



5515 North Service Rd. #306
Burlington, Ontario L7L 6G4

Phone: 905-337-7411
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megaloid.ca



1. PRODUCT IDENTIFICATION

Name: *n-Propanol*

Synonyms: *1-propanol, normal propyl alcohol, 1-hydroxypropane*

CAS# 71-23-8

Product Uses: *Paint & ink solvent, chemical feedstock, and others.*

Supplier Identifier: *Megaloid Laboratories Limited
5515 North Service Road, Ste 306
Burlington, Ontario, Canada
L7L 6G4
Phone: 905-337-7411 / Fax: 905-337-1686*

EMERGENCY INFORMATION Call CHEMTREC - (800) 424-9300

2. HAZARDS

GHS Class <i>(category)</i>	Flammable <i>(3)</i>	Severe eye irritant <i>(1)</i>	STOT <i>(3)</i>	<p>Label Pictograms</p>
Signal Word	DANGER			
Hazard Statements	<i>flammable liquid & vapour (H226)</i>	<i>Causes serious eye irritation (H318)</i>	<i>May cause dizziness or drowsiness (H336)</i>	

GHS Precautionary Statements for Labelling

Prevention

- P210** Keep away from heat, sparks, open flames and hot surfaces. No smoking.
- P240** Ground or bond container and receiving equipment.
- P241** Use explosion-proof electrical, ventilating and lighting equipment.
- P242** Use only non-sparking tools.
- P243** Take precautionary measures against static discharge.
- P262** Do not get in eyes, on skin or on clothing.
- P264** Wash hands thoroughly after handling.
- P270** Do not eat, drink or smoke when using this product.

P271	Use only outdoors or in a well-ventilated area.
P280	Wear eye protection, protective gloves and clothing of butyl rubber
Response	
P301, P310	IF SWALLOWED: Immediately call a POISON CENTRE or doctor.
P303, P361, P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P304, P340	IF INHALED: remove person to fresh air and keep comfortable for breathing.
P305, P351, P338	IF IN EYES: rinse continuously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P370, P378	IN CASE OF FIRE: use polymer foam, water fog or spray only to cool containers; product floats on water – water jet spreads flames; firefighters must wear SCBA.
Storage	
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.
Disposal	
P501	Dispose of contents and container in accordance with local, regional, national and international regulations.

3. COMPOSITION

Chemical Name:	CAS No.	%	Other Identifiers
<i>n-Propanol</i>	71-23-8	100	EC # 200-746-9

4. FIRST AID

Inhalation

Remove from contaminated area promptly. CAUTION: Rescuer must not endanger himself! If breathing stops, administer artificial respiration and seek medical aid promptly.

Skin Contact

Wash with plenty of water. Remove contaminated clothing and do not reuse until thoroughly laundered.

Eye Contact

Wash eyes with plenty of water, holding eyelids open. Seek medical assistance if there is any irritation.

Ingestion

Give plenty of water to dilute product. Do not induce vomiting (NOTE below). Keep victim quiet. If vomiting occurs, lower victim's head below hips to prevent inhalation of vomited material. Seek medical help promptly.

First-aid Comments

Inadvertent inhalation of vomited material may seriously damage the lungs. The danger of this is greater than the risk of poisoning through absorption of this relatively low-toxicity substance. The stomach should only be emptied under medical supervision, and after the installation of an airway to protect the lungs.

5. FIRE FIGHTING & FLAMMABILITY

Extinguishing Media

Suitable Extinguishing Media

Foam, dry chemical, water fog, water spray only to cool & dilute, product floats on water - water jet spreads flames

Combustion Products

Carbon monoxide, nitrogen oxides, smoke, part oxidized hydrocarbon fragments
Cannot accumulate a static charge on agitation or pumping.

Special Protective Equipment and Precautions for Fire-fighters

Firefighters must wear SCBA. Fire-fighters may enter the area if positive pressure SCBA and full Bunker Gear is worn.

6. ACCIDENTAL RELEASE MEASURES

Serious Fire Potential:

blanket spill with foam as a precaution against accidental ignition. Take extreme care to avoid sparks – do not operate (turn on OR off) electrical appliances near spill, unless explosion proof.

