

Safety Data Sheet

Ethanol, Denatured, 50%

CAROLINA[®]
www.carolina.com

Section 1 Product Description

Product Name: Ethanol, Denatured, 50%
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. Causes damage to organs. Toxic to aquatic life.

GHS Classification:

Specific Target Organ Systemic Toxicity (STOT) - Single Exposure Category 1, Flammable Liquid Category 2, Hazardous to the aquatic environment - Acute Category 2

Other Safety Precautions: IF exposed: Call a POISON CENTER or doctor/physician.

Acute Toxicity Oral Contains	45.25 % of the mixture consists of ingredient(s) of unknown toxicity
Acute Toxicity Dermal Contains	45.25 % of the mixture consists of ingredient(s) of unknown toxicity
Acute Toxicity Inhalation Vapor Contains	45.25 % of the mixture consists of ingredient(s) of unknown toxicity
Acute Toxicity Inhalation Dust/Mist Contains	45.25 % of the mixture consists of ingredient(s) of unknown toxicity

Section 3 Composition / Information on Ingredients

<u>Chemical Name</u>	<u>CAS #</u>	<u>%</u>
Water	7732-18-5	50
Ethanol	64-17-5	45.25
2-Propanol	67-63-0	2.5
Methanol	67-56-1	2.25

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: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
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.

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Fire Fighting Methods and Protection:	Firefighters should wear full protective equipment and NIOSH approved self-contained breathing apparatus.
Fire and/or Explosion Hazards:	Extremely flammable. 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

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. Prevent the spread of any spill to minimize harm to human health and the environment if safe to do so. Wear complete and proper personal protective equipment following the recommendation of Section 8 at a minimum. Dike with suitable absorbent material like granulated clay. Gather and store in a sealed container pending a waste disposal evaluation.
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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. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection. Keep container tightly closed in a cool, well-ventilated place. Keep away from oxidizing materials and strong acids. Bond and ground containers when transferring liquid.
Storage:	Keep container tightly closed. 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

<u>Chemical Name</u>	<u>ACGIH</u>		<u>OSHA PEL</u>	
	<u>(TWA)</u>	<u>(STEL)</u>	<u>(TWA)</u>	<u>(STEL)</u>
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:	No exposure limits exist for the constituents of this product. General room ventilation might be required to maintain operator comfort under normal conditions of use.
Personal Protective Equipment (PPE):	Lab coat, apron, eye wash, safety shower.
Respiratory Protection:	No respiratory protection required under normal conditions of use.
Eye Protection:	Wear chemical splash goggles when handling this product. Have an eye wash station available.
Skin Protection:	Avoid skin contact by wearing chemically resistant gloves, an apron and other protective equipment depending upon conditions of use. 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:	Butyl rubber, Natural latex,, Neoprene, Nitrile

Section 9 Physical Data

Formula: See Section 3	Vapor Pressure: 40 mmHg at 19 °C (Ethanol)
Molecular Weight: N/A	Evaporation Rate (BuAc=1): (Butyl Acetate = 1): 3.3 (Ethanol)
Appearance: Colorless Liquid	Vapor Density (Air=1): 1.6 (Ethanol)
Odor: Moderate Alcohol Odor	Specific Gravity: .789 (Ethanol)
Odor Threshold: No data available	Solubility in Water: Soluble
pH: No data available	Log Pow (calculated): -0.32
Melting Point: -114 C	Autoignition Temperature: No data available
Boiling Point: 79 C	Decomposition Temperature: No data available
Flash Point: 13 C	Viscosity: No data available
Flammable Limits in Air: (Ethyl Alcohol) LEL 3.3% UEL 19%	Percent Volatile by Volume: 100%

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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:	Organic Peroxides, Strong acids, Oxidizing materials, Water-reactive materials
Hazardous Polymerization:	Will not occur

Section 11

Toxicity Data

Routes of Entry	Inhalation and ingestion.
Symptoms (Acute):	Respiratory Irritation, Dermatitis, Central Nervous System Depression, Dizziness, Respiratory disorders, Eye disorders
Delayed Effects:	No data available

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:	This material is not expected to be harmful to the ecology.
Mobility:	This material is expected to have very high mobility in soil. It does not absorb 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
Water	7732-18-5	No data available
Ethanol	64-17-5	96 HR LC50 PIMEPHALES PROMELAS > 100 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

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2-Propanol	67-63-0	96 HR LC50 LEPOMIS MACROCHIRUS > 1400000 µG/L 96 HR LC50 PIMEPHALES PROMELAS 11130 MG/L [STATIC] 48 HR EC50 DAPHNIA MAGNA 13299 MG/L 72 HR EC50 DESMODESMUS SUBSPICATUS > 1000 MG/L 96 HR EC50 DESMODESMUS SUBSPICATUS > 1000 MG/L
Methanol	67-56-1	96 HR LC50 PIMEPHALES PROMELAS > 100 MG/L [STATIC]

Section 13 Disposal Information

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, 3, II	Air - IATA Proper Shipping Name: UN1170, Ethanol solutions, 3, II
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Section 15 Regulatory Information

TSCA Status:	All components in this product are on the TSCA Inventory.
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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	Methanol	No	5000 lb final RQ; 2270 kg final RQ	No	No

California Prop 65:	WARNING: This product contains a chemical known to the state of California to cause cancer, birth defects or other reproductive harm.
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Section 16 Additional Information

Revised: 09/09/2014	Replaces: 09/09/2014	Printed: 09-11-2014
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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