

SAFETY DATA SHEET

Propyl alcohol, N-(1-Propanol)

This SDS is valid for all grades that start with catalog number
334

1. IDENTIFICATION OF SUBSTANCE / MIXTURE AND OF SUPPLIER

Product Identifier: High Purity Chemicals
Synonyms: Propan-1-ol
Other means of identification: CAS No. 71-23-8
EINECS No. 200-746-9

Recommended use of the chemical and restrictions on use:

Supplier Details:

Pharmco Products, Inc.
1101 Isaac Shelby Drive, Shelbyville,
KY 40065, USA.
Tel: 502.232.7600
Fax: 502.633.6100
CCN17213

Pharmco Products, Inc.
58 Vale Road, Brookfield,
CT 06804, USA.
Tel: 203.740.3471
Fax: 203.740.3481
CCN17213



Emergency Contact: CHEMTREC: 1.800.424.9300 (USA) / +1.703.527.3887 (International)

2. HAZARDS IDENTIFICATION

OSHA Hazards:

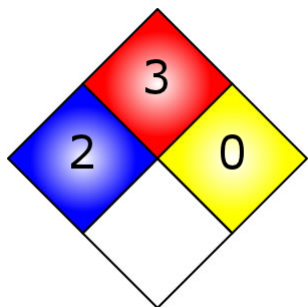
Flammable liquid, Target Organ Effect, Irritant

Target Organs:

Central nervous system

Product Information: 203.740.3471 Emergency Assistance (CHEMTREC): 1.800.424.9300 (USA)
+1.703.527.3887 (INT)

NFPA



GHS label elements, including precautionary statements



Signal Word:

DANGER!

Hazard statement(s)

H225	Highly flammable liquid and vapor.
H318	Causes serious eye damage.
H336	May cause drowsiness or dizziness.

Precautionary statement(s)

P210	Keep away from heat, sparks, open flames, and hot surfaces. No smoking.
P261	Avoid breathing dust/fumes/gas/mist/vapors.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical attention.
P280	Wear protective gloves and eye and face protection.

GHS Classification(s)

Eye damage (Category 1)
Flammable Liquids (Category 2)
Specific target organ toxicity - single exposure (Category 3)

Other hazards which do not result in classification:

Potential Health Effects:

**Product Information: 203.740.3471 Emergency Assistance (CHEMTREC): 1.800.424.9300 (USA)
+1.703.527.3887 (INT)**

Organ	Description
Eyes	Causes eye burns. Causes severe eye burns.
Ingestion	May be harmful if swallowed.
Inhalation	May be harmful if inhaled. will cause respiratory tract irritation, drowsiness, and dizziness.
Skin	May be harmful if inhaled. will cause respiratory tract irritation, drowsiness, and dizziness.

3. COMPOSITION AND INFORMATION ON INGREDIENTS

Chemical identity:	Propyl alcohol
Common name / Synonym:	Propan-1-ol
CAS number:	71-23-8
EINECS number:	200-746-9
ICSC number:	0553
RTECS #:	UH8225000
UN #:	UN1274
EC #:	603-003-00-0

% Weight	Material	CAS
100	n-Propyl alcohol	71-23-8

4. FIRST AID MEASURES

General advice

Take proper precautions to ensure your own health and safety before attempting rescue and providing first aid. Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

Skin

Wash skin with soap and copious amounts of water. Seek medical attention.

Inhalation

Remove person to fresh air. If signs/symptoms continue, get medical attention. Give oxygen or artificial respiration as needed.

Eyes

Thoroughly flush the eyes with large amounts of clean low-pressure water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Seek medical attention.

Ingestion

DO NOT induce vomiting. If vomiting does occur, have victim lean forward to prevent aspiration. Rinse mouth with water. Seek medical attention. Never give anything by mouth to an unconscious individual.

