

# SAFETY DATA SHEET



1000 Tedia Way  
Fairfield, Ohio 45014  
USA  
Email: [tedia@tedia.com](mailto:tedia@tedia.com)  
Web: [www.tedia.com](http://www.tedia.com)

## 24-Hour Emergency Number (CHEMTREC)

USA: 800-424-9300  
International: 703-527-3887

All non-emergency numbers should be directed  
to Customer Service at 800-PURITY1

## N-PROPYL ALCOHOL

SDS No. M0176

### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: n-Propyl Alcohol

Synonyms: 1-Propanol; Ethyl Carbinol; 1-Hydroxypropane; n-Propanol

Recommended Use: This product is recommended for laboratory and manufacturing use only. It is not recommended for drug, food or household use.

### 2. HAZARDS IDENTIFICATION



#### **Classification:**

Flammable Liquids: GHS Category 2

Eye Irritation: GHS Category 1

Specific Target Organ Toxicity, Single Exposure: GHS Category 3

#### **Label Elements**

Signal Word: DANGER!

#### Hazard Statements:

H225 – Highly flammable liquid and vapor.

H319 – Causes serious eye irritation.

H336 – May cause drowsiness and dizziness.

#### Precautionary Statements:

P210 – Keep away from heat/sparks/open flames/hot surface – No smoking.

P243 – Take precautionary measures against static discharge.

P280 – Wear protective gloves/protective clothing/eye protection/face protection.

P303+P361+P353 – If on skin or hair: Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.

#### **Emergency Overview**

Causes irritation to the eyes, skin, and respiratory tract. May be harmful if swallowed. May cause central nervous system effects. May cause dermatitis. Highly flammable liquid and vapor. Hygroscopic. Target Organs: Central nervous system and liver.

Clear focus. Consistent results. Complete confidence.

HMIS Rating:

Health – 2\* Flammability – 3 Physical Hazard – 0 PPE – User supplied

NOTE: HMIS ratings use a numbering scale that ranges from 0 - 4 to indicate the degree of hazard. A value of zero means the chemical presents no hazard while a value of four indicates a high hazard. These ratings are based on the inherent properties of this chemical under expected conditions of normal use and are not intended to be used in emergency situations. PPE is determined by the user based on their needs and conditions.

**3. COMPOSITION AND INFORMATION ON INGREDIENTS**

<u>Ingredient</u>	<u>CAS No</u>	<u>Percent</u>	<u>Hazardous</u>
n-Propyl Alcohol	71-23-8	>99%	Yes

**4. FIRST-AID MEASURES**

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

Ingestion: Get medical help immediately. Do not induce vomiting. If victim is alert, give 2-3 cupfuls of milk or water. If vomiting occurs naturally, have victim lean forward. Never give anything by mouth to an unconscious person.

Skin Contact: Remove any contaminated clothing. Wash skin with soap or mild detergent and water for at least 15 minutes. Get medical attention.

Eye Contact: Check for and remove contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention.

Notes to Physician: Treat symptomatically and supportively.

**5. FIRE FIGHTING MEASURES**

Flammability: Highly flammable liquid and vapor (GHS Category 2)

Auto-ignition Temperature: 405° C (761° F)

Flash Point: 15° C (59° F)

Flammable Limits: Lower Limit – 2.2 vol %, Upper Limit – 13.7 vol %

Products of Combustion: May decompose into irritating and highly toxic gases under fire conditions (carbon monoxide and carbon dioxide).

Specific Fire Hazards: As in any fire, always wear self-contained breathing apparatus in pressure-demand (MSA/NIOSH approved or equivalent), and full protective gear. Vapors may form explosive mixtures with air. Use water spray to keep fire exposed containers cool. Approach fire from upwind to avoid hazardous vapors and toxic decomposition products. Vapors are heavier than air and may travel to a source of ignition and flash back. Vapors can spread along the ground and collect in low or confined areas.

Specific Explosion Hazards: None.

