

## SAFETY DATA SHEET

Version 6.1  
Revision Date 01/21/2020  
Print Date 02/21/2020**SECTION 1: Identification of the substance/mixture and of the company/undertaking****1.1 Product identifiers**

Product name : Isopropyl alcohol

Product Number : W292907

Brand : Aldrich

Index-No. : 603-117-00-0

CAS-No. : 67-63-0

**1.2 Relevant identified uses of the substance or mixture and uses advised against**

Identified uses : Laboratory chemicals, Synthesis of substances

**1.3 Details of the supplier of the safety data sheet**

Company : Sigma-Aldrich Inc.  
3050 Spruce Street  
ST. LOUIS MO 63103  
UNITED STATES

Telephone : +1 314 771-5765

Fax : +1 800 325-5052

**1.4 Emergency telephone number**

Emergency Phone # : +1-703-527-3887

**SECTION 2: Hazards identification****2.1 Classification of the substance or mixture****GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)**

Flammable liquids (Category 2), H225  
Eye irritation (Category 2A), H319  
Specific target organ toxicity - single exposure (Category 3), Central nervous system, H336  
For the full text of the H-Statements mentioned in this Section, see Section 16.

**2.2 GHS Label elements, including precautionary statements**

Pictogram



Signal word

Danger

Hazard statement(s)

H225

H319

Highly flammable liquid and vapour.

Causes serious eye irritation.

H336	May cause drowsiness or dizziness.
Precautionary statement(s)	
P210	Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P233	Keep container tightly closed.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof electrical/ ventilating/ lighting equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P261	Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P264	Wash skin thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/ eye protection/ face protection.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 + P312	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313	If eye irritation persists: Get medical advice/ attention.
P370 + P378	In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
P403 + P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
P501	Dispose of contents/ container to an approved waste disposal plant.

### 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

May form explosive peroxides.

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Synonyms : 2-Propanol  
sec-Propyl alcohol  
Isopropyl alcohol  
Isopropanol

Formula : C<sub>3</sub>H<sub>8</sub>O  
Molecular weight : 60.10 g/mol  
CAS-No. : 67-63-0  
EC-No. : 200-661-7  
Index-No. : 603-117-00-0

Component	Classification	Concentration
<b>2-Propanol</b>		
	Flam. Liq. 2; Eye Irrit. 2A; STOT SE 3; H225, H319, H336 Concentration limits:	<= 100 %

	>= 20 %: STOT SE 3, H336;	
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For the full text of the H-Statements mentioned in this Section, see Section 16.

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## SECTION 4: First aid measures

### 4.1 Description of 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.

### 4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

### 4.3 Indication of any immediate medical attention and special treatment needed

No data available

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## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

#### Suitable extinguishing media

Dry powder Dry sand

#### Unsuitable extinguishing media

Do NOT use water jet.

### 5.2 Special hazards arising from the substance or mixture

Carbon oxides

### 5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

### 5.4 Further information

Use water spray to cool unopened containers.

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## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid breathing vapours, 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.  
For personal protection see section 8.

### 6.2 Environmental precautions

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

### 6.3 Methods and materials for containment and 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).

### 6.4 Reference to other sections

For disposal see section 13.

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## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.  
Use explosion-proof equipment. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.  
For precautions see section 2.2.

### 7.2 Conditions for safe storage, including any incompatibilities

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.

Handle and store under inert gas. hygroscopic  
Storage class (TRGS 510): 3: Flammable liquids

### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

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## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

#### Components with workplace control parameters

Component	CAS-No.	Value	Control parameters	Basis
2-Propanol	67-63-0	TWA	200 ppm	USA. ACGIH Threshold Limit Values (TLV)
	Remarks	Central Nervous System impairment Upper Respiratory Tract irritation Eye irritation Substances for which there is a Biological Exposure Index or Indices (see BEI® section) Not classifiable as a human carcinogen		