5. FIRE FIGHTING MEASURES

**Product Information: 203.740.3471 Emergency Assistance (CHEMTREC): 1.800.424.9300 (USA)
+1.703.527.3887 (INT)**

Suitable (and unsuitable) extinguishing media:

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

Specific hazards arising from the chemical (e.g., nature of any hazardous combustion products):

Carbon oxides expected to be the primary hazardous combustion product.

Special protective equipment and precautions for firefighters:

Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes. Keep unopened containers cool by spraying with water.

Flammable in the presence of a source of ignition when the temperature is above the flash point. Keep away from heat/sparks/open flame/hot surface. No smoking.

Flammable Properties

Classification

OSHA/NFPA Class IC Flammable Liquid.

Flash point

15 °C (59 °F) - Closed Cup

Autoignition temperature

412 °C (775 °F)

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

Wear respiratory protection. Do not inhale vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

Environmental precautions:

Stop leak. Contain spill if possible and safe to do so. Prevent product from entering drains.

Methods and materials for containment and cleaning up:

Contain spill, then collect with an electrically protected vacuum cleaner or by wet-brushing and put the material into a convenient waste disposal container. Keep container closed.

7. HANDLING AND STORAGE

Precautions for safe handling:

Do not get on skin or in eyes. Do not inhale vapor or mist. Flash back possible over considerable distance. Use explosion-proof equipment. Keep away from sources of ignition - No smoking. Take measures to prevent the buildup of electrostatic charge.

Conditions for safe storage, including any incompatibilities:

**Product Information: 203.740.3471 Emergency Assistance (CHEMTREC): 1.800.424.9300 (USA)
+1.703.527.3887 (INT)**

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

Control parameters, e.g., occupational exposure limit values or biological limit values:

Occupational Exposure Limits

Component	Source	Type	Value	Note
Propyl alcohol	ACGIH	TWA	200ppm	ACGIH Threshold Limit Value
Propyl alcohol	US (OSHA)	TWA	200ppm , 500 mg/m ³	29 CFR 1910.1000 Table Z-1 Limits for Air Contaminants
Propyl Alcohol	ACGIH	STEL	400 ppm	ACIH Threshold Limit Value

Appropriate engineering controls:

General room or local exhaust ventilation is usually required to meet exposure limit(s). Electrical equipment should be grounded and conform to applicable electrical code.

Individual protection measures, such as 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. 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.

Eye protection:

Use chemical safety goggles and/or a full face shield where splashing is possible. Use equipment approved by appropriate government standards, such as NIOSH (US) or EN166 (EU) Maintain eye wash fountain and quick-drench facilities in work area.

Skin and body protection:

Wear impervious, flame retardant, antistatic protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

Hygiene measures:

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

Product Information: 203.740.3471 Emergency Assistance (CHEMTREC): 1.800.424.9300 (USA)
+1.703.527.3887 (INT)

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (physical state, color, etc.)	Liquid. Colorless, clear.
Odor	mild alcoholic odor
pH	8.5 at 200 g/l at 20 °C (68 °F)
Freezing point	-126°C (-195 °F)
Initial boiling point and boiling range	97°C (207°F)
Flash point	15°C (59°F) - Closed Cup
Evaporation rate	1
Flammability (solid, gas)	Flammable
Upper / Lower flammability or explosive limits	4% (V) / 19.9% (V)
Vapor pressure	19.3 hPa (14.5 mmHg) at 20 °C (68 °F)
Vapor Density	2.1
Relative Density	1.049 g/mL at 25 °C (77 °F)
Solubility(ies)	completely soluble
Partition coefficient n-octanol/water(ies)	log Pow: 0.25 - 0.34
Auto-ignition temperature	463 °C (867 °F)
Formula (PROPYL ALCOHOL)	C3H8O
Molecular Weight (PROPL ALCOHOL)	60.1 g/mol

10. STABILITY AND REACTIVITY

Chemical Stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	Vapors may form explosive mixture with air.
Conditions to avoid (e.g., static discharge, shock or vibration)	Heat, flames, and sparks. Extreme temperatures and direct sunlight.
Incompatible materials	Strong oxidizing agents
Hazardous decomposition products	Hazardous decomposition products formed under fire conditions. - Carbon oxides

