



Fisher Scientific

Part of Thermo Fisher Scientific

Material Safety Data Sheet

Creation Date 01-Sep-2009

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Revision Number 2

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name	2-Propanol
Cat No.	A415-4; A415-20; A416-1; A416-4; A416-4LC; A416-20; A416-200; A416-200LC; A416-500; A416P-4; A416S-4; A416SK-4; A416FB-19; A416FB-50; A416FB-115; A416FB-200; A416RB-50; A416RB-115; A416RB-200; A416RS-28; A416RS-50; A416RS-115; A416RS-200; A416SS-28; A416SS-50; A416SS-115; A416SS-200; A417-1; A417-4; A419-1; A419-4; A419RS-28; A419RS-115; A419RS-200; A419SS-28; A419SS-50; A419SS-115; A419SS-200; A426F-1GAL; A426P-4; A426S-4; A426S-20; A426S-200; A451-1; A451-4; A451CU-50; A451N-219; A451POP-19; A451RS-19; A451RS-50; A451RS-115; A451RS-200; A451SK-1; A451SK-4; A451SS-200; A461-1; A461-4; A461-212; A461-500; A464-1; A464-4; A464-4LC; A464RS-200; A464SK-4; A516-4; A516-20; A516-200; A516-500; A519-4; A520-4; A520RS-200; A520SS-28; A520SS-50; A520SS-115; A520SS-200; A522-4; A522-20; A522SAM-1; A522SAM-2; A522SAM-3; BP2621100; BP26324; HC-500-1GAL; LCMSKIT; OPTIMAKIT
Synonyms	Isopropanol; Isopropyl Alcohol (Certified ACS, HPLC, Laboratory, Histological, Spectranalyzed, OPTIMA LC/MS, USP, Pesticide, Low Water, USP/EP/BP/JP)
Recommended Use	Laboratory chemicals
Company Fisher Scientific One Reagent Lane Fair Lawn, NJ 07410 Tel: (201) 796-7100	Emergency Telephone Number CHEMTREC®, Inside the USA: 800-424-9300 CHEMTREC®, Outside the USA: 001-703-527-3887

2. HAZARDS IDENTIFICATION

WARNING!

Emergency Overview

Flammable liquid and vapor. Irritating to eyes and skin. May cause irritation of respiratory tract. Vapors may cause drowsiness and dizziness. Aspiration hazard if swallowed - can enter lungs and cause damage. Hygroscopic.

Appearance Colorless

Physical State Liquid

odor Alcohol-like

2. HAZARDS IDENTIFICATION

Target Organs Skin, Respiratory system, Eyes, Central nervous system (CNS), Liver, Kidney

Potential Health Effects

Acute Effects

Principle Routes of Exposure

Eyes	Irritating to eyes.
Skin	Irritating to skin. May be harmful in contact with skin.
Inhalation	May be harmful if inhaled. May cause drowsiness and dizziness. May cause irritation of respiratory tract.
Ingestion	Aspiration hazard if swallowed - can enter lungs and cause damage. May cause central nervous system effects. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Chronic Effects

Experiments have shown reproductive toxicity effects on laboratory animals. May cause adverse liver effects. May cause adverse kidney effects.

See Section 11 for additional Toxicological information.

Aggravated Medical Conditions Preexisting eye disorders. Skin disorders.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Haz/Non-haz

Component	CAS-No	Weight %
Isopropyl alcohol	67-63-0	>95

4. FIRST AID MEASURES

Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain medical attention.
Skin Contact	Wash off immediately with plenty of water for at least 15 minutes. Obtain medical attention.
Inhalation	Move to fresh air. If breathing is difficult, give oxygen. Obtain medical attention.
Ingestion	Do not induce vomiting. Obtain medical attention.
Notes to Physician	Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Flash Point	12°C / 53.6°F
Method	No information available.
Autoignition Temperature	425°C / 797°F
Explosion Limits	
Upper	12 vol %
Lower	2 vol %

Suitable Extinguishing Media	CO ₂ , dry chemical, dry sand, alcohol-resistant foam. Cool closed containers exposed to fire with water spray.
Unsuitable Extinguishing Media	Water may be ineffective
Hazardous Combustion Products	No information available.
Sensitivity to mechanical impact	No information available.
Sensitivity to static discharge	No information available.

Specific Hazards Arising from the Chemical

Flammable. Risk of ignition. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Containers may explode when heated.

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

NFPA	Health 1	Flammability 3	Instability 0	Physical hazards N/A
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6. ACCIDENTAL RELEASE MEASURES

Personal Precautions Use personal protective equipment. Remove all sources of ignition. Take precautionary measures against static discharges. Avoid contact with skin, eyes and clothing.

Environmental Precautions Should not be released into the environment.

Methods for Containment and Clean Up Remove all sources of ignition. Soak up with inert absorbent material. Use spark-proof tools and explosion-proof equipment. Keep in suitable, closed containers for disposal.. Take precautionary measures against static discharges.

7. HANDLING AND STORAGE

Handling Wear personal protective equipment. Keep away from open flames, hot surfaces and sources of ignition. Use explosion-proof equipment. Use only non-sparking tools. Take precautionary measures against static discharges. Do not get in eyes, on skin, or on clothing. Do not breathe vapors or spray mist.

Storage Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat and sources of ignition. Flammables area.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Measures Ensure that eyewash stations and safety showers are close to the workstation location. Use explosion-proof electrical/ventilating/lighting/equipment.

