

1. PRODUCT AND COMPANY IDENTIFICATION

Product name : 2-Propanol
Product Number : 40301
Brand : Aldrich
Company : Sigma-Aldrich
3050 Spruce Street
SAINT LOUIS MO 63103
USA
Telephone : +1 800-325-5832
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Emergency Phone # : (314) 776-6555

2. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : Isopropanol
Formula : C₃H₈O
Molecular Weight : 60.1 g/mol

CAS-No.	EC-No.	Index-No.	Concentration
Propan-2-ol			
67-63-0	200-661-7	603-117-00-0	-

3. HAZARDS IDENTIFICATION

Emergency Overview

OSHA Hazards

Flammable Liquid
Target Organ Effect
Irritant

Target Organs

Gastrointestinal tract, Liver, Cardiovascular system., Kidney, Nerves.

HMIS Classification

Health Hazard: 2

Chronic Health Hazard: *

Flammability: 3

Physical hazards: 1

NFPA Rating

Health Hazard: 2

Fire : 3

Reactivity Hazard: 0

Health Hazard: 2
Fire : 3
Reactivity Hazard: 1

Potential Health Effects

Inhalation	Vapours may cause drowsiness and dizziness. May be harmful if inhaled. Causes respiratory tract irritation.
Skin	May be harmful if absorbed through skin. Causes skin irritation.
Eyes	Causes eye irritation.
Ingestion	May be harmful if swallowed.

4. FIRST AID MEASURES

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

If inhaled

If breathed in, move person into fresh air. If not breathing give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIRE-FIGHTING MEASURES

Flammable properties

Flash point 12.0 °C (53.6 °F) - closed cup

Ignition temperature 425 °C (797 °F)

Suitable extinguishing media

For small (incipient) fires, use media such as "alcohol" foam, dry chemical, or carbon dioxide. For large fires, apply water from as far as possible. Use very large quantities (flooding) of water applied as a mist or spray; solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water.

Special protective equipment for fire-fighters

Wear self contained breathing apparatus for fire fighting if necessary.

Further information

Use water spray to cool unopened containers.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Methods for cleaning up

Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

7. HANDLING AND STORAGE

Handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.

Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

Storage

Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Store in cool place.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION**Components with workplace control parameters**

Components	CAS-No.	Value	Control parameters	Update	Basis
Propan-2-ol	67-63-0	TWA	200 ppm	2003-01-01	US. American Conference of Governmental and Industrial Hygienists Threshold Limit Values for Chemical Substances in the Work Environment; Annual Reports for the Year 2004:Committees on Threshold Limit Values (TLVs) and Biological Exposure Indices (BEIs)
Remarks	Refers to Appendix A -- Carcinogens. ACGIH 2003 Adoption				
		STEL	400 ppm	2003-01-01	US. American Conference of Governmental and Industrial Hygienists Threshold Limit Values for Chemical Substances in the Work Environment; Annual Reports for the Year 2004:Committees on Threshold Limit Values (TLVs) and Biological Exposure Indices (BEIs)
	ACGIH 2003 Adoption Refers to Appendix A -- Carcinogens.				
		TWA	400 ppm 980 mg/m3	1989-03-01	US. Department of Labor - Occupational Safety and Health Administration (OSHA) 29 CFR 1910.1000 Z-1-A
		STEL	500 ppm 1,225 mg/m3	1989-03-01	US. Department of Labor - Occupational Safety and Health Administration (OSHA) 29 CFR 1910.1000 Z-1-A
		TWA	400 ppm 980 mg/m3	1993-06-30	US. Department of Labor - Occupational Safety and Health Administration (OSHA) Permissible Exposure Limits (PEL) 29 CFR 1910.1000 Air

Personal protective equipment**Respiratory protection**

Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection

Handle with gloves.