11. TOXICOLOGICAL INFORMATION

- Propyl alcohol 71-23-8

Acute Toxicity:

LC50 (Inhalation)	Rat	20000 ppm	1 h
LD50 (Oral)	Rat	8038 mg/kg	

Irritation:

Eyes

Rabbit - mild eye irritation

Skin

Rabbit- mild skin irritation

**Product Information: 203.740.3471 Emergency Assistance (CHEMTREC): 1.800.424.9300 (USA)
+1.703.527.3887 (INT)**

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable or confirmed human carcinogen by IARC.

Other Hazards

Organ	Description
Eyes	Causes eye burns. Causes severe eye burns.
Ingestion	May be harmful if swallowed.
Inhalation	May be harmful if inhaled. will cause respiratory tract irritation, drowsiness, and dizziness.
Skin	May be harmful if inhaled. will cause respiratory tract irritation, drowsiness, and dizziness.

12. ECOLOGICAL INFORMATION

- Propyl alcohol 71-23-8

Ecotoxicity (aquatic and terrestrial, where available):

Acute fish toxicity (PROPYL ALCOHOL)

LC50 / 96h / fathead minnow / 1000mg/l

Toxicity to daphnia (PROPYL ALCOHOL)

EC50 / 48h / Water flea / 3642m/l

Persistence and degradability:

Biodegradation is expected.

Bioaccumulative potential:

No data available

13. DISPOSAL CONSIDERATIONS

Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging:

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.

Product Information: 203.740.3471 Emergency Assistance (CHEMTREC): 1.800.424.9300 (USA)
+1.703.527.3887 (INT)

14. TRANSPORT INFORMATION

Description of waste residues and information on their safe handling and methods of disposal:

UN number	UN1274
UN proper shipping name	n-Propanol
Transport hazard class(es)	3
Packing group (if applicable)	II

IMDG

UN-Number: UN1274 Class: 3 Packing Group: II

EMS-No: F-E, S-D

Proper shipping name: n-Propanol

Marine pollutant: No

IATA

UN-Number: UN1274 Class: 3 Packing Group: II

Proper shipping name: n-Propanol

15. REGULATORY INFORMATION

Safety, health and environmental regulations specific for the product in question:

OSHA Hazards

Flammable liquid, Target Organ Effect, Irritant

All ingredients are on the following inventories or are exempted from listing

Country	Notification
Australia	AICS
Canada	DSL
China	IECS
European Union	EINECS
Japan	ENCS/ISHL
Korea	ECL
New Zealand	NZIoC
Philippines	PICCS
United States of America	TSCA

SARA 302 Components

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

SARA 313 Components

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards

Acute Health Hazard

**Product Information: 203.740.3471 Emergency Assistance (CHEMTREC): 1.800.424.9300 (USA)
+1.703.527.3887 (INT)**

Chronic Health Hazard
Fire Hazard

CERCLA

No chemicals in this material with known CAS numbers are subject to the reporting requirements of CERCLA

Massachusetts Right To Know Components

n-Propanol CAS-No. 71-23-8 Revision Date 1993-04-24

Pennsylvania Right To Know Components

n-Propanol CAS-No. 71-23-8 Revision Date 1993-04-24

New Jersey Right To Know Components

n-Propanol CAS-No. 71-23-8 Revision Date 1993-04-24

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: INCLUDING INFORMATION ON PREPARATION AND REVISION OF THE SDS

Disclaimer

PHARMCO-AAPER believes that the information on this SDS was obtained from reliable sources. However, the information is provided without any warranty, expressed or implied, regarding its correctness. Some information presented and conclusions drawn herein are from sources other than direct test data on the substance itself. The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, PHARMCO-AAPER does not assume responsibility and expressly disclaims liability for loss, damage, or expense arising out of or in any way connected with handling, storage, use, or disposal of this product. If the product is used as a component in another product, this SDS information may not be applicable. Information is correct to the best of our knowledge at the date of the SDS publication.