

Safety Data Sheet

Ethanol, Denatured, 70%

CAROLINA[®]
www.carolina.com

Section 1 Product Description

Product Name: Ethanol, Denatured, 70%
Recommended Use: Science education applications
Synonyms: Ethyl Alcohol Solution, 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. Toxic in contact with skin. May cause damage to organs. Toxic to aquatic life.

GHS Classification:

Flammable Liquid Category 2, Specific Target Organ Systemic Toxicity (STOT) - Single Exposure Category 2, Hazardous to the aquatic environment - Acute Category 2, Acute Toxicity - Dermal Category 3

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

Acute Toxicity Oral Contains 85.975 % of the mixture consists of ingredient(s) of unknown toxicity
Acute Toxicity Dermal Contains 85.975 % of the mixture consists of ingredient(s) of unknown toxicity
Acute Toxicity Inhalation Vapor Contains 85.975 % of the mixture consists of ingredient(s) of unknown toxicity
Acute Toxicity Inhalation Dust/Mist Contains 85.975 % 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> |
|----------------------|--------------|----------|
| 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: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. IF ON SKIN: Wash with plenty of soap and water. Remove/Take off immediately all contaminated clothing. Wash contaminated clothing before reuse.
Ingestion: If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

Section 5 Firefighting Procedures

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| 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. 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

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| 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. |
| 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

| <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 |

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| 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: | 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: | Nitrile |

Section 9 Physical Data

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| Formula: See Section 3 | Vapor Pressure: (Ethanol) 44 mmHg at 25 °C |
| Molecular Weight: No data available | Evaporation Rate (BuAc=1): No data available |
| Appearance: Colorless Liquid | Vapor Density (Air=1): 1.6 (ethanol) |

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Odor: Moderate Alcohol Odor
Odor Threshold: No data available
pH: No data available
Melting Point: -114 C -48 C
Boiling Point: 79 C
Flash Point: 17 C 21 C
Flammable Limits in Air: (Ethanol) 3.3 - 19%

Specific Gravity: 0.86
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: No data available

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 Decomposition Products: Carbon dioxide
Hazardous Polymerization: Will not occur

Section 11

Toxicity Data

Routes of Entry: Inhalation and ingestion.
Symptoms (Acute): Eye disorders, Respiratory Irritation, Liver 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
Chronic: Liver

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 very high mobility in soil. It does not absorb 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 |
|---------------|------------|--------------|
|---------------|------------|--------------|

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| 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 |
| Water | 7732-18-5 | No data available |
| 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
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, birth defects or other reproductive harm.

Section 16

Additional Information

Revised: 10/19/2015

Replaces: 10/06/2015

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 |