



Center Ethanol Company LLC

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MATERIAL SAFETY DATA SHEET

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SECTION 1 – PRODUCT IDENTIFICATION

Product Name: Denatured Fuel Grade Ethanol
Emergency Telephone Number: (800) 424-9300 CHEMTREC
Telephone Number for Information: (615) 778-2898 (ext. 20)

SECTION 2 – HAZARDOUS INGREDIENTS/IDENTITY INFORMATION

<u>Components:</u>	<u>CAS NUMBER</u>	<u>OSHA PEL</u>	<u>ACGIH TLV</u>	<u>% COMP</u>
Ethyl Alcohol:	64-17-5	1,000ppm	1,000ppm	97.51-98%
Natural Gasoline:	80006-64-9	300ppm	300ppm	2.0-2.49%

SECTION 3 – PHYSICAL/CHEMICAL CHARACTERISTICS

Appearance and Odor:	Colorless, clear liquid; characteristic alcohol odor
Physical Description:	Liquid
Reid Vapor Pressure (psi): @100°F	3.5
Vapor Density (Air-1): @ 78°C	1.6
Boiling Point °F:	165-175
Solubility in Water:	Completely Miscible
Evaporation Rate (butyl acetate = 1)	3.2
Percent, Volatile by Volume:	100
Specific Gravity (water = 1) @ 60°F:	0.79

SECTION 4 – HEALTH HAZARDS IDENTIFICATION

Routes of Entry: Eyes, Ingestion, Inhalation; Skin absorption

Health Hazards – Acute and Chronic:

Eye Contact: Can cause irritation. Splashes may cause temporary pain and blurred vision.

Ingestion: Causes headaches, gastritis, intoxication, blindness and, in acute cases, death.

Inhalation: Excessive inhalation is irritating to the eyes and upper respiratory tract and can cause symptoms of intoxication. Prolonged exposure to high concentrations may cause drowsiness, loss of appetite and inability to concentrate.

Skin Contact: Removes natural oils and fats from skin causing redness, a mild burning sensation, irritation, cracking or flaking.

Chronic Exposure: Prolonged skin contact causes drying and cracking of skin. May affect liver, kidneys, gastrointestinal tract, blood, CNS, reproductive system and cardiovascular system.



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Continued ingestion of small amounts could cause blindness. Ethanol has been linked to birth defects in humans. Most industrial ethanol contains denaturants that render it undesirable to drink.

Signs and Symptoms of Exposure:

Coughing, eye and nose irritation. Irritation to the skin, mucous membranes of the upper respiratory tract. May cause drowsiness, dizziness, or loss of balance or coordination. Other symptoms include headache, nausea, vomiting, loss of appetite, inability to concentrate, blurred vision, ataxia, euphoria, stupor or coma.

Aggravation of Pre-existing conditions:

Persons with pre-existing asthma and other respiratory conditions, skin disorders and eye problems or impaired liver and kidney functions may be more susceptible to the effects of the substance.

Carcinogenicity:

Ethanol has been linked to cancer in humans. Chronic ethanol ingestion is associated with liver cancer. Natural Gasoline has been classified as a Group 28 carcinogen by IARC.

Emergency and First Aid Procedures:

Eyes: Flush immediately with large amounts of water for 15 (fifteen) minutes. Seek immediate medical attention.

Ingestion: If conscious, induce vomiting. Never give anything by mouth to an unconscious person. . Seek immediate medical attention.

Skin: Immediately remove contaminated clothing. Wash skin with soap and/or mild detergent for at least 15 (fifteen) minutes. Seek medical attention if irritation develops or persists.

Inhalation: Remove to fresh air. If not breathing, give artificial respiration, If breathing is difficult, give oxygen. Seek immediate medical attention.

SECTION 5 - FIRE AND EXPLOSION HAZARD DATA

Flash Point (Method Used):

Minus -5 F, Tag Open Cup

Flammable Limits in air by volume:

3.3% - Lower Explosive Limit
19.0% - Upper Explosive Limit

Autoignition Temperature °F:

> 689

Fire and Explosive Hazards:

Sensitive to static discharge. Vapors heavier than air may travel some distance to an ignition source and flash back. Sealed containers may rupture when heated. Ethanol burns with a clear blue flame that may be difficult to see.



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Other Precautions:

Post signs in storage areas to prevent smoking or striking of matches or lighters. Do not store containers near oxidizing agents. Use explosion-proof electrical equipment, storage and non-sparking tools. Storage and use conditions must be suitable for an OSHA Class 1B flammable material. Close unused containers. Launder contaminated clothing before reusing. Transportation data per 49 CFR 172.101-2.

SECTION 8 – PERSONAL PROTECTION AND EXPOSURE CONTROLS

Ventilation:

A system of local and/or general exhaust, as necessary to meet PEL or TLV limits, is recommended to keep employee exposures below the airborne exposure limits. Local exhaust ventilation is generally preferred as it can control emissions of the contaminant at its source, preventing dispersion of it into the general work area. Refer to ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

Respiratory Protection:

Wear appropriate NIOSH/MSHA approved respirator (cartridge units are not adequate) or air line respirator when exposure will be in excess of OSHA's permissible exposure level.

Protective Gloves:

Rubber, neoprene or nitrile equivalent and/or chemically resistant.

Eye Protection:

Use full-face mask, safety goggles or glasses with side shields when appropriate.

Skin Protection:

Use chemically resistant outer garments

Other Protective Clothing or Equipment:

Safety showers and Eyeglass Stations should be available in work areas.

Work and Hygienic Practices:

Comply with all Bureau of Alcohol, Tobacco and Firearms regulations pertaining to the production, procurement and use of ethyl alcohol.

SECTION 9 – TOXICOLOGICAL INFORMATION

Inhalation Toxicity:

No information available on denatured fuel ethanol per se

Dermal Toxicity:

No information available on denatured fuel ethanol per se

Eye Irritation:

No information available on denatured fuel ethanol per se

Oral Toxicity:

LD50: 0.5 to 5 g/kg

SECTION 10 – ECOLOGICAL INFORMATION

This product contains 2-2.49% natural gasoline.