Eye protection

Safety glasses

Skin and body protection

Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

9. PHYSICAL AND CHEMICAL PROPERTIES**Appearance**

Form	liquid
Colour	colourless

Safety data

pH	no data available
Melting point	-89.5 °C (-129.1 °F)
Boiling point	81.0 - 83.0 °C (177.8 - 181.4 °F)
Flash point	12.0 °C (53.6 °F) - closed cup
Ignition temperature	425 °C (797 °F)
Lower explosion limit	2 %(V)
Upper explosion limit	12.7 %(V)
Vapour pressure	43.2 hPa (32.4 mmHg) at 20.0 °C (68.0 °F) 58.7 hPa (44.0 mmHg) at 25.0 °C (77.0 °F)
Density	0.78 g/cm ³
Water solubility	completely soluble
Partition coefficient: n-octanol/water	log Pow: 0.05

10. STABILITY AND REACTIVITY**Storage stability**

Stable under recommended storage conditions.

Conditions to avoid

Heat, flames and sparks.

Materials to avoid

Oxidizing agents, acids, Acid anhydrides, Halogens, Aluminum

Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides

Hazardous reactions

Vapours may form explosive mixture with air.

11. TOXICOLOGICAL INFORMATION**Acute toxicity**

LD50 Oral - rat - 5,045 mg/kg

Remarks: Behavioral: Altered sleep time (including change in righting reflex). Behavioral: Somnolence (general depressed activity).

LC50 Inhalation - rat - 8 h - 16000 ppm

LD50 Dermal - rabbit - 12,800 mg/kg

Irritation and corrosion

Skin - rabbit - Mild skin irritation

Eyes - rabbit - Eye irritation - 24 h

Sensitisation

no data available

Chronic exposure

This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Signs and Symptoms of Exposure

Central nervous system depression, prolonged or repeated exposure can cause: Nausea, Headache, Vomiting, narcosis, Drowsiness, Overexposure may cause mild, reversible liver effects.

Potential Health Effects

Inhalation	Vapours may cause drowsiness and dizziness. May be harmful if inhaled. Causes respiratory tract irritation.
Skin	May be harmful if absorbed through skin. Causes skin irritation.
Eyes	Causes eye irritation.
Ingestion	May be harmful if swallowed.
Target Organs	Gastrointestinal tract, Liver, Cardiovascular system., Kidney, Nerves.,

12. ECOLOGICAL INFORMATION**Elimination information (persistence and degradability)**

no data available

Ecotoxicity effects

Toxicity to fish	LC50 - Pimephales promelas (fathead minnow) - 9,640.00 mg/l - 96 h
Toxicity to daphnia and other aquatic invertebrates.	EC50 - Daphnia magna (Water flea) - 5,102.00 mg/l - 24 h
	Immobilization EC50 - Daphnia magna (Water flea) - 6,851 mg/l - 24 h
Toxicity to algae	EC50 - Scenedesmus subspicatus - > 2,000.00 mg/l - 72 h
	EC50 - No information available. - > 1,000.00 mg/l - 24 h

Further information on ecology

no data available

13. DISPOSAL CONSIDERATIONS

Product

Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Observe all federal, state, and local environmental regulations. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)

UN-Number: 1219 Class: 3 Packing group: II
 Proper shipping name: Isopropanol

IMDG

UN-Number: 1219 Class: 3 Packing group: II EMS-No: F-E, S-D
 Proper shipping name: ISOPROPANOL
 Marine pollutant: No

IATA

UN-Number: 1219 Class: 3 Packing group: II
 Proper shipping name: Isopropanol

15. REGULATORY INFORMATION

OSHA Hazards

Flammable Liquid, Target Organ Effect, Irritant

TSCA Status

On TSCA Inventory

DSL Status

All components of this product are on the Canadian DSL list.

SARA 302 Components

SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components

Propan-2-ol	CAS-No. 67-63-0	Revision Date 1987-01-01
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SARA 311/312 Hazards

Fire Hazard, Acute Health Hazard, Chronic Health Hazard

Massachusetts Right To Know Components

CAS-No.	Revision Date
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Propan-2-ol

67-63-0

1987-01-01

Pennsylvania Right To Know Components

Propan-2-ol

CAS-No.
67-63-0

Revision Date
1987-01-01

New Jersey Right To Know Components

Propan-2-ol

CAS-No.
67-63-0

Revision Date
1987-01-01

California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth, or any other reproductive defects.

16. OTHER INFORMATION

Further information

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