

Material Safety Data Sheet

1-Propanol 99+%

ACC# 19780

Section 1 - Chemical Product and Company Identification

MSDS Name: 1-Propanol 99+%

Catalog Numbers: AC149480200, S80148, S80148-1, S93101, A414-1, A414-20, A414-4, A414-500, A41420LC, A414RB50, A414S-4, BP1130-500, NC9037064, XXA414P1LI

Synonyms: Propyl Alcohol; n-Propyl Alcohol; n-Propanol; 1-Hydroxy Propane; Ethyl Carbinol.

Company Identification:

Fisher Scientific
1 Reagent Lane
Fair Lawn, NJ 07410

For information, call: 201-796-7100

Emergency Number: 201-796-7100

For CHEMTREC assistance, call: 800-424-9300

For International CHEMTREC assistance, call: 703-527-3887

Section 2 - Composition, Information on Ingredients

| CAS# | Chemical Name | Percent | EINECS/ELINCS |
|---------|------------------|---------|---------------|
| 71-23-8 | n-Propyl alcohol | >99 | 200-746-9 |

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: clear, colorless liquid. Flash Point: 15 deg C.

Warning! Flammable liquid and vapor. May cause eye and skin irritation. May be harmful if swallowed. May cause respiratory tract irritation. May cause central nervous system depression. May cause dermatitis. Hygroscopic (absorbs moisture from the air).

Target Organs: Central nervous system, liver.

Potential Health Effects

Eye: May cause moderate eye irritation. May result in corneal injury.

Skin: May cause moderate skin irritation. Prolonged and/or repeated contact may cause defatting of the skin and dermatitis.

Ingestion: May cause gastrointestinal irritation with nausea, vomiting and diarrhea. May cause central nervous system depression, characterized by excitement, followed by headache, dizziness, drowsiness, and nausea. Advanced stages may cause collapse, unconsciousness, coma and possible death due to respiratory failure.

Inhalation: Inhalation of vapor may cause respiratory tract irritation. May cause effects similar to those described for ingestion.

Chronic: Prolonged or repeated skin contact may cause defatting and dermatitis. Chronic exposure may cause liver damage.

Section 4 - First Aid Measures

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

Skin: Get medical aid. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.

Ingestion: Do not induce vomiting. If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid.

Inhalation: Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: Containers can build up pressure if exposed to heat and/or fire. As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Combustion generates toxic fumes. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Flammable Liquid. Can release vapors that form explosive mixtures at temperatures above the flashpoint. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas.

Extinguishing Media: Use water spray to cool fire-exposed containers. Use dry chemical, carbon dioxide, or alcohol-resistant foam. Do NOT use straight streams of water.

Flash Point: 15 deg C (59.00 deg F)

Autoignition Temperature: 405 deg C (761.00 deg F)

Explosion Limits, Lower:2.2 vol %

Upper: 13.7 vol %

NFPA Rating: (estimated) Health: 1; Flammability: 3; Instability: 0

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, observing precautions in the Protective Equipment section. Use water spray to disperse the gas/vapor. Remove all sources of ignition. Provide ventilation.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Use spark-proof tools and explosion proof equipment. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Do not get on skin or in eyes. Do not ingest or inhale. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames.

Storage: Keep away from heat, sparks, and flame. Do not store near combustible materials. Store in a cool, dry place. Store in a tightly closed container. Keep from contact with oxidizing materials. Flammables-area.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Exposure Limits

| Chemical Name | ACGIH | NIOSH | OSHA - Final PELs |
|------------------|---------------------------|--|--|
| n-Propyl alcohol | 200 ppm TWA; 400 ppm STEL | 200 ppm TWA; 500 mg/m ³ TWA 800 ppm IDLH | 200 ppm TWA; 500 mg/m ³ TWA |

OSHA Vacated PELs: n-Propyl alcohol: 200 ppm TWA; 500 mg/m³ TWA

Personal Protective Equipment

Eyes: Wear chemical splash goggles.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to minimize contact with skin.

Respirators: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use.

Section 9 - Physical and Chemical Properties

Physical State: Liquid

Appearance: clear, colorless

Odor: alcohol-like

pH: Not available.

