

IN CASE OF TRANSPORTATION EMERGENCY CONTACT:

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1. IDENTIFICATION

Product Name: n-Propyl alcohol
CAS#: 71-23-8

RTECS: UH8225000

TSCA: TSCA 8(b) inventory: n-Propyl alcohol

CI#: Not applicable.

Synonym: 1-Propanol, n-Propanol; n-Propyl alcohol (Certified/Peroxide-Free/Sequencing)

Chemical Name: Propanol

Chemical Formula: CH₃ CH₂ CH₂ OH

Recommended Use : Laboratory chemicals

2. HAZARDS IDENTIFICATION

DANGER!

Emergency Overview

Flammable liquid and vapor. Risk of serious damage to eyes. Vapors may cause drowsiness and dizziness. May cause skin and respiratory tract irritation. Aspiration hazard if swallowed - can enter lungs and cause damage.

Appearance Clear

Physical State Liquid
odor Alcohol-like

Target Organs - Eyes, Central nervous system (CNS), Blood, Liver

Potential Health Effects

Acute Effects

Principle Routes of Exposure

Eyes
Risk of serious damage to eyes.

Skin

May cause irritation. May be harmful in contact with skin.

Inhalation

Inhalation may cause central nervous system effects. May cause irritation of respiratory tract. May be harmful if inhaled.

Ingestion Chronic Effects

Aspiration hazard. May be harmful if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Chronic Effects

Tumorigenic effects have been reported in experimental animals Experiments have shown reproductive toxicity effects on laboratory animals. May cause adverse liver effects.

Aggravated Medical Conditions

Central nervous system disorders. Gastrointestinal tract. Preexisting eye disorders. Skin disorders.

3. COMPOSITION

Name	CAS #	% by Weight
{n-}Propyl alcohol	71-23-8	100

Toxicological Data on Ingredients: n-Propyl alcohol: ORAL (LD50): Acute: 1870 mg/kg [Rat.]. 6800 mg/kg [Mouse]. DERMAL (LD50): Acute: 4060 mg/kg [Rabbit.]. VAPOR (LC50): Acute: 67882.3 ppm 4 hour(s) [Mouse].

4. FIRST AID MEASURES

Eye Contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

Immediate medical attention is required.

Skin Contact

Wash off immediately with plenty of water for at least 15 minutes. Get medical attention immediately if symptoms occur.

Inhalation

Move to fresh air. If breathing is difficult, give oxygen. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with a respiratory medical device. Get medical attention immediately if symptoms occur.

Serious Inhalation:

Evacuate the victim to a safe area as soon as possible. Loosen tight clothing such as a collar, tie, belt or waistband. If breathing is difficult, administer oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek medical attention.

Ingestion

Do not induce vomiting. Obtain medical attention.

Notes to Physician

Treat symptomatically.

5. FIRE FIGHTING MEASURES

Flammability of the Product: Flammable.

Auto-Ignition Temperature: 371°C (699.8°F)

Flash Points: CLOSED CUP: 15°C (59°F). OPEN CUP: 27.2°C (81°F) (Cleveland).

Flammable Limits: LOWER: 2.1% UPPER: 13.5%

Products of Combustion: These products are carbon oxides (CO, CO2).

Fire Hazards in Presence of Various Substances: Highly flammable in presence of open flames and sparks, of heat, of oxidizing materials.

Explosion Hazards in Presence of Various Substances:

Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.

Fire Fighting Media and Instructions:

Flammable liquid, soluble or dispersed in water. SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use alcohol foam, water spray or fog.

Special Remarks on Fire Hazards:

Explosive in the form of vapor when exposed to heat or flame. Vapor may travel considerable distance to source of ignition and flash back. When heated to decomposition it emits acrid smoke and irritating fumes. CAUTION: MAY BURN WITH NEAR INVISIBLE FLAME

Special Remarks on Explosion Hazards: Not available.

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

NFPA HEALTH: 1 FLAMMABILITY: 3 INSTABILITY: 0 PHYSICAL HAZARDS: N/A

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions

Use personal protective equipment. Remove all sources of ignition. Take precautionary measures against static discharges. Avoid contact with skin, eyes and clothing.

Environmental Precautions

Should not be released into the environment.

Methods for Containment and Clean Up

Remove all sources of ignition. Soak up with inert absorbent material. Take precautionary measures against static discharges. Keep in suitable and closed containers for disposal.

7. HANDLING AND STORAGE

Precautions:

Keep away from heat. Keep away from sources of ignition. Ground all equipment containing material. Do not ingest. Do not breathe gas/fumes/ vapor/spray. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes. Keep away from incompatibles such as oxidizing agents, acids.

