

SAFETY DATA SHEET

Version 5.1

Revision Date 07/28/2016

Print Date 12/23/2016

1. PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifiers

Product name : Isopropyl alcohol

Product Number : W292912
Brand : Sigma-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
3050 Spruce Street
SAINT LOUIS MO 63103
USATelephone : +1 800-325-5832
Fax : +1 800-325-5052

1.4 Emergency telephone number

Emergency Phone # : +1-703-527-3887 (CHEMTREC)

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 : Highly flammable liquid and vapour.

H319 : 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
P264
P271
P280
P303 + P361 + P353

P304 + P340 + P312

P305 + P351 + P338

P337 + P313

P370 + P378

P403 + P233

P403 + P235

P405

P501

Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.

Wash skin thoroughly after handling.

Use only outdoors or in a well-ventilated area.

Wear protective gloves/ eye protection/ face protection.

IF ON SKIN (or hair): Take off immediately all contaminated clothing.

Rinse skin with water/shower.

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists: Get medical advice/ attention.

In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

Store in a well-ventilated place. Keep container tightly closed.

Store in a well-ventilated place. Keep cool.

Store locked up.

Dispose of contents/ container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substances

Synonyms : 2-Propanol
sec-Propyl alcohol
IPA
IsopropanolFormula : C3H8O
Molecular weight : 60.1 g/mol
CAS-No. : 67-63-0
EC-No. : 200-661-7
Index-No. : 603-117-00-0

Hazardous components

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

For the full text of the H-Statements mentioned in this Section, see Section 16.

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

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Safety

- 4.3 **Indication of any immediate medical attention and special treatment needed**
No data available

5. FIREFIGHTING MEASURES

5.1 **Extinguishing media**

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

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

No data available

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.

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 an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).

6.4 **Reference to other sections**

For disposal see section 13.

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.

7.3 **Specific end use(s)**

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

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	200.000000 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		
TWA	200 ppm	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		
STEL	400 ppm	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		
STEL	400.000000 ppm	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	400.000000 ppm 980.000000 mg/m3	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
The value in mg/m3 is approximate.		
TWA	400.000000 ppm 980.000000 mg/m3	USA. NIOSH Recommended Exposure Limits
ST	500.000000 ppm 1,225.000000 mg/m3	USA. NIOSH Recommended Exposure Limits
PEL	400 ppm 980 mg/m3	California permissible exposure limits for chemical contaminants (Title 8, Article 107)
STEL	500 ppm 1,225 mg/m3	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	40.0000 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.

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.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

- | | |
|---|--|
| a) Appearance | Form: liquid
Colour: colourless |
| b) Odour | alcohol-like |
| c) Odour Threshold | No data available |
| d) pH | No data available |
| e) Melting point/freezing point | -89.49 °C (-129.08 °F) |
| f) Initial boiling point and boiling range | 81.0 - 83.0 °C (177.8 - 181.4 °F) |
| 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 explosive limits | Upper explosion limit: 12.7 %(V)
Lower explosion limit: 2 %(V) |
| k) 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) |
| l) Vapour density | No data available |
| m) Relative density | 0.78 g/cm3 |
| n) Water solubility | completely soluble |
| o) Partition coefficient: n-octanol/water | log Pow: 0.05 |
| p) Auto-ignition temperature | 425.0 °C (797.0 °F) |
| q) Decomposition temperature | No data available |
| r) Viscosity | No data available |
| s) Explosive properties | No data available |

- t) Oxidizing properties No data available

9.2 Other safety information

Surface tension 20.8 mN/m at 25.0 °C (77.0 °F)

10. STABILITY AND REACTIVITY

10.1 Reactivity

No data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

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

Other decomposition products - No data available

Hazardous decomposition products formed under fire conditions. - Carbon oxides
In the event of fire: see section 5

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

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

No data available

Skin corrosion/irritation

Skin - Rabbit

Result: Mild skin irritation

Serious eye damage/eye irritation

Eyes - Rabbit

Result: Eye irritation - 24 h

Respiratory or skin sensitisation

No data available

Germ cell mutagenicity

No data available

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 identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity

No data available

No data available

Specific target organ toxicity - single exposure

Inhalation, Oral - May cause drowsiness or dizziness.

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

Additional Information

RTECS: Not available

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.

Kidney - Irregularities - Based on Human Evidence

Kidney - Irregularities - Based on Human Evidence

12. ECOLOGICAL INFORMATION

12.1 Toxicity

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 - Desmodesmus subspicatus (green algae) - > 2,000.00 mg/l - 72 h
EC50 - Algae - > 1,000.00 mg/l - 24 h

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

No bioaccumulation is to be expected (log Pow <= 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

13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product

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

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	1987-01-01

Massachusetts Right To Know Components

	CAS-No.	Revision Date
2-Propanol	67-63-0	1987-01-01

Pennsylvania Right To Know Components

	CAS-No.	Revision Date
2-Propanol	67-63-0	1987-01-01

New Jersey Right To Know Components

	CAS-No.	Revision Date
2-Propanol	67-63-0	1987-01-01

California Prop. 65 Components

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

16. OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3.

Eye Irrit.	Eye irritation
Flam. Liq.	Flammable liquids
H225	Highly flammable liquid and vapour.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
STOT SE	Specific target organ toxicity - single exposure

HMIS Rating

Health hazard:	2
Chronic Health Hazard:	*
Flammability:	3
Physical Hazard	0

NFPA Rating

Health hazard: 2
Fire Hazard: 3
Reactivity Hazard: 0

Further Information

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Preparation Information

Sigma-Aldrich Corporation
Product Safety – Americas Region
1-800-521-8956

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