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

National Fire Protective Association: Health - 2, Flammability - 3, Reactivity - 0

NOTE: NFPA ratings use a numbering scale that ranges from 0 - 4 to indicate the degree of hazard. A value of zero means the chemical presents no hazard while a value of four indicates a high hazard. They are for use by emergency personnel to address the hazards that are presented by short term, acute exposure to this product under fire, spill, or similar emergencies. Ratings involve data and interpretations that may vary from company to company.

**6. ACCIDENTAL RELEASE MEASURES**

Use water spray to reduce vapors. Water spray may reduce vapors but still not prevent ignition in closed spaces. Absorb spilled liquid with sorbent pads, socks, or other inert material such as vermiculite, sand, or earth. Do not use sawdust or any combustible material. Use spark-proof tools. Provide ventilation to the affected area and remove all ignition sources. Approach the spill from upwind and pick up absorbed material and place it in a suitable container. Always use proper personal protective equipment as described in section 8.

## 7. HANDLING AND STORAGE

**Precautions:** Always use proper personal protective equipment as described in section 8. Wash thoroughly after handling. Ground and bond containers when transferring material. Use spark-proof tools and explosion proof equipment. Avoid contact with eyes, skin, and clothing. Remove contaminated clothing and wash before reuse. Empty containers contain product residue (liquid and vapor) and can be dangerous. Keep container tightly closed and away from heat, spark, and flame. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks, or open flames. Use with adequate ventilation. Avoid breathing vapor or mist.

**Storage:** Keep in a flammables area away from direct sunlight and all sources of ignition and oxidizing materials. Keep in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Keep from contact with oxidizing materials. After opening, purge container with nitrogen before reclosing. Periodically retest for peroxide formation. Addition of water or other appropriate reducing agent will reduce peroxide formation in long-term storage. Store to keep moisture out. Containers should be dated when opened and tested periodically for the presence of peroxides. Should crystals form in a peroxidizable liquid, peroxidation may have occurred and the product should be considered extremely dangerous. In this instance, the container should only be opened remotely by professionals. All peroxidizable substances should be stored away from heat and light and be protected from ignition sources.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Engineering Controls:** Use explosion-proof ventilation equipment. Facilities storing or using the material should be equipped with eyewash station and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

**Personal Protection:** Wear protective chemical goggles and face shield for eye and face protection. Use butyl rubber gloves and protective clothing to prevent skin exposure. A respiratory protection program that meets OSHA 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever possible. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

**Exposure Limits:**

ACGIH – 100 ppm TWA

NIOSH – 200 ppm TWA; 500 mg/m<sup>3</sup> TWA; 800 ppm IDLH

OSHA Final PELs – 200 ppm TWA; 500 mg/m<sup>3</sup> TWA

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Physical State and Appearance:** Clear, colorless liquid.

**Odor:** Alcohol-like

**Odor Threshold:** 5-30 ppm

**Molecular Formula:** CH<sub>3</sub>CH<sub>2</sub>CH<sub>2</sub>OH

**Molecular Weight:** 60.10

**Auto-ignition Temperature:** 405° C (761° F)

**Flash Point:** 15° C (59° F)

**Flammable Limits:** Lower Limit – 2.2 vol %, Upper Limit – 13.7 vol %

**pH:** Not available.

**Boiling Point:** 97° C @ 760 mm Hg

**Freezing/Melting Point:** 127° C

**Decomposition Temperature:** Not available

**Specific Gravity:** 0.804 g/cm<sup>3</sup>

**Vapor Density (Air=1):** 2.1

**Vapor Pressure:** 14.3 mm Hg @ 20° C.

**Evaporation Rate (Butyl acetate = 1):** 1.3

**Viscosity:** 2.2 mpas @ 20° C

**Solubility:** Miscible

Conductivity at 25°C: Conductive; Conductivity =  $2 \times 10^6$  pS/m; Dielectric Constant = 20.33; Relaxation Time Constant =  $9 \times 10^{-5}$  seconds

## 10. STABILITY AND REACTIVITY

Stability: Stable under normal temperature and pressure.

Conditions to Avoid: Incompatible materials and ignition sources.

Incompatibility With Various Substances: Strong oxidizing agents.

Hazardous Decomposition Products: Carbon monoxide, carbon dioxide.

Hazardous Polymerization: Will not occur.

