

SECTION 1: Identification

1.1. Identification

Product form	: Substance
Substance name	: N. Propyl Alcohol
CAS-No.	: 71-23-8
Formula	: C3H8O
Synonyms	: 1-hydroxy propane, / 1-propanol, anhydrous, / 1-propyl alcohol // ethyl carbinol, / normal propyl alcohol / normal-propanol / normal-propyl alcohol/ propyl alcohol, / propyl alcohol, normal,

1.2. Recommended use and restrictions on use

Use of the substance/mixture	: Solvent
Recommended use	: Industrial uses: Uses of substances as such or in preparations at industrial sites
Restrictions on use	: None known

1.3. Supplier

ECOLINK

2177 Flintstone Drive
Suite A
Tucker, GA 30084
770-621-8240 (t)
www.ecolink.com

1.4. Emergency telephone number

Emergency number : **INFOTRAC** 800-535-5053

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS-US classification

Not classified

2.2. GHS Label elements, including precautionary statements

GHS-US labeling

Hazard pictograms (GHS-US) :



Signal word (GHS-US) :

Danger

Hazard statements (GHS-US) :

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

Precautionary statements (GHS-US) :

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233 - Keep container tightly closed.
P240 - Ground/Bond container and receiving equipment
P241 - Use explosion-proof electrical, lighting, ventilating equipment
P242 - Use only non-sparking tools.
P243 - Take precautionary measures against static discharge.
P261 - Avoid breathing dust, fume, gas, mist, spray, vapors.
P271 - Use only outdoors or in a well-ventilated area.
P280 - Wear protective gloves, protective clothing, eye protection, face protection.
P303+P361+P353 - If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P310 - Immediately call a POISON CENTER or doctor/physician.
P312 - Call a POISON CENTER or doctor/physician if you feel unwell
P370+P378 - In case of fire: Use water fog, foam, dry chemical or carbon dioxide (CO2) to

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extinguish.
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P403+P235 - Store in a well-ventilated place. Keep cool.
P405 - Store locked up.
P501 - Dispose of contents/container in accordance with local, regional, national, and/or international regulations.

2.3. Other hazards which do not result in classification

Other hazards not contributing to the classification : No additional information available.

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Substance type : Mono-constituent

Name	Product identifier	%	GHS-US classification
N. Propyl Alcohol (Main constituent)	(CAS-No.) 71-23-8	>99.8	Not classified

Full text of hazard classes and H-statements : see section 16

3.2. Mixtures

Not applicable

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : Remove to fresh air. Get medical attention if symptoms persist.
First-aid measures after skin contact : Immediately flush skin with plenty of soap and water. Wash clothing before reuse or discard if they cannot be thoroughly cleaned. Get medical assistance if irritation persists.
First-aid measures after eye contact : Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Remove contact lenses, if present. Get immediate medical attention.
First-aid measures after ingestion : If swallowed, call a poison control center or doctor immediately. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person.

4.2. Most important symptoms and effects (acute and delayed)

No additional information available

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically and supportively. If ingested, irrigate the stomach using activated charcoal.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Use water-spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Unsuitable extinguishing media : Do not use solid water stream as it may scatter and spread fire.
Use water to cool exposed containers.

5.2. Specific hazards arising from the chemical

Fire hazard : Flammable liquid and vapour.
Vapors are heavier than air and may travel along surfaces to remote ignition sources and flash back. Vapors may form explosion mixture with air. Keep people away from and upwind of fire.
Reactivity : Reacts violently with many compounds e.g.: with (strong) oxidizers and with (some) acids with (increased) risk of fire/explosion.

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Cool tanks/drums with water spray/remove them into safety. Do not move the load if exposed to heat.
Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment : Gloves. Protective clothing.

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Emergency procedures : Avoid contact with skin, eyes and clothing. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Keep unnecessary personnel away and upwind. Remove all sources of ignition. Wear personal protection equipment.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Prevent spreading in sewers.

6.3. Methods and material for containment and cleaning up

For containment : Contain released product, pump into suitable containers. Plug the leak, cut off the supply. Dam up the liquid spill. Try to reduce evaporation. Measure the concentration of the explosive gas-air mixture. Dilute/disperse combustible gas/vapor with water curtain. Dilute narcotic gases/vapors with water spray. Do not use compressed air for pumping over spills.

Methods for cleaning up : Take up liquid spill into absorbent material, e.g.: dry sand/earth/vermiculite or powdered limestone. Scoop absorbed substance into closing containers. Carefully collect the spill/leftovers. Damaged/cooled tanks must be emptied. Do not use compressed air for pumping over spills. Clean contaminated surfaces with an excess of water. Take collected spill to manufacturer/competent authority. Wash clothing and equipment after handling.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Use spark-/explosionproof appliances and lighting system. Take precautions against electrostatic charges. Keep away from naked flames/heat. Keep away from ignition sources/sparks. Measure the concentration in the air regularly. Work under local exhaust/ventilation. Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Handle uncleaned empty containers as full ones. Thoroughly clean/dry the installation before use. Do not discharge the waste into the drain. Do not use compressed air for pumping over. Keep container tightly closed. Wear personal protection equipment. Avoid contact with eyes, skin and clothing. Ground and bond containers when transferring material to avoid static discharges. Use only in well-ventilated area. Wash thoroughly after handling.

Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in a well-ventilated place. Keep cool. Keep away from heat, sparks, flame and other sources of ignition. Store tightly closed container in a cool, dry, well-ventilated area. Store at temperatures not exceeding 38 °C/ 100 °F. Keep isolated from incompatible materials.

Storage area : Store in a cool area. Ventilation at floor level. Fireproof storeroom. Provide for a tub to collect spills. Under a shelter/in the open. Store only in a limited quantity. May be stored under nitrogen. May be stored under argon. Meet the legal requirements.

Packaging materials : SUITABLE MATERIAL: steel. iron. copper. glass.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

N. Propyl Alcohol (71-23-8)		
ACGIH	Local name	n-Propanol (n-Propyl alcohol)
ACGIH	ACGIH TWA (ppm)	100 ppm
ACGIH	Remark (ACGIH)	Eye & URT irr
ACGIH	Regulatory reference	ACGIH 2018
OSHA	OSHA PEL (TWA) (mg/m ³)	500 mg/m ³
OSHA	OSHA PEL (TWA) (ppm)	200 ppm
OSHA	Regulatory reference (US-OSHA)	OSHA Annotated Table Z-1

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8.2. Appropriate engineering controls

- Appropriate engineering controls : Ensure good ventilation of the work station.
An emergency eye wash/ shower must be readily accessible to the work area.
- Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Materials for protective clothing:

- GIVE EXCELLENT RESISTANCE: butyl rubber. nitrile rubber. viton.
GIVE GOOD RESISTANCE: chlorosulfonated polyethylene. tetrafluoroethylene. PVA.
GIVE POOR RESISTANCE: natural rubber. PVC. plastics

Hand protection:

Gloves. Nitrile/ Butyl Rubber.

Eye protection:

Safety glasses. Chemical resistant goggles must be worn. Face shield.

Skin and body protection:

Protective clothing to prevent skin exposure.

Respiratory protection:

Full face mask with filter type A at conc. in air > exposure limit

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Liquid.
Color	: Colorless
Odor	: Alcohol odor.
Odor threshold	: <0.07 – 100 mg/m ³
pH	: No data available
Melting point/ Freezing point	: <-90 °C
Boiling point	: ≈ 97 °C
Flash point	: 23 - 24 °C
Relative evaporation rate (butyl acetate=1)	: 1.0
Flammability (solid, gas)	: Not applicable.
Vapor pressure	: 2.6 kPa (20 °C)
Vapor pressure at 50 °C	: 13.3 kPa
Relative vapor density at 20 °C	: 2.1
Relative density	: 0.8036 at 20 °C
Relative density of saturated gas/air mixture	: 1.02
Specific gravity / density	: 0.804 g/cm ³
Molecular mass	: 60.09 g/mol
Solubility	: Soluble in water. Water: complete
Log Pow	: 0.25 - 0.34 (Test data)
Auto-ignition temperature	: 395 - 400 °C
Decomposition temperature	: No data available
Viscosity, kinematic	: 2.861 mm ² /s
Viscosity, dynamic	: 2.3 mPa.s
Explosion limits	: 2 - 14 vol % 50 - 340 g/m ³ LEL: 2 vol % UEL: 14 vol %
Explosive properties	: No data available

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Oxidizing properties : No data available

9.2. Other information

VOC content : 100 %

Other properties : Gas/vapour heavier than air at 20°C. Clear. Volatile. Neutral reaction.

SECTION 10: Stability and reactivity

10.1. Reactivity

Reacts violently with many compounds e.g.: with (strong) oxidizers and with (some) acids with (increased) risk of fire/explosion.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Vapors may form explosive mixture with air.

10.4. Conditions to avoid

Avoid heat, sparks, open flames and other sources of ignition.

10.5. Incompatible materials

Strong oxidizing agents. Strong acids.

10.6. Hazardous decomposition products

Carbon oxides.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified

Acute toxicity (dermal) : Not classified

Acute toxicity (inhalation) : Not classified

N. Propyl Alcohol (71-23-8)	
LD50 oral rat	> 2000 mg/kg (Rat, Oral)
LD50 dermal rabbit	4049 mg/kg (Rabbit, Dermal)
ATE US (dermal)	4049 mg/kg body weight

Skin corrosion/irritation : Not classified

Serious eye damage/irritation : Not classified

Respiratory or skin sensitization : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity : Not classified

Reproductive toxicity : Not classified

Specific target organ toxicity – single exposure : Not classified

Specific target organ toxicity – repeated exposure : Not classified

Aspiration hazard : Not classified

Viscosity, kinematic : 2.861 mm²/s

SECTION 12: Ecological information

12.1. Toxicity

Ecology - water : Not harmful to crustacea. Not harmful to fishes. Groundwater pollutant. Not harmful to algae. Very toxic to plankton.

