

SAFETY DATA SHEET

according to EC directive 2001/58/EC
Version 3.0 Revision Date 23.03.2007
Print Date 20.02.2008

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product name : **2-Propanol**

Product Number : 34863
Brand : Sigma-Aldrich

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2. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : Isopropanol

Formula : C₃H₈O
Molecular Weight : 60.1 g/mol

CAS-No.	EC-No.	Index-No.	Classification	Concentration [%]
Propan-2-ol				
67-63-0	200-661-7	603-117-00-0	F, Xi, R11- R36- R67	-

3. HAZARDS IDENTIFICATION

Risk advice to man and the environment

Highly flammable. Irritating to eyes. Vapours may cause drowsiness and dizziness.

4. FIRST AID MEASURES

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

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

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. Carbon dioxide (CO₂)

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

Store in cool place. 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.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value	Control parameters	Update	Basis
Propan-2-ol	67-63-0	STEL	500 ppm 1,250 mg/m ³	1997-01-01	UK. Health and Safety Commission, EH 40/2005, Workplace exposure limits
		TWA	400 ppm 999 mg/m ³	1997-01-01	UK. Health and Safety Commission, EH 40/2005, Workplace exposure limits

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. The selected protective gloves have to satisfy the specifications of EU Directive 89/689/EEC and the standard EN 374 derived from it.

Eye protection

Safety glasses

Skin and body protection

impervious clothing, 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
Boiling point	81.0 - 83.0 °C
Flash point	12.0 °C - closed cup
Ignition temperature	425 °C
Lower explosion limit	2 %(V)
Upper explosion limit	12.7 %(V)
Vapour pressure	43.2 hPa at 20.0 °C 58.7 hPa at 25.0 °C
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

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

Sensitization

Remarks: 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.

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	May be harmful if inhaled. May cause respiratory tract irritation. Vapours may cause drowsiness and dizziness.
Skin	May be harmful if absorbed through skin. May cause 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)

Biodegradability Remarks: 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

Contact a licensed professional waste disposal service to dispose of this material. 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.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION

ADR/RID

UN-No.: 1219 Class: 3 Packing group: II
Proper shipping name: ISOPROPANOL

IMDG

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

IATA

UN-No.: 1219 Class: 3 Packing group: II
Proper shipping name: Isopropanol

15. REGULATORY INFORMATION

Labelling according to EC Directives

EC Label

Hazard symbols

F Highly flammable
Xi Irritant

R-phrase(s)

R11 Highly flammable.
R36 Irritating to eyes.
R67 Vapours may cause drowsiness and dizziness.

S-phrase(s)

S 7 Keep container tightly closed.
S16 Keep away from sources of ignition - No smoking.
S24/25 Avoid contact with skin and eyes.
S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

16. OTHER INFORMATION

Further information

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