Personal Precautions, Protective Equipment, and Emergency Procedures

Evacuate the area immediately. Isolate the hazard area. Keep out unnecessary and unprotected personnel. Eliminate all ignition sources. Use grounded, explosion-proof equipment. Increase ventilation to area or move leaking container to a well-ventilated and secure area.

Environmental Precautions

If the spill is inside a building, prevent product from entering drains, ventilation systems and confined areas.

Methods and Materials for Containment and Cleaning Up

Leak Precaution: dyke to control spillage and prevent environmental contamination
Handling Spill: Ventilate contaminated area; recover free liquid with suitable pumps; absorb residue on an inert sorbent, sweep & pick up using plastic or aluminium shovel, & store in closed containers for recycling or disposal.

Other Information

Report spills to local health, safety and environmental authorities, as required.

7. HANDLING & STORAGE

Precautions for Safe Handling

Take care to avoid sparks – use non-sparking bronze or aluminum hand tools. All electrical & mechanical equipment (lighting, switchgear, forklift trucks, etc.) used with or around this product must be explosion-proof. Although n-propanol is not a static accumulator, it is prudent to ground or bond the source container, the receiving container and transfer equipment before pumping or decanting.

Empty containers may contain a flammable / explosive vapour. Always ensure that containers, whether empty or full, are tightly sealed unless in use.

Avoid creating or breathing product vapour. If vapour is created in use, install adequate exhaust ventilation. If dealing with a spill, and ventilation is impossible or impractical, wear a suitable respirator with organic vapour cartridge.

Never cut, drill, weld or grind on or near this container. Avoid contact with skin & wash work clothes frequently. An eye bath must be available near the workplace.

Conditions for Safe Storage

Store & use in a cool, dry environment, away from sources of ignition, heat & oxidizing agents.

8. EXPOSURE CONTROL & PERSONAL PROTECTION

Ontario TWAEV 100ppm / 245mg/m³
ACGIH TLV 100ppm / 245mg/m³
OSHA PEL 200ppm / 500mg/m³

Ontario STEV 250ppm / 615mg/m³
ACGIH STEL not listed
OSHA STEL 250ppm / 615mg/m³

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Ventilation	<i>If engineering controls and work practices are not effective in controlling exposure to this material, then wear suitable personal protection equipment including approved respiratory protection. An approved respirator must be worn.</i>
Hands	<i>Nitrile or "Viton" gloves recommended – other types may also protect; consult supplier to confirm suitability wear impermeable (above) apron, boots, & long sleeves if there is any danger of splashing.</i>
Eyes	<i>Splash-proof chemical safety goggles or face shield (eight-inch minimum), as required – always protect the eyes</i>
Clothing	<i>Chemical protective coveralls, boots and/or other chemical protective clothing as needed to prevent contact.</i>

9. PHYSICAL PROPERTIES

Appearance	<i>Clear colourless liquid.</i>
Odour	<i>Pungent</i>
Odour threshold	<i>5 - 11 ppm</i>
pH	<i>Neutral</i>
Melting Point/Freezing Point	<i>-127 °C (-197 °F) (melting)</i>
Initial Boiling Point/Range	<i>98 °C (208 °F)</i>
Flash Point	<i>> 15 °C (59 °F) (closed cup)</i>
Evaporation Rate	<i>0.86 (n-butyl acetate = 1)</i>
Flammability (Solid, Gas)	<i>Not Available</i>
Upper/Lower Flammability or Explosive Limit	<i>13.7% (upper); 2.2% (lower)</i>
Vapour Pressure	<i>1.90 - 1.99 kPa (14.25 - 14.93 mm Hg) at 20 °C</i>
Vapour Density (air = 1)	<i>2.07</i>
Relative Density (water = 1)	<i>0.80 at 20 °C</i>
Solubility	<i>Soluble in all proportions in water; highly soluble in common organic solvents.</i>
Partition Coefficient, n-Octanol/Water (Log Kow)	<i>0.25</i>
Auto-ignition Temperature	<i>> 371 °C (700 °F)</i>
Saturated Vapour Concentration	<i>18800 - 19600 ppm at 20 °C</i>
Viscosity	<i>2.75 - 2.81 mm²/s at 20 °C (kinematic); 2.21 mPa.s at 20 °C (dynamic)</i>
Physical State	<i>Liquid</i>
Molecular Weight	<i>60.10 grams per mole</i>

Molecular Formula C₃H₈O

10. REACTIVITY

Dangerously Reactive with strong oxidising agents; strong acids; acid chlorides, acid anhydrides or alkaline earth metals.

