



MATERIAL SAFETY DATA SHEET

MSDS # 0002

REVISED DATE: 03-14-2003

PRODUCT NAMES: STERNO BRAND® WICK FOOD WARMING FUEL

Diethylene Glycol is a clear combustible liquid.

EMERGENCY OVERVIEW: Diethylene Glycol is toxic if ingested. Oral LD50 (rats) 20.76 g/kg.

PRECAUTIONARY LABELING: Harmful if swallowed. Keep away from children. Contains diethylene glycol. In case material is swallowed give milk or water. Call a physician.

EYE CONTACT: Eye irritant upon direct contact.

SKIN CONTACT: May cause skin irritation upon prolonged contact.

INGESTION: Harmful or fatal if swallowed. Transient stimulation of the central nervous system, followed by depression, vomiting, drowsiness, coma, respiratory failure, renal damage, possibly leading to death.

INHALATION: Burn product in a well ventilated area. Avoid breathing unburned vapors.

4. FIRST AID MEASURES:

EYE CONTACT: Flush eye with large amounts of warm water for 15 minutes. If irritation persists, contact poison center or doctor.

SKIN CONTACT: Remove and isolate contaminated clothing. Flush exposed area with warm water for 15 minutes. If irritation persists, contact poison center or doctor.

INGESTION: Drink sips of warm water or milk. Immediately contact doctor and poison center.

INHALATION: Seek fresh air and take slow deep breaths. Drink some sips of water. If coughing persists, contact poison center or doctor.

5. FIRE FIGHTING MEASURES:

Flash Point (Method): 255 degrees F (124 degrees C)
Extinguishing Media: Water, CO₂, Foam, Dry Chemical

SPECIAL FIRE FIGHTING PROCEDURES: No known toxic combustion products or special fire fighting hazards. Self-contained breathing apparatus and protective clothing should be worn when fighting chemical fires.

6. ACCIDENTAL RELEASE MEASURES:

SMALL SPILLS: Remove all sources of ignition. Provide adequate ventilation. Absorb on vermiculite, paper or other absorbent. Flush area with water.

7. HANDLING AND STORAGE:

STORAGE: Store in a cool dry place (40 - 120 degrees F or 4 - 49 degrees C). Provide adequate ventilation in area of

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use. Store away from sources of heat or open flame. Keep container closed when not in use.

HANDLING: Avoid contact with skin and eyes. Do not ingest. Place can in fuel holder or under chafer before lighting. Burn can in a level upright position. Keep away from combustibles (e.g. paper plates and napkins). Keep away from children.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION:

GENERAL CONTROLS: Avoid contact with skin and eyes. Precautionary labeling: Harmful if swallowed. Keep away from children. Contains diethylene glycol. In case material is swallowed give milk or water. Call a physician.

PROTECTIVE CLOTHING: Under normal conditions of use, no special protection for skin or eyes is required.

9. PHYSICAL AND CHEMICAL PROPERTIES:

APPEARANCE AND ODOR: Clear viscous liquid, and mild odor

DENSITY: 1.1 g/cm³ (Water =1)

SOLUBILITY IN WATER: Miscible / Complete

pH: N/A

VAPOR PRESSURE: (MM HG) 0.02@68°F

VAPOR DENSITY: 3.5 (AIR =1)

BOILING POINT: 473 degrees F

MELT POINT: 18 degrees F

10. STABILITY AND REACTIVITY:

GENERAL: This product is stable. Hazardous polymerization will not occur.

INCOMPATIBLE MATERIALS: Avoid elevated temperatures. Store away from source of heat/flame.

HAZARDOUS DECOMPOSITION: Not known.

11. TOXICOLOGICAL INFORMATION:

Summary: Diethylene glycol is essentially nontoxic by the inhalation or dermal exposure routes. It has been lethal following ingestion. However, because of some reported human fatalities and evidence for carcinogenicity in experimental animals, diethylene glycol is Class 3 (may cause irreversible effects which can be life threatening) for general toxicity. Because of the conflicting reports of reproductive effects in experimental animals, diethylene glycol is Class B (mixed reproductive effects in animals but no human data) for reproductive effects. The actual human reproductive hazard is unknown.

Component

• 2,2'-oxybis-ethanol

LD50 (ORAL): Rat

12.6G/KG

LC50 (INHL): Mouse

130 MG/M3/2H

SKIN EFFECTS: This substance is a mild skin irritant.

