periodically test for peroxide formation on long-term storage. Addition of water or appropriate reducing materials will lessen peroxide formation. Store protected from moisture. Containers should be dated when opened and tested periodically for the presence of peroxides. Should crystals form in a peroxidizable liquid, peroxidation may have occurred and the product should be considered extremely dangerous. In this instance, the container should only be opened remotely by professionals. All

peroxidizable substances should be stored away from heat and light and be protected from ignition sources.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls:

Use explosion-proof ventilation equipment. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Exposure Limits

CAS# 67-63-0:

United Kingdom, WEL - TWA: 400 ppm TWA; 999 mg/m³ TWA United Kingdom, WEL - STEL: 500 ppm STEL; 1250 mg/m³ STEL

United States OSHA: 400 ppm TWA; 980 mg/m³ TWA

Belgium - TWA: 400 ppm TWA; 997 mg/m³ TWA Belgium - STEL: 500 ppm STEL; 1248 mg/m³ STEL

France - VLE: 400 ppm VLCT; 980 mg/m³ VLCT

Germany: 200 ppm TWA (exposure factor 2); 500 mg/m³ TWA (exposure factor 2)

Japan: 400 ppm Ceiling; 980 mg/m³ Ceiling

Malaysia: 400 ppm TWA; 983 mg/m³ TWA

Netherlands: 250 ppm MAC; 650 mg/m³ MAC

Russia: 10 mg/m³ TWA (vapor) Russia: 50 mg/m³ STEL (vapor)

Spain: 400 ppm VLA-ED; 998 mg/m³ VLA-ED Spain: 500 ppm VLA-EC; 1250 mg/m³ VLA-EC

Personal Protective Equipment

Eyes: Wear chemical splash goggles.

Skin: Wear appropriate gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

Section 9 - Physical and Chemical Properties

Physical State: Liquid

Color: colorless

Odor: alcohol-like

pH: Not available

Vapor Pressure: 33 mm Hg @ 20 deg C

Viscosity: 2.27 mPas @ 20C

Boiling Point: 82 deg C @ 760 mmHg (179.60°F)

Freezing/Melting Point: -88 deg C (-126.40°F)

Autoignition Temperature: > 350 deg C (> 662.00 deg F)

Flash Point: 53 deg F (11.67 deg C)

Explosion Limits: Lower: 2.0 vol %

Explosion Limits: Upper: 12.7 @ 93°C

Decomposition Temperature: Not available

Solubility in water: Miscible

Specific Gravity/Density: 0.7850 (water=1)

Molecular Formula: C₃H₈O

Molecular Weight: 60.1

Section 10 - Stability and Reactivity

Chemical Stability:	Under normal storage conditions, peroxidizable compounds can form and accumulate peroxides which may explode when subjected to heat or shock. This material is most hazardous when peroxide levels are concentrated by distillation or evaporation. Isopropanol is susceptible to autoxidation and therefore should be classified as peroxidizable.
Conditions to Avoid:	Light, ignition sources, excess heat, exposure to moist air or water.
Incompatibilities with Other Materials	Strong oxidizing agents, strong acids, strong bases, amines, ammonia, ethylene oxide, isocyanates, acetaldehyde, chlorine, phosgene, Attacks some forms of plastics, rubbers, and coatings., aluminum at high temperatures.
Hazardous Decomposition Products	Carbon monoxide, carbon dioxide.
Hazardous Polymerization	Will not occur.

Section 11 - Toxicological Information

RTECS#:	CAS# 67-63-0: NT8050000
LD50/LC50:	RTECS: CAS# 67-63-0: Draize test, rabbit, eye: 100 mg Severe; Draize test, rabbit, eye: 10 mg Moderate; Draize test, rabbit, eye: 100 mg/24H Moderate; Draize test, rabbit, skin: 500 mg Mild; Inhalation, mouse: LC50 = 53000 mg/m3; Inhalation, rat: LC50 = 16000 ppm/8H; Inhalation, rat: LC50 = 72600 mg/m3; Oral, mouse: LD50 = 3600 mg/kg; Oral, mouse: LD50 = 3600 mg/kg; Oral, rabbit: LD50 = 6410 mg/kg; Oral, rat: LD50 = 5045 mg/kg; Oral, rat: LD50 = 5000 mg/kg; Skin, rabbit: LD50 = 12800 mg/kg; .
Carcinogenicity:	2-Propanol - IARC: Group 3 (not classifiable)
Other:	See actual entry in RTECS for complete information.

Section 12 - Ecological Information

Ecotoxicity:	Fish: Fathead Minnow: >1000 ppm; 96h; LC50 Daphnia: >1000 ppm; 96h; LC50 Fish: Gold orfe: 8970-9280 ppm; 48h; LC50
---------------------	--------------------------------------------------------------------------------------------------------------------------

Section 13 - Disposal Considerations

Products considered hazardous for supply are classified as Special Waste and the disposal of such chemicals is covered by regulations which may vary according to location. Contact a specialist disposal company or the local authority or advice. Empty containers must be decontaminated before returning for recycling.

Section 14 - Transport Information

	IATA	IMO	RID/ADR
Shipping Name:	ISOPROPANOL	ISOPROPANOL	ISOPROPANOL
Hazard Class:	3	3	3
UN Number:	1219	1219	1219
Packing Group:	II	II	II

Section 15 - Regulatory Information

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols: XI F

Risk Phrases:

R 11 Highly flammable.

R 36 Irritating to eyes.

R 67 Vapours may cause drowsiness and dizziness.

Safety Phrases:

S 7 Keep container tightly closed.

S 16 Keep away from sources of ignition - No smoking.

S 24/25 Avoid contact with skin and eyes.

S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

WGK (Water Danger/Protection)

CAS# 67-63-0: 1

Canada

CAS# 67-63-0 is listed on Canada's DSL List

US Federal

TSCA

CAS# 67-63-0 is listed on the TSCA Inventory.

Section 16 - Other Information

MSDS Creation Date: 7/27/1999

Revision #15 Date 6/29/2007

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