Chemical Stability

stable; will not polymerize

Possibility of Hazardous Reactions

None known.

Conditions to Avoid

Heat, flames and sparks.

Mechanical Impact

not sensitive

11. TOXICITY

Acute Toxicity	
LD₅₀ (oral)	1870, 2200, 6500 & 8000mg/kg (rat), 2825 & 3500mg/kg (rabbit), 3000mg/kg (dog), 4500 & 6800mg/kg (mouse)
LD₅₀ (skin)	4030, 5040 & 67301mg/kg (rabbit)
LC₅₀ (inhalation)	>4000 & >13,550ppm (rat), 19,600ppm (mouse)

Skin Corrosion/Irritation

Human experience and animal tests show no or very mild irritation.

Serious Eye Damage/Irritation

Severely irritating – injury incompletely resolved after 10 days; vapour irritating at 10,000ppm.

STOT (Specific Target Organ Toxicity) - Single Exposure

Inhalation

Not known – probably causes dizziness, drowsiness, intoxication, nausea

Skin Absorption

Little to no effect after 24-hour contact

Ingestion

Dizziness, drowsiness, intoxication, nausea – not a route of industrial exposure, particularly in view of propanol's strong, unpleasant odour

STOT (Specific Target Organ Toxicity) - Repeated Exposure

Synergistic with - liver toxins; enhances toxicity of chlorinated solvents

Respiratory and/or Skin Sensitization

General - prolonged exposure may cause dermatitis

Sensitizing - not a sensitizer in humans or animals

Carcinogenicity

ACGIH®: A5 – Not suspected as a human carcinogen. NTP: Not specifically listed.

OSHA: Not specifically listed.

Reproductive Toxicity

Development of Offspring

Mutagen - no known effect on humans or animals.

Sexual Function and Fertility

no known effect in humans; fetotoxic & teratogenic at doses also causing maternal toxicity

Germ Cell Mutagenicity

Not known to be a mutagen.

12. ECOLOGICAL INFORMATION

Bioaccumulation	<i>This product and its degradation products are not known to bioaccumulate.</i>
Persistence and Degradability	Biodegradation - <i>This product and its degradation products are not known to bioaccumulate.</i>
	Abiotic Degradation - <i>no data available</i>
Mobility in soil, water	<i>If released into the environment, this product can move rapidly through the soil.</i>
Aquatic Toxicity	
LC50 (Fish, 96hr)	<i>3800mg/litre (Alburnus alburnus), 4480 & 4555mg/litre (Pimephelas promelas), 4650mg/litre (Cyprinodon sp.)</i>
EC50 (Crustacea, 48hr)	<i>3644 & 6300mg/litre (Daphnia magna), 1000mg/litre (Gammarus pulex), 1520m/litre (Nemoura cinerea)</i>
EC50 (Algae, 72hrs)	<i>9170mg/litre (Pseudokirchnerella subcapitata)</i>
EC50 (Bacteria)	<i>9600mg/litre ("activated sludge"), 8686 & 18,400mg/litre (Photobacterium phosphoreum)</i>
NOEC (Algae, 48hr)	<i>1150mg/litre (Chlorella pyrenoidosa)</i>

13. DISPOSAL

Water Disposal

Do not flush to sewer, recycle solvent if possible, may be incinerated in approved facility

Containers

Drums should be reused. Recondition and pressure test by a licensed reconditioner prior to re-use.

Pails must be vented and thoroughly dried prior to crushing and recycling.


IBCs (intermediate bulk containers): polyethylene bottle must be pressure tested & recertified at 30 months. Replace at 60 months (5yrs).

Steel containers must be inspected, pressure tested & recertified every 5 years.