EYE EFFECTS: This product is expected to be a mild eye irritant.

ACUTE ORAL EFFECTS: When ingested, may cause nausea, vertigo, bronchial and general intestinal irritation, CNS effects and severe metabolic acidosis. Toxicity is related to the degree of acidosis produced and the time interval between exposure and specific treatment.

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ACUTE INHALATION EFFECTS: May produce symptoms of central nervous system depression including headache, dizziness, nausea, loss of sense of balance, drowsiness, visual disturbances, unconsciousness and death.

SUBCHRONIC EFFECTS: Diethylene glycol given to rats in the diet for two years caused bladder stones, tumors, and kidney and liver damage. These effects were probably due to containing diethylene glycol, and the bladder stones were formed from oxalate crystals.

CHRONIC EFFECTS / CARCINOGENICITY: No evidence for carcinogenicity was found with a chronic skin-painting study in mice. The absence of a direct chemical carcinogenic effect accords with the results in vitro genotoxicity studies which shows that it does not produce mutagenic or clastogenic effects.

REPRODUCTIVE / DEVELOPMENTAL EFFECTS: There are conflicting results in the literature about the reproductive effects of diethylene glycol in animals. It did not affect reproduction when given orally to rats, but another report stated that it may have affected either male or female fertility or both, because no pregnancies occurred when both sexes were exposed orally. When diethylene glycol was given at a dose of 5% in the diet to rats during pregnancy, there was a slight reduction in weights of the newborns, but no teratogenicity. Diethylene glycol was not fetotoxic or teragenic, nor was maternally toxic, when given orally to pregnant rabbits as doses up to 1000 mg/kg from day 7 to 19 after insemination. Diethylene glycol had no effect on fertility at a level of 2.5% in the drinking water of mice. However, another preliminary study in mice concluded that it may be a suspect reproductive hazard. Diethylene glycol given to rats resulted in specific developmental abnormalities of the musculoskeletal system and fetotoxicity.

12. ECOLOGICAL INFORMATION:

Ecotoxicity: This material is highly soluble in water. Laboratory toxicity tests indicate that it is not significantly toxic to fish and aquatic invertebrates, although amphibians may be more sensitive. Wildlife species may be more susceptible since mammals and birds do not readily metabolize this material. The odor and flavor of this material may attract some wildlife and cause them to consume spilled material.

Environmental Fate: This material will biodegrade relatively rapidly in both soil and water, and will not persist in the environment. Due care should be taken to avoid accidental releases to aquatic or terrestrial systems. Diethylene glycol (DEG) is highly soluble in water.

Bioaccumulation: Because of this material's high solubility and rapid biodegradability, it is unlikely that bioaccumulation will occur in aquatic or terrestrial systems. Models estimate that this material will preferentially partition to water versus air or soil.

13. DISPOSAL CONSIDERATIONS:

Note: The purchaser is responsible for proper waste disposal of empty, partial, or full cans. Any disposal practice must be in compliance with local, state, and federal laws and regulations (contact local or state environmental agency for specific rules). Do not dump into sewers, any body of water, or onto the ground.

14. TRANSPORTATION:

This product is not regulated as a DOT hazardous material.

15. REGULATORY INFORMATION:

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OSHA: This product is considered hazardous under the OSHA Hazard Communication Standard (29 CFR 1900.1200).

RCRA (40 CFR 261, Subpart D): None of the OSHA regulated components in this product are listed as hazardous wastes under 40 CFR 261 (Subpart D).

CLEAN WATER ACT: None of the OSHA regulated components in this product are Section 311 listed chemicals.

SARA: Sections 301-304 (Threshold planning quantity - TPQ) 40 CFR 355: No TPQ for any OSHA regulated component. Section 313 (Toxic chemical release reporting) 40 CFR 372: The following chemicals must be reported under SARA 313: Not applicable to any OSHA regulated component.

CERCLA: Section 102 (Reportable Quantity - RQ) 40 CFR 302: No RQ for any OSHA regulated component.

PRECAUTIONARY LABELING: Harmful if swallowed; Keep out of reach of children ; If swallowed seek medical advice immediately and show this container label.

16. OTHER INFORMATION:

MSDS REVISION INDICATORS: Revised Section 1, 16, and Header

Revision date: March 14, 2003, Supersedes: May 31, 2002

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