Exposure Guidelines

Component	ACGIH TLV	OSHA PEL	NIOSH IDLH
Isopropyl alcohol	TWA: 200 ppm STEL: 400 ppm	(Vacated) TWA: 400 ppm (Vacated) TWA: 980 mg/m ³ (Vacated) STEL: 500 ppm (Vacated) STEL: 1225 mg/m ³ TWA: 400 ppm TWA: 980 mg/m ³	IDLH: 2000 ppm TWA: 400 ppm TWA: 980 mg/m ³ STEL: 500 ppm STEL: 1225 mg/m ³

Component	Quebec	Mexico OEL (TWA)	Ontario TWAEV
Isopropyl alcohol	TWA: 400 ppm TWA: 985 mg/m ³ STEL: 500 ppm STEL: 1230 mg/m ³	TWA: 400 ppm TWA: 980 mg/m ³ STEL: 500 ppm STEL: 1225 mg/m ³	TWA: 200 ppm STEL: 400 ppm

NIOSH IDLH: Immediately Dangerous to Life or Health

Personal Protective Equipment

Eye/face Protection

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

Respiratory Protection

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid
Appearance	Colorless
odor	Alcohol-like
Odor Threshold	No information available.
pH	7 1% aq. sol.
Vapor Pressure	43 mmHg @ 20 °C
Vapor Density	2.1 (Air = 1.0)
Viscosity	2.27 mPa.s at 20 °C
Boiling Point/Range	81 - 83°C / 177.8 - 181.4°F @ 760 mmHg
Melting Point/Range	-89.5°C / -129.1°F
Decomposition temperature	No information available.
Flash Point	12°C / 53.6°F
Evaporation Rate	(Butyl Acetate = 1.0)
Specific Gravity	0.785
Solubility	Miscible with water
log Pow	No data available
Molecular Weight	60.1
Molecular Formula	C ₃ H ₈ O

10. STABILITY AND REACTIVITY

Stability	Hygroscopic.
Conditions to Avoid	Incompatible products. Heat, flames and sparks. Exposure to moist air or water.
Incompatible Materials	Strong oxidizing agents, Acids, Halogens, Acid anhydrides
Hazardous Decomposition Products	Carbon monoxide (CO), Carbon dioxide (CO ₂), peroxides
Hazardous Polymerization	Hazardous polymerization does not occur.
Hazardous Reactions .	None under normal processing..

11. TOXICOLOGICAL INFORMATION

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Isopropyl alcohol	4396 mg/kg (Rat)	12800 mg/kg (Rat) 12870 mg/kg (Rabbit)	72.6 mg/L (Rat) 4 h

Irritation Irritating to eyes and skin

Toxicologically Synergistic Products No information available.

Chronic Toxicity

Carcinogenicity There are no known carcinogenic chemicals in this product

Sensitization No information available.

Mutagenic Effects Mutagenic effects have occurred in experimental animals.

Reproductive Effects Experiments have shown reproductive toxicity effects on laboratory animals.

Developmental Effects Developmental effects have occurred in experimental animals.

Teratogenicity Teratogenic effects have occurred in experimental animals..

Other Adverse Effects See actual entry in RTECS for complete information.

Endocrine Disruptor Information No information available

12. ECOLOGICAL INFORMATION

Ecotoxicity

. Do not empty into drains.

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Isopropyl alcohol	1000 mg/L EC50 > 72 h 1000 mg/L EC50 > 96 h	1400000 µg/L LC50 96 h 9640 mg/L LC50 96 h 11130 mg/L LC50 96 h	= 35390 mg/L EC50 Photobacterium phosphoreum 5 min	13299 mg/L EC50 = 48 h

Persistence and Degradability Expected to be biodegradable.

Bioaccumulation/ Accumulation No information available

Mobility .

Component	log Pow
Isopropyl alcohol	0.05

13. DISPOSAL CONSIDERATIONS

Waste Disposal Methods Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

14. TRANSPORT INFORMATION

DOT

UN-No UN1219
Proper Shipping Name Isopropanol
Hazard Class 3
Packing Group II

TDG

UN-No UN1219
Proper Shipping Name ISOPROPANOL
Hazard Class 3
Packing Group II

IATA

UN-No UN1219
Proper Shipping Name Isopropanol
Hazard Class 3
Packing Group II

IMDG/IMO

UN-No UN1219
Proper Shipping Name Isopropanol (Isopropyl alcohol)
Hazard Class 3
Packing Group II

15. REGULATORY INFORMATION

International Inventories

Component	TSCA	DSL	NDSL	EINECS	ELINCS	NLP	PICCS	ENCS	AICS	CHINA	KECL
Isopropyl alcohol	X	X	-	200-661-7	-		X	X	X	X	X

Legend:

X - Listed

E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA.

F - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.
 N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.
 P - Indicates a commenced PMN substance
 R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA.
 S - Indicates a substance that is identified in a proposed or final Significant New Use Rule
 T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.
 XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B)).
 Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.
 Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

U.S. Federal Regulations

TSCA 12(b) Not applicable

SARA 313

Component	CAS-No	Weight %	SARA 313 - Threshold Values %
Isopropyl alcohol	67-63-0	>95	1.0

SARA 311/312 Hazardous Categorization

Acute Health Hazard Yes
 Chronic Health Hazard No
 Fire Hazard Yes
 Sudden Release of Pressure Hazard No
 Reactive Hazard No

Clean Water Act

Not applicable

Clean Air Act

Not applicable

OSHA

Not applicable

CERCLA

Not Applicable

California Proposition 65

This product does not contain any Proposition 65 chemicals.

State Right-to-Know

Component	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Isopropyl alcohol	X	X	X	-	X

U.S. Department of Transportation

Reportable Quantity (RQ): N
 DOT Marine Pollutant N
 DOT Severe Marine Pollutant N

U.S. Department of Homeland Security

This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade Serious risk, Grade 3

Canada

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

WHMIS Hazard Class

B2 Flammable liquid

D2B Toxic materials

**16. OTHER INFORMATION**

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Disclaimer

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End of MSDS