		STEL	400 ppm 980 mg/m <sup>3</sup>	USA. ACGIH Threshold Limit Values (TLV)
		Central Nervous System impairment Upper Respiratory Tract irritation Eye irritation Substances for which there is a Biological Exposure Index or Indices (see BEI® section) Not classifiable as a human carcinogen		
		TWA	400 ppm 980 mg/m <sup>3</sup>	USA. NIOSH Recommended Exposure Limits
		ST	500 ppm 1,225 mg/m <sup>3</sup>	USA. NIOSH Recommended Exposure Limits
		TWA	400 ppm 980 mg/m <sup>3</sup>	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
		The value in mg/m <sup>3</sup> is approximate.		
		PEL	400 ppm 980 mg/m <sup>3</sup>	California permissible exposure limits for chemical contaminants (Title 8, Article 107)
		STEL	500 ppm 1,225 mg/m <sup>3</sup>	California permissible exposure limits for chemical contaminants (Title 8, Article 107)

#### Biological occupational exposure limits

Component	CAS-No.	Parameters	Value	Biological specimen	Basis
2-Propanol	67-63-0	Acetone	40 mg/l	Urine	ACGIH - Biological Exposure Indices (BEI)
	Remarks	End of shift at end of workweek			

## 8.2 Exposure controls

### Appropriate engineering controls

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

### Personal protective equipment

#### Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

#### Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.4 mm

Break through time: 480 min  
Material tested: Camatril® (KCL 730 / Aldrich Z677442, Size M)

Splash contact  
Material: Nitrile rubber  
Minimum layer thickness: 0.2 mm  
Break through time: 60 min  
Material tested: Dermatril® P (KCL 743 / Aldrich Z677388, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

### **Body Protection**

Impervious clothing, Flame retardant antistatic protective clothing., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

### **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).

### **Control of environmental exposure**

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

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## **SECTION 9: Physical and chemical properties**

### **9.1 Information on basic physical and chemical properties**

- |  |   |
|--|---|
| a) Appearance                              | Form: liquid<br>Colour: colourless                                |
| b) Odour                                   | alcohol-like  |
| c) Odour Threshold                         | No data available   |
| d) pH                                      | at 20 °C (68 °F) neutral  |
| e) Melting point/freezing point            | Melting point/range: -89.5 °C (-129.1 °F) - lit.                  |
| f) Initial boiling point and boiling range | 82 °C 180 °F - lit.   |
| g) Flash point                             | 12.0 °C (53.6 °F) - closed cup                                    |
| h) Evaporation rate                        | 3.0   |
| i) Flammability (solid, gas)               | No data available   |
| j) Upper/lower flammability or             | Upper explosion limit: 13.4 %(V)<br>Lower explosion limit: 2 %(V) |

- explosive limits
- k) Vapour pressure 43 hPa at 20 °C (68 °F)
  - l) Vapour density 2.07
  - m) Relative density 0.785 g/cm<sup>3</sup> at 25 °C (77 °F)
  - n) Water solubility soluble
  - o) Partition coefficient: log Pow: 0.05 - Bioaccumulation is not expected.  
n-octanol/water
  - p) Auto-ignition temperature 425.0 °C (797.0 °F)
  - q) Decomposition temperature Distillable in an undecomposed state at normal pressure.
  - r) Viscosity No data available
  - s) Explosive properties No data available
  - t) Oxidizing properties No data available

## 9.2 Other safety information

- Minimum ignition energy 0.65 mJ
- Conductivity < 0.1 µS/cm
- Surface tension 20.8 mN/m at 25.0 °C (77.0 °F)
- Relative vapour density 2.07

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No data available

### 10.2 Chemical stability

Reacts with air to form peroxides.

Test for peroxide formation before distillation or evaporation. Test for peroxide formation or discard after 1 year.

Stable under recommended storage conditions.

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

Vapours may form explosive mixture with air. Vapours may form explosive mixture with air.

### 10.4 Conditions to avoid

Heat, flames and sparks.