N. Propyl Alcohol (71-23-8)	
LC50 fish 1	3200 mg/l (48 h, <i>Salmo gairdneri</i>)
EC50 Daphnia 1	3644 mg/l (48 h, <i>Daphnia magna</i>)

12.2. Persistence and degradability

N. Propyl Alcohol (71-23-8)	
Persistence and degradability	Readily biodegradable in water.
Biochemical oxygen demand (BOD)	0.47 - 1.63 g O ₂ /g substance

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N. Propyl Alcohol (71-23-8)	
Chemical oxygen demand (COD)	2.23 g O ₂ /g substance
ThOD	2.4 g O ₂ /g substance
BOD (% of ThOD)	0.20 - 0.44

12.3. Bioaccumulative potential

N. Propyl Alcohol (71-23-8)	
Log Pow	0.25 - 0.34 (Test data)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

12.4. Mobility in soil

N. Propyl Alcohol (71-23-8)	
Surface tension	0.024 N/m (20 °C)

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

- Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.
- Product/Packaging disposal recommendations : Do not discharge into surface water. Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Recycle by distillation. Remove to an authorized waste incinerator for solvents with energy recovery. Obtain the consent of pollution control authorities before discharging to wastewater treatment plants.

SECTION 14: Transport information

The information in this section is for reference only and should not take the place of a bill of lading specific to an order.

Department of Transportation (DOT)

In accordance with DOT

- Transport document description : UN1274 n-Propanol, 3, III
- UN-No.(DOT) : UN1274
- Proper Shipping Name (DOT) : n-Propanol
- Class (DOT) : 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120
- Packing group (DOT) : III - Minor Danger
- Hazard labels (DOT) : 3 - Flammable liquid



- DOT Packaging Non Bulk (49 CFR 173.xxx) : 203
- DOT Packaging Bulk (49 CFR 173.xxx) : 242

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DOT Special Provisions (49 CFR 172.102)	: B1 - If the material has a flash point at or above 38 C (100 F) and below 93 C (200 F), then the bulk packaging requirements of 173.241 of this subchapter are applicable. If the material has a flash point of less than 38 C (100 F), then the bulk packaging requirements of 173.242 of this subchapter are applicable. IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672). T2 - 1.5 178.274(d)(2) Normal..... 178.275(d)(3) TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = $97 / 1 + a (tr - tf)$ Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.
DOT Packaging Exceptions (49 CFR 173.xxx)	: 150
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	: 60 L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	: 220 L
DOT Vessel Stowage Location	: A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.
Other information	: No supplementary information available.

Transportation of Dangerous Goods

Transport by sea

Transport document description (IMDG)	: UN 1274 n-propanol (propyl alcohol, normal), 3, III
UN-No. (IMDG)	: 1274
Proper Shipping Name (IMDG)	: n-propanol (propyl alcohol, normal)
Class (IMDG)	: 3 - Flammable liquids
Packing group (IMDG)	: III - substances presenting low danger
EmS-No. (1)	: F-E
EmS-No. (2)	: S-D

Air transport

Transport document description (IATA)	: UN 1274 Propyl alcohol, normal, 3, III
UN-No. (IATA)	: 1274
Proper Shipping Name (IATA)	: Propyl alcohol, normal
Class (IATA)	: 3 - Flammable Liquids
Packing group (IATA)	: III - Minor Danger

SECTION 15: Regulatory information

15.1. US Federal regulations

N. Propyl Alcohol (71-23-8)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

SARA Section 311/312 Hazard Classes	Physical hazard - Flammable (gases, aerosols, liquids, or solids) Health hazard - Serious eye damage or eye irritation Health hazard - Specific target organ toxicity (single or repeated exposure)
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All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

15.2. International regulations

CANADA

No additional information available

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EU-Regulations

No additional information available

National regulations

No additional information available

15.3. US State regulations

N. Propyl Alcohol (71-23-8)

State or local regulations

U.S. - New Jersey - Right to Know Hazardous Substance List

California Proposition 65 - This product does not contain any substances known to the state of California to cause cancer, developmental and/or reproductive harm

SECTION 16: Other information

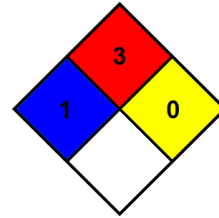
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Revision date : 11/12/2018

NFPA health hazard : 1 - Materials that, under emergency conditions, can cause significant irritation.

NFPA fire hazard : 3 - Liquids and solids (including finely divided suspended solids) that can be ignited under almost all ambient temperature conditions.

NFPA reactivity : 0 - Material that in themselves are normally stable, even under fire conditions.



Hazard Rating

Health : 2 Moderate Hazard - Temporary or minor injury may occur

Flammability : 3 Serious Hazard - Materials capable of ignition under almost all normal temperature conditions. Includes flammable liquids with flash points below 73 F and boiling points above 100 F. as well as liquids with flash points between 73 F and 100 F. (Classes IB & IC)

Physical : 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.

SDS US (GHS HazCom 2012)

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