Never cut, drill, weld or grind on or near this container, even if empty

14. TRANSPORT CLASSIFICATION

Canada TDG	PIN	UN1274
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AND	Shipping Name	n-Propanol	
U.S.A. 49 CFR	Class & Packing Group	3, PG III	

Marine Pollutant	Not a Marine Pollutant
ERAP Required	NO
Reportable Quantity	NO
E R G No.	129

Important Note: Shipping descriptions may vary based on mode of transport, quantities, package size, and/or origin and destination. Consult your company's Hazardous Materials/Dangerous Goods expert for information specific to your situation.

15. REGULATIONS

Canada DSL	On Inventory
U.S.A. TSCA	On Inventory
Europe EINECS	On Inventory

Canadian Regulations

CEPA - National Pollutant Release Inventory (NPRI)

Part 1A, Part 5.

U.S.A. Regulations

Immediately Dangerous to Life or Health: 800 ppm

Allowable Tolerances: Residues of n-propanol are exempted from the requirement of a tolerance when used as a solvent or cosolvent in accordance with good agricultural practice as inert (or occasionally active) ingredients in pesticide formulations applied to growing crops or to raw agricultural commodities after harvest.

OSHA Standards: Permissible Exposure Limit: Table Z-1 8-hr Time Weighted Avg: 200 ppm (500 mg/cu m).

NIOSH Recommendations: Recommended Exposure Limit: 10 Hr Time-Weighted Avg: 200 ppm (500 mg/cu m).

Threshold Limit Values: 8 hr Time Weighted Avg (TWA): 100 ppm

Atmospheric Standards: This action promulgates standards of performance for equipment leaks of Volatile Organic

Compounds (VOC) in the Synthetic Organic Chemical Manufacturing Industry (SOCMI). The intended effect of these standards is to require all newly constructed, modified, and reconstructed SOCMI process units to use the best demonstrated system of continuous emission reduction for equipment leaks of VOC, considering costs, non-air quality health and environmental impact and energy requirements. n-Propyl alcohol is produced, as an intermediate or a final product, by process units covered under this subpart.

FIFRA Requirements: Residues of n-propanol are exempted from the requirement of a tolerance when used as a solvent or cosolvent in accordance with good agricultural practice as inert (or occasionally active) ingredients in pesticide formulations applied to growing crops or to raw agricultural commodities after harvest.

FDA Requirements: Propyl alcohol is a food additive permitted for direct addition to food for human consumption as a synthetic flavoring substance and adjuvant in accordance with the following conditions: a) they are used in the minimum quantity required to produce their intended effect, and

otherwise in accordance with all the principles of good manufacturing practice, and 2) they consist of one or more of the following, used alone or in combination with flavoring substances and adjuvants generally recognized as safe in food, prior-sanctioned for such use, or regulated by an appropriate section in this part.

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312

Flammable (gases, aerosols, liquids, or solids)

Serious eye damage or eye irritation

Specific target organ toxicity (single or repeated exposure)

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313

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.

Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) Section 103

This material does not contain any components with a CERCLA RQ.

Pennsylvania Worker and Community Right-To-Know Act:

The following product components are cited in the Pennsylvania Hazardous Substance List and/or the Pennsylvania Environmental Substance List, and are present at levels which require reporting.

California Prop. 65

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

NFPA RATING	Health 1	Flammability 3	Instability 0
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Prepared for Megaloid Laboratories Limited **by** Richard Koscher
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Revision Dates: September 2014, Oct 2017, Feb 2019

Key to Abbreviations	ACGIH® = American Conference of Governmental Industrial Hygienists AIHA® = AIHA® Guideline Foundation HSDB® = Hazardous Substances Data Bank IARC = International Agency for Research on Cancer NFPA = National Fire Protection Association NIOSH = National Institute for Occupational Safety and Health NTP = National Toxicology Program OSHA = US Occupational Safety and Health Administration RTECS® = Registry of Toxic Effects of Chemical Substances
References	CHEMINFO database. Canadian Centre for Occupational Health and Safety (CCOHS). HSDB® database. US National Library of Medicine. Available from Canadian Centre for Occupational Health and Safety (CCOHS). NIOSH Pocket Guide database. National Institute for Occupational Safety and Health. Available from Canadian Centre for Occupational Health and Safety (CCOHS). Registry of Toxic Effects of Chemical Substances (RTECS®) database. Dassault Systèmes/BIOVIA ("BIOVIA"). Available from Canadian Centre for Occupational Health and Safety (CCOHS).
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