



FRANCIS DRILLING FLUIDS, LTD.

MATERIAL SAFETY DATA SHEET

I. PRODUCT IDENTIFICATION

Trade Name(s): Ethylene Glycol (Regular)

Generic Name(s):

Chemical Name(s): Ethylene Glycol

Francis Drilling Fluids, LTD.
P.O. Box 1694
Crowley, LA 70527-1694

Emergency/Telephone No.: 800-960-6610
337-783-8685
Hazardous Materials No.: 800-255-3924
Poison Control Center No.: 800-256-9822

II. HAZARDOUS INGREDIENTS

| Ingredient | CAS No. | % | Hazard |
|---------------------------|----------|------|--------|
| Ethylene Glycol (Regular) | 107-21-1 | >99% | |

III. NFPA/HMIS HAZARD IDENTIFICATION SYSTEM

0=LEAST 1=SLIGHT 2=MODERATE 3=HIGH 4 =EXTREME

Health: 1

Fire: 1

Reactivity: 0

IV. PHYSICAL DATA

| | |
|--|--|
| Boiling Point (°F): 387.1F 197C | Specific Gravity (H ₂ O=1): 1.1155 @ 20/20C |
| Vapor Pressure (mm. Hg): 0.12 mmHg @ 25C | Melting Point: ND |
| Vapor Density (Air = 1): 2.14 | Evaporation Rate: ND |
| Solubility in Water: Completely miscible | pH: ND |
| Density (at 20° C): 1.113 @ 25/25C | Odor: Practically odorless |
| Appearance: Colorless liquid | Freezing point: -13C |

V. FIRE AND EXPLOSION DATA

Flash Point: 247°F, 119C Flammable Limits: LEL: 3.2% UEL: ND

Special Fire Fighting Procedures: Wear positive-pressure, self-contained breathing apparatus.

Unusual Fire and Explosion Hazards: None expected under normal storage and handling conditions (i.e. ambient temperatures). However, ethylene glycol or solutions of ethylene glycol and water can form flammable vapors with air if heated sufficiently.

Extinguishing Media: Water fog, alcohol foam, CO₂, and dry chemical.

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VI. REACTIVITY

Stability: Will ignite in air at 775°F (413C).

Hazardous Polymerization: Will not occur.

Incompatibility: Oxidizing material.

Hazardous Decomposition: Burning produces normal products of combustion, such as carbon monoxide, carbon dioxide, and water.

VII. HEALTH HAZARD INFORMATION

Routes of Exposure and Effects:

Skin: Moderate irritant effect. Repeated skin exposure to large quantities may result in absorption of harmful amounts. The dermal LD50 has not been determined.

Eyes: May cause slight transient (temporary) eye irritation. Corneal injury is unlikely. Vapors or mists may irritate eyes.

Inhalation: At room temperature, vapors are minimal due to low vapor pressure. If heated or sprayed as an aerosol, concentrations may be attained that are sufficient to cause irritation and other effects.

Ingestion: Single dose oral toxicity is moderate. Excessive exposure may cause central nervous system effects, cardiopulmonary effects (metabolic acidosis), and kidney failure. The estimated lethal dose for an average person is 100 ml. The oral LD50 for rats is in 13,000 ng/kg range. Amounts ingested incidental to industrial handling are not likely to cause injury; however ingestion of larger amounts could cause serious injury, even death.

Permissible Exposure Limits: (for air contaminants)

OSHA PEL (8hr. TWA): 50 ppm Ceiling for ethylene glycol vapor.

ACGIH TLV: 50 ppm Ceiling for ethylene glycol vapor

Carcinogenicity:

Listed By NTP: Not listed

Listed By: IARC: Not listed

Listed By OSHA: ND

Acute Oral LD50:

Acute Dermal LD50:

Aquatic Toxicology LC50:

Emergency and First Aid Procedures:

Skin: Wash off in flowing water or shower.

Eyes: Irrigate immediately with water for at least 5 minutes.

Ingestion: If swallowed, induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person.

Inhalation: Remove to fresh air if effects occur. Consult a physician.

Additional Health Hazard Information::

Note to physician: Early administration of ethanol may counter the toxic effects of ethylene glycol--metabolic acidosis and renal damage. Hemodialysis or peritoneal dialysis have been benefit. New Eng. J. Med. 304:21 1981. Supportive care. Treatment based on judgment of the physician in response to reactions of the patient.

VIII. HANDLING AND USE PRECAUTIONS

ETHYLENE GLYCOL (REGULAR)

Steps to be Taken if Material is Released or Spilled: Avoid entry into sewers or natural waters. Small spills: Soak up with absorbent material. Large spills: Dike and pump into suitable containers for disposal.

Waste Disposal Methods: Burn in an approved incinerator in accordance with all Local, State, and Federal requirements, or salvage.

Handling and Storage Precautions: Avoid ingestion. Practice reasonable caution and personal cleanliness. Avoid skin and eye contact.

IX. INDUSTRIAL HYGIENE CONTROL MEASURES

Ventilation Requirements: Good general ventilation should be sufficient for most conditions. Local exhaust ventilation may be necessary for some operations.

Respirator: Atmospheric levels should be maintained below the exposure guideline. When respiratory protection is required for certain operations, used an approved air-purifying respirator.

Eye Protection: Use safety glasses. If vapor exposure causes eye discomfort, use a full-face respirator.

Gloves: Use impervious gloves when prolonged or frequently repeated contact could occur.

Other Protective Clothing or Equipment:

X. SPECIAL PRECAUTIONS

SPECIAL PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Avoid ingestion. Practice reasonable caution and personal cleanliness. Avoid skin and eye contact.

Trace quantities of ethylene oxide (EO) may be present in this product. While these trace quantities could accumulate in headspace areas of storage and transport vessels, they are not expected to create a condition which will result in EO concentrations greater than 0.5 ppm (8 hour TWA) in the breathing zone of the workplace for appropriate applications. OSHA has established a permissible exposure limit of 1.0 ppm 8 hr TWA for EO. (Code of Federal Regulations Part 1910.1047 of Title 29).

XI. ENVIRONMENTAL/SAFETY REGULATION

SARA 313 Information: this product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

SARA Hazard Category: This product has been reviewed according to the EPA "Hazard Categories" promulgated under Sections 311 and 312 of the Superfund Amendment and Reauthorization Act of 1986 (SARA Title III) and is considered, under applicable definitions, to meet the following categories: An Immediate Health Hazard
A Delayed Health Hazard

DEPARTMENT OF TRANSPORTATION

Shipping Name: Not regulated

Hazard Class: Nonhazardous

Hazardous Substance: No

Cautionary Labeling: None

NA=Not Applicable; ND=Not Determined or No Data

Date Prepared: July 12, 1995

File Name: ethylgly

The data presented is true and correct to the best of our knowledge and belief; however, neither seller nor preparer make any warranties, express or implied, concerning the information presented. The user is cautioned to perform his own hazard evaluation and to rely upon his own determinations.

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