Vapor Pressure: 14.3 mm Hg @ 20

Vapor Density: 2.1 (Air=1)

Evaporation Rate: 1.3 (butyl acetate=1)

Viscosity: 2.2 mPas 20 deg C

Boiling Point: 97 deg C @ 760mm Hg

Freezing/Melting Point: -127 deg C

Decomposition Temperature: Not available.

Solubility: Miscible.

Specific Gravity/Density: .8040g/cm³

Molecular Formula: C₃H₈O

Molecular Weight: 60.10

Section 10 - Stability and Reactivity

Chemical Stability: Stable under normal temperatures and pressures.

Conditions to Avoid: Incompatible materials, ignition sources.

Incompatibilities with Other Materials: Acid chlorides, acid anhydrides, oxidizing agents, potassium tert-butoxide.

Hazardous Decomposition Products: Carbon monoxide, carbon dioxide.

Hazardous Polymerization: Will not occur.

Section 11 - Toxicological Information

RTECS#:

CAS# 71-23-8: UH8225000

LD50/LC50:

CAS# 71-23-8:

Draize test, rabbit, eye: 20 mg/24H Moderate;

Inhalation, mouse: LC50 = 48 gm/m³;

Inhalation, mouse: LC50 = 48000 mg/m³;

Oral, mouse: LD50 = 6800 mg/kg;

Oral, rabbit: LD50 = 2825 mg/kg;

Oral, rat: LD50 = 1870 mg/kg;

Oral, rat: LD50 = 2200 mg/kg;

Skin, rabbit: LD50 = 5040 mg/kg;

Carcinogenicity:

CAS# 71-23-8:

- **ACGIH:** A3 - Confirmed animal carcinogen with unknown relevance to humans
- **California:** Not listed.
- **NTP:** Not listed.
- **IARC:** Not listed.

Epidemiology: Oral rat TDLo = 50 gm/kg/81 weeks. 1-Propanol caused liver tumors and leukemia according to RTECs criteria.**Teratogenicity:** No information found**Reproductive Effects:** An exposure of 7000 ppm/7 hours caused a reduction in fertility in male rats and caused fetotoxic effects. A dose of 10000 ppm/7 hours caused musculoskeletal abnormalities and post-implantation mortality.**Mutagenicity:** No information found**Neurotoxicity:** No information found**Other Studies:**

Section 12 - Ecological Information

Ecotoxicity: No data available. No information available.**Environmental:** Expected to rapidly volatilize.**Physical:** No information available.**Other:** No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.**RCRA U-Series:** None listed.

Section 14 - Transport Information

| | US DOT | Canada TDG |
|-----------------------|------------|---------------------------|
| Shipping Name: | N-PROPANOL | No information available. |
| Hazard Class: | 3 | |
| UN Number: | UN1274 | |
| Packing Group: | II | |

Section 15 - Regulatory Information

US FEDERAL**TSCA**

CAS# 71-23-8 is listed on the TSCA inventory.

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

CERCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 71-23-8: immediate, fire.

Section 313 No chemicals are reportable under Section 313.**Clean Air Act:**

This material does not contain any hazardous air pollutants.

This material does not contain any Class 1 Ozone depletors.

This material does not contain any Class 2 Ozone depletors.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

CAS# 71-23-8 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

California Prop 65

California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:

XI F

Risk Phrases:

R 11 Highly flammable.
R 41 Risk of serious damage to eyes.
R 67 Vapours may cause drowsiness and dizziness.

Safety Phrases:

S 16 Keep away from sources of ignition - No smoking.
S 24 Avoid contact with skin.
S 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S 39 Wear eye/face protection.
S 7 Keep container tightly closed.

WGK (Water Danger/Protection)

CAS# 71-23-8: 1

Canada - DSL/NDSL

CAS# 71-23-8 is listed on Canada's DSL List.

Canada - WHMIS

This product has a WHMIS classification of B2, D2B.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List

CAS# 71-23-8 is listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information

MSDS Creation Date: 12/12/1997

Revision #8 Date: 10/03/2005

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.