### 10.5 Incompatible materials

Oxidizing agents, Acid anhydrides, Aluminium, Halogenated compounds, Acids

### 10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides

Other decomposition products - No data available

In the event of fire: see section 5

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## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

#### Acute toxicity

LD50 Oral - Rat - 5,840 mg/kg  
(OECD Test Guideline 401)  
LC50 Inhalation - Rat - male and female - 4 h - 37.5 mg/l  
(OECD Test Guideline 403)  
LD50 Dermal - Rabbit - 12,800 mg/kg  
Remarks: (RTECS)  
No data available

#### Skin corrosion/irritation

Skin - Rabbit  
Result: No skin irritation - 4 h  
(OECD Test Guideline 404)

#### Serious eye damage/eye irritation

Eyes - Rabbit  
Result: Eye irritation  
(OECD Test Guideline 405)  
(Regulation (EC) No 1272/2008, Annex VI)

#### Respiratory or skin sensitisation

Buehler Test - Guinea pig  
Result: negative  
(OECD Test Guideline 406)

#### Germ cell mutagenicity

Ames test  
Salmonella typhimurium  
Result: negative  
In vitro mammalian cell gene mutation test  
Chinese hamster ovary cells  
Result: negative  
OECD Test Guideline 474  
Mouse - male and female - Bone marrow  
Result: negative

#### Carcinogenicity

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.

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 on OSHA's list of regulated carcinogens.

#### Reproductive toxicity

No data available

#### Specific target organ toxicity - single exposure

Inhalation, Oral - May cause drowsiness or dizziness. - Central nervous system  
Classified according to Regulation (EU) 1272/2008, Annex VI (Table 3.1/3.2)  
Acute inhalation toxicity - Central nervous system



**Specific target organ toxicity - repeated exposure**

No data available

**Aspiration hazard**

No data available

**Additional Information**

RTECS: NT8050000

Central nervous system depression, prolonged or repeated exposure can cause:, Nausea, Headache, Vomiting, narcosis, Drowsiness, Overexposure may cause mild, reversible liver effects., Aspiration may lead to:, Lung oedema, Pneumonia  
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

After absorption:

Headache, Dizziness, inebriation, Unconsciousness, narcosis

After uptake of large quantities:

Coma

Handle in accordance with good industrial hygiene and safety practice.

Kidney - Irregularities - Based on Human Evidence

Kidney - Irregularities - Based on Human Evidence

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**SECTION 12: Ecological information****12.1 Toxicity**

Toxicity to fish	flow-through test LC50 - Pimephales promelas (fathead minnow) - 9,640 mg/l - 96 h (OECD Test Guideline 203)
Toxicity to daphnia and other aquatic invertebrates	EC50 - Daphnia magna (Water flea) - 13,299 mg/l - 48 h Remarks: (IUCLID)
Toxicity to algae	IC50 - Desmodesmus subspicatus (green algae) - > 1,000 mg/l - 72 h Remarks: (IUCLID)
Toxicity to bacteria	EC5 - Pseudomonas putida - 1,050 mg/l - 16 h Remarks: (Lit.)

**12.2 Persistence and degradability**

Biodegradability	aerobic - Exposure time 5 d Result: 53 % - Readily biodegradable. (Directive 67/548/EEC, Annex V, C.6)
Theoretical oxygen demand	2,400 mg/g Remarks: (Lit.)
Ratio BOD/ThBOD	49 % Remarks: (IUCLID)

**12.3 Bioaccumulative potential**

No bioaccumulation is to be expected (log Pow &lt;= 4).

**12.4 Mobility in soil**

No data available

## 12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

## 12.6 Other adverse effects

No data available

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## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

#### Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Contact a licensed professional waste disposal service to dispose of this material.

#### Contaminated packaging

Dispose of as unused product.

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## SECTION 14: Transport information

### DOT (US)

UN number: 1219 Class: 3 Packing group: II  
Proper shipping name: Isopropanol  
Reportable Quantity (RQ):  
Poison Inhalation Hazard: No

### IMDG

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

### IATA

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

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## SECTION 15: Regulatory information

### SARA 302 Components

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

### SARA 313 Components

The following components are subject to reporting levels established by SARA Title III, Section 313:

	CAS-No.	Revision Date
2-Propanol	67-63-0	2007-03-01

### SARA 311/312 Hazards

Fire Hazard, Acute Health Hazard, Chronic Health Hazard

### Massachusetts Right To Know Components

No components are subject to the Massachusetts Right to Know Act.

**Pennsylvania Right To Know Components**

2-Propanol

CAS-No.  
67-63-0

Revision Date  
2007-03-01

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**SECTION 16: Other information**

**Further information**

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