

MATERIAL SAFETY DATA SHEET

ETHANOL 95%. COMPLETELY DENATURED
CAROLINA BIOLOGICAL

Revised: 05/15/08
Replaces: 02/15/08
Printed: 05/20/08

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, various
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

Principal Hazardous Components:
Ethanol (CAS#64-17-5) 95%
Methyl isobutyl ketone (denaturant)(CAS# 108-10-1) 4%
TLV and PEL units:
Ethyl alcohol: ACGIH-TLV 1,000 ppm (TWA) OSHA-PEL 1,000 ppm (TWA)
Methyl isobutyl ketone: ACGIH-TLV 50 ppm (TWA), 75 ppm (STEL)
OSHA-PEL 100 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 and quiet, and get medical attention.

5. FIREFIGHTING PROCEDURES

Flash Point(Method Used): 13-16 C (Closed Cup) (Ethanol)
NFPA Rating: Health: 2
Fire: 3
Reactivity: 0
Extinguisher Media: Dry chemical, carbon dioxide, or alcohol-resistant foam. Water may be ineffective.
Flammable Limits in Air % by Volume: Ethanol: LEL 3.3%, UEL 19%
Autoignition Temperature: 363°C

MATERIAL SAFETY DATA SHEET

ETHANOL 95%. COMPLETELY DENATURED
CAROLINA BIOLOGICAL

Revised: 05/15/08
Replaces: 02/15/08
Printed: 05/20/08

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 apron, eye wash, and safety shower.

9. PHYSICAL DATA

Molecular Weight:	For ethanol: 46.07
Melting Point:	-114.1°C
Boiling Point:	Ethanol 78.5°C
Vapor Pressure:	Ethanol 43 mmHg at 20°C
Vapor Density(Air=1):	Ethanol 1.59
Specific Gravity(H2O=1):	0.81 at 20°C
Percent Volatile by Volume:	100%
Evaporation Rate(BuAc=1):	3.3
Solubility in Water:	Complete
Appearance and Odor:	Clear liquid with fruity or alcohol odor

10. REACTIVITY DATA

Stability: Stable

Conditions to Avoid: N/A

Incompatibility(Materials to Avoid): Strong oxidizing agents.

Hazardous Decomposition Products: Carbon dioxide. Carbon monoxide

Hazardous Polymerization: Will not occur

MATERIAL SAFETY DATA SHEET

ETHANOL 95%. COMPLETELY DENATURED
CAROLINA BIOLOGICAL

Revised: 05/15/08
Replaces: 02/15/08
Printed: 05/20/08

11. TOXICITY DATA

Toxicity Data:

Ethanol: Oral Rat LD50: 7060 mg/kg; ihl-rat LC50: 20,000 ppm/10H

Methyl isobutyl ketone: Oral Rat LD50: 2080 mg/kg

Effects of Overexposure:

Acute: See section 3

Chronic: Chronic: Ethyl alcohol: Mutation data cited.

Reproductive effects data cited. Turmorigenic data cited. Not listed as causing cancer by IARC, NTP, or OSHA.

Methyl isbutyl ketone: No chronic effects data found. 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); Methyl isobutyl ketone (U161) is considered a hazardous waste if and when it is discarded (but only present at 4% in this mixture).

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, 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		CERCLA Sec. 103 RQ lbs.	RCRA Sec. 261.33
		Chemicals Name List	Chemical Category		
Ethanol	No	No	No	No	No
Methyl isobutyl ketone	No	Yes	No	5000	Yes

16. ADDITIONAL INFORMATION

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. 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

MATERIAL SAFETY DATA SHEET

ETHANOL 95%. COMPLETELY DENATURED
CAROLINA BIOLOGICAL

Revised: 05/15/08
Replaces: 02/15/08
Printed: 05/20/08

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