



# Fisher Scientific

Part of Thermo Fisher Scientific

## Material Safety Data Sheet

Creation Date 01-Sep-2009

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Revision Number 4

### 1. PRODUCT AND COMPANY IDENTIFICATION

<b>Product Name</b>	<b>2-Propanol</b>
<b>Cat No.</b>	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
<b>Synonyms</b>	Isopropanol; Isopropyl Alcohol (Certified ACS, HPLC, Laboratory, Histological, Spectranalyzed, OPTIMA LC/MS, USP, Pesticide, Low Water, USP/EP/BP/JP)
<b>Recommended Use</b>	Laboratory chemicals
<b>Company</b> Fisher Scientific One Reagent Lane Fair Lawn, NJ 07410 Tel: (201) 796-7100	<b>Emergency Telephone Number</b> 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**

<b>Eyes</b>	Irritating to eyes.
<b>Skin</b>	Irritating to skin. May be harmful in contact with skin.
<b>Inhalation</b>	May be harmful if inhaled. May cause drowsiness and dizziness. May cause irritation of respiratory tract.
<b>Ingestion</b>	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

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

## 5. FIRE-FIGHTING MEASURES

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

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

## 6. ACCIDENTAL RELEASE MEASURES

<b>Personal Precautions</b>	Use personal protective equipment. Remove all sources of ignition. Take precautionary measures against static discharges. Avoid contact with skin, eyes and clothing.
<b>Environmental Precautions</b>	Should not be released into the environment.
<b>Methods for Containment and Clean Up</b>	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

<b>Handling</b>	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.
<b>Storage</b>	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 <sup>3</sup> (Vacated) STEL: 500 ppm (Vacated) STEL: 1225 mg/m <sup>3</sup> TWA: 400 ppm TWA: 980 mg/m <sup>3</sup>	IDLH: 2000 ppm TWA: 400 ppm TWA: 980 mg/m <sup>3</sup> STEL: 500 ppm STEL: 1225 mg/m <sup>3</sup>

Component	Quebec	Mexico OEL (TWA)	Ontario TWA/EV
Isopropyl alcohol	TWA: 400 ppm TWA: 985 mg/m <sup>3</sup> STEL: 500 ppm STEL: 1230 mg/m <sup>3</sup>	TWA: 400 ppm TWA: 980 mg/m <sup>3</sup> STEL: 500 ppm STEL: 1225 mg/m <sup>3</sup>	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

<b>Physical State</b>	Liquid
<b>Appearance</b>	Colorless
<b>odor</b>	Alcohol-like
<b>Odor Threshold</b>	No information available.
<b>pH</b>	7 1% aq. sol.
<b>Vapor Pressure</b>	43 mmHg @ 20 °C
<b>Vapor Density</b>	(Air = 1.0)
<b>Viscosity</b>	2.27 mPa.s at 20 °C
<b>Boiling Point/Range</b>	81 - 83°C / 177.8 - 181.4°F @ 760 mmHg
<b>Melting Point/Range</b>	-89.5°C / -129.1°F
<b>Decomposition temperature</b>	No information available.
<b>Flash Point</b>	12°C / 53.6°F
<b>Evaporation Rate</b>	1.7 (Butyl Acetate = 1.0)
<b>Specific Gravity</b>	0.785
<b>Solubility</b>	Miscible with water
<b>log Pow</b>	No data available
<b>Molecular Weight</b>	60.1
<b>Molecular Formula</b>	C <sub>3</sub> H <sub>8</sub> O

## 10. STABILITY AND REACTIVITY

### Stability

Hygroscopic.

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

## 11. TOXICOLOGICAL INFORMATION

### Acute Toxicity

#### Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation (Dust)
Isopropyl alcohol	5840 mg/kg ( Rat )	13900 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 9714 mg/L EC50 = 24 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

**14. TRANSPORT INFORMATION**

**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**

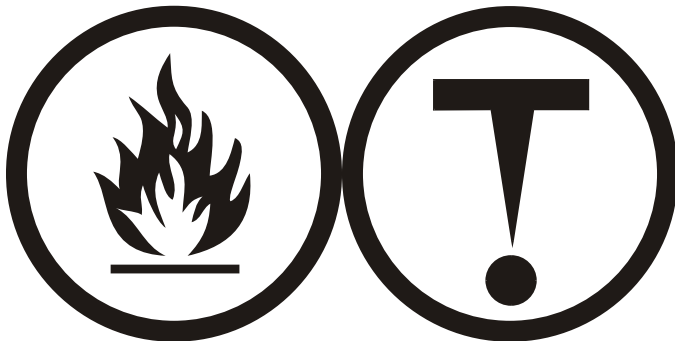
**Mexico - Grade** Serious risk, Grade 3

**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**

The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

**End of MSDS**