

# Safety Data Sheet

Ethanol, Denatured, 95%

**CAROLINA**<sup>®</sup>  
www.carolina.com

## Section 1 Product Description

**Product Name:** Ethanol, Denatured, 95%  
**Recommended Use:** Science education applications  
**Synonyms:** Alcohol, Ethyl alcohol  
**Distributor:** Carolina Biological Supply Company  
2700 York Road, Burlington, NC 27215  
1-800-227-1150  
**Chemical Information:** 800-227-1150 (8am-5pm (ET) M-F)  
**Chemtrec:** 800-424-9300 (Transportation Spill Response 24 hours)

## Section 2 Hazard Identification

Classification of the chemical in accordance with paragraph (d) of §1910.1200;

**DANGER**



Highly flammable liquid and vapor. May cause damage to organs.

**GHS Classification:**

Flammable Liquid Category 2, Specific Target Organ Systemic Toxicity (STOT) - Single Exposure Category 2

**Other Safety Precautions:** IF exposed or if you feel unwell: Call a POISON CENTER or doctor/physician.

## Section 3 Composition / Information on Ingredients

<u>Chemical Name</u>	<u>CAS #</u>	<u>%</u>
Ethanol	64-17-5	85.98
Water	7732-18-5	5
2-Propanol	67-63-0	4.75
Methanol	67-56-1	4.28

## Section 4 First Aid Measures

**Emergency and First Aid Procedures**

**Inhalation:** In case of accident by inhalation: remove casualty to fresh air and keep at rest.  
**Eyes:** In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
**Skin Contact:** After contact with skin, wash immediately with plenty of water.  
**Ingestion:** If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

## Section 5 Firefighting Procedures

**Extinguishing Media:** Use dry chemical, CO2 or appropriate foam.  
**Fire Fighting Methods and Protection:** Firefighters should wear full protective equipment and NIOSH approved self-contained breathing apparatus.  
**Fire and/or Explosion Hazards:** Vapors may travel back to ignition source. Closed Containers exposed to heat may explode.  
**Hazardous Combustion Products:** Carbon dioxide, Carbon monoxide

## Section 6 Spill or Leak Procedures

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## Steps to Take in Case Material Is Released or Spilled:

No health affects expected from the clean-up of this material if contact can be avoided. Follow personal protective equipment recommendations found in Section 8 of this (M)SDS. Ventilate the contaminated area. Evaporation of volatile substances can lead to the displacement of air creating an environment that can cause asphyxiation. Isolate area. Keep unnecessary personnel away. Ventilate the area by opening door and/or turning on fans and blowers. Use an inert absorbent such as sand or vermiculite. Place in properly labeled closed container.

## Section 7 Handling and Storage

**Handling:** Keep away from heat/sparks/open flames/hot surfaces. – No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/.../equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Do not breathe dust/fume/gas/mist/vapors/spray. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Wear protective gloves/protective clothing/eye protection/face protection.

**Storage:** Keep container tightly closed. Store in a well-ventilated place. Keep cool. Store locked up. Suitable for any general chemical storage.

**Storage Code:** Red - Flammables. Store in approved flammable containers. Store away from oxidizing materials.

## Section 8 Protection Information

Chemical Name	ACGIH		OSHA PEL	
	(TWA)	(STEL)	(TWA)	(STEL)
Ethanol	N/A	1000 ppm STEL	1000 ppm TWA; 1900 mg/m3 TWA	N/A
2-Propanol	200 ppm TWA	400 ppm STEL	400 ppm TWA; 980 mg/m3 TWA	N/A
Methanol	200 ppm TWA	250 ppm STEL	200 ppm TWA; 260 mg/m3 TWA	N/A

### Control Parameters

#### Engineering Measures:

Local exhaust ventilation or other engineering controls are normally required when handling or using this product to avoid overexposure.

#### Personal Protective Equipment (PPE):

Lab coat, apron, eye wash, safety shower.

#### Respiratory Protection:

No respiratory protection required under normal conditions of use. Provide general room exhaust ventilation if symptoms of overexposure occur as explained Section 11. A respirator is not normally required.

#### Respirator Type(s):

None required where adequate ventilation is provided. If airborne concentrations are above the applicable exposure limits, use NIOSH/MSHA approved respiratory protection.

#### Eye Protection:

Wear chemical splash goggles when handling this product. Have an eye wash station available.

#### Skin Protection:

Wear protective gloves. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work

#### Gloves:

Nitrile

## Section 9 Physical Data

**Formula:** CH<sub>3</sub>CH<sub>2</sub>OH  
**Molecular Weight:** (Ethanol) 46.07  
**Appearance:** Colorless Liquid  
**Odor:** Moderate Alcohol Odor  
**Odor Threshold:** No data available  
**pH:** No data available  
**Melting Point:** -114 C  
**Boiling Point:** 79 C  
**Flash Point:** 17 C  
**Flammable Limits in Air:** 3.3 - 19% (Ethanol)

**Vapor Pressure:** 57.3 hPa at 20°C  
**Evaporation Rate (BuAc=1):** 3.3  
**Vapor Density (Air=1):** 1.6  
**Specific Gravity:** (Ethanol) 0.789 at 20 °C  
**Solubility in Water:** Soluble  
**Log Pow (calculated):** -0.32  
**Autoignition Temperature:** 363 C  
**Decomposition Temperature:** No data available  
**Viscosity:** No data available  
**Percent Volatile by Volume:** 95%

## Section 10 Reactivity Data

#### Reactivity:

Not generally reactive under normal conditions.

