

**1. PRODUCT AND COMPANY IDENTIFICATION**

Product name : 1-Propanol

Product Number : 279544  
Brand : Sigma-Aldrich

Company : Sigma-Aldrich Canada, Ltd  
2149 Winston Park Drive  
OAKVILLE ON L6H 6J8  
CANADA

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**2. HAZARDS IDENTIFICATION****Hazard Summary****Target Organs**

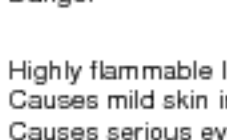
Nerves., Liver

**WHMIS Classification**

B2 Flammable liquid  
D2B Flammable liquid  
Flammable liquid  
Moderate eye irritant

**GHS Label elements, including precautionary statements**

Pictogram



Signal word : Danger

Hazard statement(s)

H225 Highly flammable liquid and vapour.  
H316 Causes mild skin irritation.  
H318 Causes serious eye damage.  
H333 May be harmful if inhaled.  
H371 May cause damage to organs.

Precautionary statement(s)

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
P280 Do not breathe dust/fume/gas/mist/vapours/spray.  
P280 Wear protective gloves/eye protection/face protection.  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

**HMIS Classification**

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

**Potential Health Effects**

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

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**Ingestion** May be harmful if swallowed.**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Synonyms : Propyl alcohol

Formula : C<sub>3</sub>H<sub>8</sub>O  
Molecular Weight : 60.1 g/mol

CAS-No.	EC-No.	Index-No.	Concentration
<b>N-Propanol</b>			
71-23-8	200-746-9	603-003-00-0	-

**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**

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).

**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.

**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 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).

**7. HANDLING AND STORAGE****Precautions for safe handling**

Avoid inhalation of vapour or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge.

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**Conditions for safe 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
N-Propanol	71-23-8	TWA	200 ppm 492 mg/m <sup>3</sup>	2004-04-30	Canada, Alberta, Occupational Health and Safety Code (table 2: OEL)
Remarks					Substance may be readily absorbed through intact skin
		STEL	250 ppm 614 mg/m <sup>3</sup>	2004-04-30	Canada, Alberta, Occupational Health and Safety Code (table 2: OEL)
					Substance may be readily absorbed through intact skin
		STEL	400 ppm 984 mg/m <sup>3</sup>	2009-04-30	Canada, Alberta, Occupational Health and Safety Code (table 2: OEL)
					Occupational exposure limit is based on irritation effects and its adjustment to compensate for unusual work schedules is not required
		TWA	200 ppm 492 mg/m <sup>3</sup>	2009-04-30	Canada, Alberta, Occupational Health and Safety Code (table 2: OEL)
					Occupational exposure limit is based on irritation effects and its adjustment to compensate for unusual work schedules is not required
		TWA	100 ppm	2007-07-06	Canada, British Columbia OEL
		TWAE V	100 ppm	2008-07-16	Canada, Ontario OELs
		STEV	250 ppm 615 mg/m <sup>3</sup>	2005-02-03	Canada, Ontario OELs
		TWAE V	200 ppm 492 mg/m <sup>3</sup>	2006-12-29	Canada, Quebec OELs
					Skin (percutaneous)
		STEV	250 ppm 614 mg/m <sup>3</sup>	2006-12-29	Canada, Quebec OELs
					Skin (percutaneous)

**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**

Face shield and safety glasses

**Skin and body protection**

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

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**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 : clear, liquid  
Colour : colourless

**Safety data**

pH : 8.5 at 200 g/l at 20 °C (68 °F)  
Melting point : -127 °C (-197 °F) - lit.  
Boiling point : 97 °C (207 °F) - lit.  
Flash point : 22 °C (72 °F) - closed cup  
Ignition temperature : 395 °C (743 °F)  
Lower explosion limit : 2.1 %(V)  
Upper explosion limit : 13.7 %(V)  
Vapour pressure : 19.3 hPa (14.5 mmHg) at 20 °C (68 °F)  
Density : 0.804 g/cm<sup>3</sup> at 25 °C (77 °F)  
Water solubility : completely soluble  
Partition coefficient: log Pow: 0.25 - 0.34  
n-octanol/water  
Relative vapour density : 2.07  
- (Air = 1.0)  
Evaporation rate : 1

**10. STABILITY AND REACTIVITY****Chemical stability**

Stable under recommended storage conditions.

**Possibility of hazardous reactions**

Vapours may form explosive mixture with air.

**Conditions to avoid**

Heat, flames and sparks.

**Materials to avoid**

Strong oxidizing agents

**Hazardous decomposition products**

Hazardous decomposition products formed under fire conditions. - Carbon oxides

**11. TOXICOLOGICAL INFORMATION****Acute toxicity**

LD50 Oral - rat - 8,038 mg/kg  
LC50 Inhalation - rat - 1 h - 20000 ppm  
LC50 Dermal - rabbit - 4,000 mg/kg

**Skin corrosion/irritation**

Skin - rabbit - Mild skin irritation

**Serious eye damage/eye irritation**

Eyes - rabbit - Severe eye irritation

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**Respiratory or skin sensitization**

no data available

**Germ cell mutagenicity**

no data available

**Carcinogenicity**

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.

**Reproductive toxicity**

no data available

**Specific target organ toxicity - single exposure (GHS)**

May cause damage to organs.

**Specific target organ toxicity - repeated exposure (GHS)**

no data available

**Aspiration hazard**

no data available

**Potential health effects**

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

**Signs and Symptoms of Exposure**

Central nervous system depression, prolonged or repeated exposure can cause:; narcosis, Skin irritation

**Additional Information**

RTECS: UH8225000

**12. ECOLOGICAL INFORMATION****Toxicity**

Toxicity to fish : LC50 - Pimephales promelas (fathead minnow) - 1,000 mg/l - 96 h  
Toxicity to daphnia and other aquatic invertebrates : EC50 - Daphnia magna (Water flea) - 3,642 mg/l - 48 h

**Persistence and degradability**

Biodegradability

**Bioaccumulative potential**

no data available

**Mobility in soil**

no data available

**PBT and vPvB assessment**

no data available

**Other adverse effects**

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.

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**14. TRANSPORT INFORMATION****DOT (US)**

UN-Number: 1274 Class: 3 Packing group: II  
Proper shipping name: n-Propanol  
Marine pollutant: No  
Poison Inhalation Hazard: No

**IMDG**

UN-Number: 1274 Class: 3 Packing group: II EMS-No: F-E, S-D  
Proper shipping name: PROPANOL  
Marine pollutant: No

**IATA**

UN-Number: 1274 Class: 3 Packing group: II  
Proper shipping name: n-Propanol

**15. REGULATORY INFORMATION****DSL Status**

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

**WHMIS Classification**

B2 Flammable liquid  
D2B Flammable liquid  
Flammable liquid  
Moderate eye irritant

**16. OTHER INFORMATION****Further information**

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