Storage:

Flammable materials should be stored in a separate safety storage cabinet or room. Keep away from heat. Keep away from sources of ignition. Keep container tightly closed. Keep in a cool, well-ventilated place. Ground all equipment containing material. A refrigerated room would be preferable for materials with a flash point lower than 37.8°C (100°F).

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Engineering Controls:

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Personal Protection:

Splash goggles. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill:

Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits:

TWA: 200 STEL: 250 (ppm) from ACGIH (TLV) [1995] TWA: 492 STEL: 614 (mg/m3) from ACGIH [1995] Consult local authorities for acceptable exposure limits.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state and appearance: Liquid. (Liquid.)

Odor: Alcohol like.

Taste: Not available.

Molecular Weight: 60.1 g/mole

Color: Colorless.

pH (1% soln/water): 7 [Neutral.]

Boiling Point: 97.22°C (207°F)

Melting Point: -126.2°C (-195.2°F)

Critical Temperature: Not available.

Specific Gravity: 0.8053 (Water = 1)

Vapor Pressure: 14.9 mm of Hg (@ 20°C)

Vapor Density: 2.07 (Air = 1)

Volatility: Not available.

Odor Threshold: 5.3 ppm

Water/Oil Dist. Coeff.: Not available.

Ionicity (in Water): Not available.

Dispersion Properties: See solubility in water, methanol, diethyl ether.

Solubility: Easily soluble in cold water, hot water, methanol, diethyl ether.

10. STABILITY AND REACTIVITY

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Not available.

Incompatibility with various substances: Reactive with oxidizing agents, acids.

Corrosivity: Non-corrosive in presence of glass.

Special Remarks on Reactivity: Not available

Special Remarks on Corrosivity: Not available.

Polymerization: No.

Hazardous Decomposition Products Carbon monoxide (CO), Carbon dioxide (CO2)

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

COMPONENT	LD50 ORAL	LD50 DERMAL	LC50 INHALATION
n-PROPYL ALCOHOL	1870 mg/kg (Rat)	not listed	13548 ppm (Rat) 4 h

Irritation

Severe eye irritant

Toxicologically Synergistic Products

No information available.

Chronic Toxicity

Carcinogenicity

There are no known carcinogenic chemicals in this product

Sensitization

No information available

Mutagenic Effects

Mutatagenic effects have occurred in microorganisms.

Reproductive Effects

Experiments have shown reproductive toxicity effects on laboratory animals.

Developmental Effects

Developmental effects have occurred in experimental animals.

Teratogenicity

Teratogenic effects have occurred in experimental animals

Other Adverse Effects

Tumorigenic effects have been reported in experimental animals.. See actual entry in RTECS for complete information.

Endocrine Disruptor Information

No information available

12. ECOLOGICAL INFORMATION

Ecotoxicity: Not available.

BOD5 and COD: Not available.

Products of Biodegradation:

Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The products of degradation are more toxic.

Special Remarks on the Products of Biodegradation: Not available.

Mobility

Component	log Pow
n-Propyl alcohol	0.25 - 0.34

13. DISPOSAL CONSIDERATIONS

Waste Disposal Methods

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification

14. TRANSPORT INFORMATION

DOT

UN No. UN 1274
Proper shipping name: n-Propanol
Hazard Class 3
Packing Group II

TDG

Un No. UN 1274
Proper shipping name n-Propanol
Hazard Class 3
Packing Group II

IATA & IMDG/IMO

UN No UN 1274
Proper Shipping name: n-Propanol
Hazard Class 3
Packing Group II

Marine Pollutant: No

15. REGULATORY INFORMATION

Federal and State Regulations:

Pennsylvania RTK: n-Propyl alcohol Massachusetts RTK: n-Propyl alcohol TSCA 8(b) inventory: n-Propyl alcohol

Other Regulations: OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

Other Classifications:

WHMIS (Canada):

CLASS B-2: Flammable liquid with a flash point lower than 37.8°C (100°F). CLASS D-2B: Material causing other toxic effects (TOXIC).

DSCL (EEC):

R11- Highly flammable. R38- Irritating to skin. R41- Risk of serious damage to eyes.

HMIS (U.S.A.):

Health Hazard: 1

Fire Hazard: 3 Reactivity: 0

Personal Protection: h

National Fire Protection Association (U.S.A.):

Health: 1

Flammability: 3

Reactivity: 0

Specific hazard:

Protective Equipment:

Gloves. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Splash goggles.

16. OTHER INFORMATION

Disclaimer

The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in

the text.

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