

MATERIAL SAFETY DATA SHEET

E
CAROLINA BIOLOGICAL

Revised: 16/07/04
Replaces: 09/05/00
Printed: 21/12/05

1. PRODUCT DESCRIPTION

Product Name: Ethanol, 95%
Product Code(s): 15-4708A, 15-4708CA, 15-4724A, 89-2301, 892305, 19-1184,
19-1176, 15-4725, 19-1177, 76-6200, 86-1281, 86-1283,
86-1285, 84-1135, 10-1026, 10-1036, 84-0887
Size: 1 oz, 75mL, 350mL, 500mL, 4L, 20L
Chemical Name: Ethanol, 95%
CAS Number: Does not apply, product is a mixture
Formula: See Section 2
Synonyms: Alcohol, Ethyl alcohol
Distributor: Carolina Biological Supply Company
2700 York Road
Burlington, NC 27215
Chemical Information: 800-227-1150 (8am-5pm (ET) M-F)
Chemtrec (Transportation Spill Response 24 hours): 800-424-9300

2. COMPOSITION/INFORMATION ON INGREDIENTS

Principle Hazardous Components:
Ethanol (CAS#64-17-5) 88-95%
Methanol (CAS# 108-10-1) 5%
TLV and PEL units:
Ethyl alcohol: ACGIH-TLV 1,000 ppm (TWA) OSHA-PEL 1,000 ppm (TWA)
Methanol: ACGIH-TLV 200 ppm (TWA), OSHA-PEL 200 ppm (TWA)

3. HAZARD IDENTIFICATION

Emergency Overview: Concentrations below 1,000 ppm usually produce no signs of intoxication. Exposure to concentrations over 1,000 ppm may cause headache, irritation of the eyes, nose, and throat, and if continued for an hour, drowsiness and lassitude, loss of appetite and inability to concentrate.

4. FIRST AID MEASURES

Emergency and First Aid Procedures:
Eyes - Flush with water for at least 15 minutes, raising and lowering eyelids occasionally. Get medical attention if irritation persists.
Skin - Thoroughly wash exposed area for at least 15 minutes. Remove contaminated clothing. Launder contaminated clothing before reuse. Get medical attention if irritation persists.
Ingestion - If swallowed, if conscious, give plenty of water. Immediately call a physician or poison control center. Never give anything by mouth to an unconscious person.
Inhalation - Remove to fresh air. Give oxygen if breathing is difficult; give artificial respiration if breathing has stopped. Keep person warm, quiet, and get medical attention.

5. FIREFIGHTING PROCEDURES

Flash Point (Method Used): 13-16 C (tcc)
NFPA Rating: Health: 0
Fire: 3
Reactivity: 0
Extinguisher Media: Dry chemical, carbon dioxide, or alcohol-resistant foam.

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Water may be ineffective.
Flammable Limits in Air % by Volume: Ethanol: LEL 3.3%, UEL 19%
Methanol: LEL 6.7%, UEL 36%

Autoignition Temperature: N/A
Special Firefighting Procedures:
Firefighters should wear full protective equipment and NIOSH approved self-contained breathing apparatus.
Unusual Fire and Explosion Hazards: Extremely flammable. Vapors are heavier than air and can travel distances to ignition source and flash back.

6. SPILL OR LEAK PROCEDURES

Steps to be Taken in Case Material is Released or Spilled: Eliminate all sources of ignition. Contain spilled material. Dilute to nonflammable mixture with water. Ventilate the spill area. Contain and collect for disposal.

7. SPECIAL PRECAUTIONS

Precautions to be Taken in Handling or Storing: This material should be kept in an area suitable for the storage of flammable liquids. Bond and ground containers when transferring liquid.
Other Precautions: Keep oxidizing materials and strong acids away.
Wear splash-proof chemical safety goggles and rubber gloves at all times during cleanup process. Take care in handling empty containers as residue can present fire and explosion hazards.

8. SPECIAL PROTECTION INFORMATION

Respiratory Protection(Specify Type):
A NIOSH/MSHA chemical cartridge respirator should be worn if PEL or TLV is exceeded.

Ventilation:
Local Exhaust: For high concentrations
Mechanical(General): Required
Special: Explosion proof if within explosion limits
Other: No

Protective Gloves:
Rubber, neoprene, PVC, or equivalent.

Eye Protection:
Splash proof chemical safety goggles should be worn at all times.

Other Protective Clothing or Equipment:
Lab coat, eye wash, and safety shower.

9. PHYSICAL DATA

Molecular Weight: Product is a mixture
Melting Point: N/A
Boiling Point: Ethanol 78 C; Methanol 64 C
Vapor Pressure: Ethanol 44 mmHg; Methanol 97 mmHg
Vapor Density(Air=1): Ethanol 1.6; Methanol 1.1
Specific Gravity(H2O=1): 0.79-0.81
Percent Volatile by Volume: N/A

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Evaporation Rate (BuAc=1): 5.9
Solubility in Water: Complete
Appearance and Odor: Clear liquid with alcohol odor

10. REACTIVITY DATA

Stability: Stable
Conditions to Avoid: N/A
Incompatibility (Materials to Avoid): Oxidizing agents. In addition, methanol may attack some forms of plastic.
Hazardous Decomposition Products: Carbon dioxide. Carbon monoxide
Hazardous Polymerization: Will not occur

11. TOXICITY DATA

Toxicity Data: To the best of our knowledge, the toxicological properties of this mixture have not been thoroughly evaluated. Data is listed for individual components.
Ethanol: orl-rat LD50: 7060 mg/kg; ihl-rat LC50: 20000 ppm/10H
Methanol: orl-rat LD50: 5628 mg/kg; ihl-rat LC50: 64000 ppm/4H
Effects of Overexposure:
Acute: See section 3
Chronic: Ethyl alcohol: Mutation data cited. Reproductive effects data cited. Turmorigenic data cited. Not listed as causing cancer by IARC, NTP, or OSHA.
Conditions Aggravated by Overexposure: Pre-existing conditions of the skin, eyes, throat, liver.
Target Organs: Eyes, liver, kidneys, nerves
Primary Route(s) of Entry: Ingestion, inhalation

12. ECOLOGICAL DATA

EPA Waste Numbers: Ethanol (D001); Methanol (U154)

13. DISPOSAL INFORMATION

Waste Disposal Methods: Dispose in accordance with all applicable Federal, State and Local regulations.
Always contact a permitted waste disposer (TSD) to assure compliance.

14. TRANSPORT INFORMATION

Description: Ethanol solutions, 3, UN1170, II

15. REGULATORY INFORMATION

EPA TSCA Status: On TSCA Inventory
Hazard Category for SARA Section 311/312 Reporting: Acute Fire

Product or Components	SARA EHS Sec. 302 TPQ	SARA Sec. 313 Chemicals		CERCLA Sec. 103	RCRA Sec.
		Name	Chemical List Category	RQ lbs.	261.33

Ethanol	No	No	No	No	No
Methanol	No	Yes	No	5000	Yes

16. ADDITIONAL INFORMATION

The information provided in this Material Safety Data Sheet represents a

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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. Any employer must carefully assess the applicability of any information contained herein in regards to the particular use to which the employer puts the material.

Glossary

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