

Safety Data Sheet

Ethanol, Denatured, 95%

CAROLINA[®]
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>
Ethyl alcohol	64-17-5	85.9
Water	7732-18-5	5
Isopropyl Alcohol	67-63-0	4.8
Methanol	67-56-1	4.3

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: Fire or excessive heat may produce hazardous decomposition products.
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. 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: Store in a well-ventilated place. Keep cool. Store locked up. Keep container tightly closed in a cool, well-ventilated place.

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)
Ethyl alcohol	N/A	1000 ppm STEL	1000 ppm TWA; 1900 mg/m3 TWA	N/A
Isopropyl Alcohol	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:

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

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: CH₃CH₂OH

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.

Incompatible Materials: Water-reactive materials, Strong oxidizing agents, Acids, Strong reducing agents, Magnesium

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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		
Isopropyl Alcohol	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
Ethyl alcohol	64-17-5	Listed	Listed	Listed
Isopropyl Alcohol	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: 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: No data
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
Isopropyl Alcohol	67-63-0	Isopropyl alcohol	No	No	No	No
Methanol	67-56-1	Methanol	No	5000 lb final RQ; 2270 kg final RQ	No	No

California Prop 65:



WARNING: Cancer and Reproductive Harm –
www.P65Warnings.ca.gov

Section 16

Additional Information

Revised: 08/21/2018

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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