#### Chemical Stability:

Stable under normal conditions.

#### Conditions to Avoid:

Temperatures above flash point in combination with sparks, open flames, or other sources of ignition.

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**Incompatible Materials:** Organic Peroxides, Strong acids, Oxidizing materials, Water-reactive materials  
**Hazardous Decomposition Products:** Carbon dioxide  
**Hazardous Polymerization:** Will not occur

## Section 11 Toxicity Data

**Routes of Entry:** Inhalation and ingestion.  
**Symptoms (Acute):** Respiratory Irritation, Dermatitis, Central Nervous System Depression  
**Delayed Effects:** Liver disorders

### Acute Toxicity:

Chemical Name	CAS Number	Oral LD50	Dermal LD50	Inhalation LC50
Water	7732-18-5	Oral LD50 Rat 90000 mg/kg		
2-Propanol	67-63-0	Oral LD50 Rat 5045 mg/kg Oral LD50 Mouse 3600 mg/kg		INHALATION LC50 Rat 16000 ppm
Methanol	67-56-1	Oral LD50 Mouse 7300 mg/kg		INHALATION LC50 Rat 64000 ppm

### Carcinogenicity:

Chemical Name	CAS Number	IARC	NTP	OSHA
Ethanol	64-17-5	Listed	Listed	Listed
2-Propanol	67-63-0	Listed	Not listed	Not listed
Methanol	67-56-1	Not listed	Not listed	Not listed

### Chronic Effects:

**Mutagenicity:** No evidence of a mutagenic effect.  
**Teratogenicity:** No evidence of a teratogenic effect (birth defect).  
**Sensitization:** No evidence of a sensitization effect.  
**Reproductive:** No evidence of negative reproductive effects.

### Target Organ Effects:

**Acute:** Central Nervous System, Eyes  
**Chronic:** Eyes

## Section 12 Ecological Data

**Overview:** Slight ecological hazard. In high concentrations, this product may be dangerous to plants and/or wildlife.  
**Mobility:** This material is expected to have moderate mobility in soil. It absorbs to most soil types.  
**Persistence:** Biodegradation  
**Bioaccumulation:** Bioconcentration is not expected to occur.  
**Degradability:** Biodegrades quickly.  
**Other Adverse Effects:** No data

Chemical Name	CAS Number	Eco Toxicity
Ethanol	64-17-5	96 HR LC50 PIMEPHALES PROMELAS > 100 MG/L [STATIC]
Water	7732-18-5	No data available
2-Propanol	67-63-0	96 HR LC50 LEPOMIS MACROCHIRUS > 1400000 µG/L
Methanol	67-56-1	96 HR LC50 PIMEPHALES PROMELAS 11130 MG/L [STATIC] 48 HR EC50 DAPHNIA MAGNA 2 MG/L [STATIC] 24 HR EC50 DAPHNIA MAGNA 10800 MG/L 48 HR LC50 DAPHNIA MAGNA 9268 - 14221 MG/L 48 HR EC50 DAPHNIA MAGNA 13299 MG/L 72 HR EC50 DESMODESMUS SUBSPICATUS > 1000 MG/L 96 HR EC50 DESMODESMUS SUBSPICATUS > 1000 MG/L

## Section 13 Disposal Information

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**Disposal Methods:** Dispose in accordance with all applicable Federal, State and Local regulations. Always contact a permitted waste disposer (TSD) to assure compliance.  
**Waste Disposal Code(s):** If discarded, this product is considered a RCRA ignitable waste, D001.

## Section 14 Transport Information

**Ground - DOT Proper Shipping Name:**  
UN1170 Ethanol Solutions Class 3 P.G. II

**Air - IATA Proper Shipping Name:**  
UN1170  
Ethanol Solutions  
Class 3  
P.G. II

## Section 15 Regulatory Information

**TSCA Status:** All components in this product are on the TSCA Inventory.

Chemical Name	CAS Number	§ 313 Name	§ 304 RQ	CERCLA RQ	§ 302 TPQ	CAA 112(2) TQ
Ethanol	64-17-5	No	No	No	No	No
2-Propanol	67-63-0	Isopropyl alcohol	No	No	No	No
Methanol	67-56-1	No	No	No	No	No

**California Prop 65:** WARNING: This product contains a chemical known to the state of California to cause cancer and birth defects or other reproductive harm.

## Section 16 Additional Information

**Revised:** 10/26/2015

**Replaces:** 10/20/2015

**Printed:** 10-29-2015

The information provided in this (Material) Safety Data Sheet represents a compilation of data drawn directly from various sources available to us. Carolina Biological Supply makes no representation or guarantee as to the suitability of this information to a particular application of the substance covered in the (Material) Safety Data Sheet.

### Glossary

ACGIH	American Conference of Governmental Industrial Hygienists	NTP	National Toxicology Program
CAS	Chemical Abstract Service Number	OSHA	Occupational Safety and Health Administration
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	PEL	Permissible Exposure Limit
DOT	U.S. Department of Transportation	ppm	Parts per million
IARC	International Agency for Research on Cancer	RCRA	Resource Conservation and Recovery Act
N/A	Not Available	SARA	Superfund Amendments and Reauthorization Act
		TLV	Threshold Limit Value
		TSCA	Toxic Substances Control Act
		IDLH	Immediately dangerous to life and health