## 11. TOXICOLOGICAL INFORMATION

Routes of Entry: Inhalation, skin absorption, skin contact

Acute Exposure Hazards:

INHALATION HAZARD: Inhalation of vapor may cause central nervous. May cause effects similar to ingestion.

INGESTION HAZARD: Causes gastrointestinal irritation with nausea, vomiting, and diarrhea. May cause central nervous system depression with excitement, followed by headache, drowsiness, nausea, and vomiting. Advanced stages may cause collapse, unconsciousness, coma, and possible death.

SKIN CONTACT HAZARD: May cause moderate skin irritation. Repeated or prolonged exposure may cause dermatitis and defatting of skin.

EYE CONTACT HAZARD: May cause moderate eye irritation and possible corneal damage.

Chronic Exposure Hazards: Repeated or prolonged exposure may cause dermatitis and defatting of skin. Chronic exposure may cause liver damage.

Animal Toxicity:

Draize test, rabbit, eye: 200 mg/24H Moderate;

Inhalation, mouse: LC50 = 48 g/m<sup>3</sup>;

Inhalation, mouse: LC50 = 48,000 mg/m<sup>3</sup>;

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: Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65

Epidemiology: Oral rat TDLo = 50 g/kg/81 weeks. Caused liver tumors and leukemia according to RTECS criteria.

Teratogenicity: No information available.

Reproductive Effects: An exposure of 7000 ppm for 7 hours caused a reduction in fertility for male rats and caused fetotoxic effects. A dose of 10,000 ppm for 7 hours caused musculoskeletal abnormalities and post-implantation mortality.

Mutagenicity: No information available.

Neurotoxicity: No information available.

## 12. ECOLOGICAL INFORMATION

Ecotoxicity: No information available.

Environmental Fate: Expected to rapidly volatilize.

## 13. DISPOSAL CONSIDERATIONS

Material that cannot be saved for recovery or recycling should be managed in an appropriate and approved waste facility. Processing, use or contamination of this product may change the waste management options. Waste generators must decide if discarded material is a hazardous waste. State and local disposal regulations may differ from federal disposal definitions found in 40 CFR 261.3. Dispose of container and unused contents in accordance with federal, state and local requirements.

## 14. TRANSPORT INFORMATION

### US DOT

Proper Shipping Name: n-Propanol  
Hazard Class: 3  
UN Number: UN1274  
Packing Group: II

### IMDG

Proper Shipping Name: n-Propanol  
Hazard Class: 3  
UN Number: UN1274  
Packing Group: II

### IATA

Proper Shipping Name: n-Propanol  
Hazard Class: 3  
UN Number: UN1274  
Packing Group: II

## 15. REGULATORY INFORMATION

### US Federal Regulations:

CERCLA Hazardous Substances: CAS# 71-23-8 does not have an RQ  
SARA Section 302: Does not have a TPQ  
SARA Codes: CAS# 71-23-8 – immediate, fire  
Section 313: n-Propanol (CAS# 71-23-8 0) is not subject to SARA Title III reporting requirements.  
OSHA: Not considered highly hazardous by OSHA.

### US State Regulations:

CAS# 71-23-8 is on the following state right-to-know lists: New Jersey, Pennsylvania, and Massachusetts  
California Prop 65: This product contains no chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

## 16. OTHER INFORMATION

Originally Prepared: 1/1/2006

Last Revised: 12/1/2015 – Updated information for eye and face protection in Section 8.

The information contained herein is based on current knowledge and experience; no responsibility is accepted that the information is sufficient or correct in all cases. Users should consider these data only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use and disposal of these materials and the safety and health of employees and customers and the protection of the environment.

TEDIA COMPANY, INC. MAKES NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, INCLUDING WITHOUT LIMITATION ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE WITH RESPECT TO THE INFORMATION SET FORTH HEREIN OR THE PRODUCT TO WHICH THE INFORMATION REFERS. ACCORDINGLY, TEDIA COMPANY, INC. WILL NOT BE RESPONSIBLE FOR DAMAGES RESULTING FROM USE OF OR RELIANCE UPON THIS INFORMATION.

