1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MATHESON TRI-GAS, INC.  
150 Allen Road Suite 302  
Basking Ridge, New Jersey 07920  
Information: 1-800-416-2505  

Emergency Contact:  
CHEMTREC 1-800-424-9300  
Calls Originating Outside the US:  
703-527-3887 (Collect Calls Accepted)

SUBSTANCE: ETHYLENE GLYCOL DIMETHYL ETHER

TRADE NAMES/SYNONYMS:  
ETHANE, 1,2-DIMETHOXY-; 1,2-DIMETHOXYETHANE; DIMETHOXYETHANE; ALPHA,BETA-DIMETHOXYETHANE; DIMETHYL CELLOSOLVE; 2,5-DIOXAHEXANE; DME; ETHYLENE DIMETHYLETHER; GLYME; MONOETHYLENE GLYCOL DIMETHYL ETHER; MONOGLYME; O-2430; UN 2252; C4H10O2; MAT09450; RTECS KI1451000

CHEMICAL FAMILY: ethers, aliphatic

CREATION DATE: Jan 24 1989  
REVISION DATE: Dec 11 2008

2. COMPOSITION, INFORMATION ON INGREDIENTS

COMPONENT: ETHYLENE GLYCOL DIMETHYL ETHER  
CAS NUMBER: 110-71-4  
PERCENTAGE: 100.0

3. HAZARDS IDENTIFICATION

NFPA RATINGS (SCALE 0-4): HEALTH=2  FIRE=3  REACTIVITY=1

EMERGENCY OVERVIEW:  
COLOR: colorless  
ODOR: sweet odor

MAJOR HEALTH HAZARDS: respiratory tract irritation, skin irritation, eye irritation

PHYSICAL HAZARDS: Flammable liquid and vapor. Vapor may cause flash fire. May form peroxides during prolonged storage.

POTENTIAL HEALTH EFFECTS:  
INHALATION:
SHORT TERM EXPOSURE: irritation, difficulty breathing, symptoms of drunkenness
LONG TERM EXPOSURE: no information on significant adverse effects
SKIN CONTACT:
SHORT TERM EXPOSURE: irritation, absorption may occur
LONG TERM EXPOSURE: headache, drowsiness, symptoms of drunkenness, blurred vision, lung congestion
EYE CONTACT:
SHORT TERM EXPOSURE: irritation
LONG TERM EXPOSURE: same as effects reported in short term exposure
INGESTION:
SHORT TERM EXPOSURE: nausea, vomiting, drowsiness, symptoms of drunkenness, coma
LONG TERM EXPOSURE: reproductive effects

4. FIRST AID MEASURES

INHALATION: If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. Get immediate medical attention.

SKIN CONTACT: Wash skin with soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention, if needed. Thoroughly clean and dry contaminated clothing and shoes before reuse.

EYE CONTACT: Flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.

INGESTION: If vomiting occurs, keep head lower than hips to help prevent aspiration. If person is unconscious, turn head to side. Get medical attention immediately.

NOTE TO PHYSICIAN: For ingestion, consider gastric lavage. Consider oxygen.

5. FIRE FIGHTING MEASURES

FIRE AND EXPLOSION HAZARDS: Severe fire hazard. The vapor is heavier than air. Vapors or gases may ignite at distant ignition sources and flash back. Vapor/air mixtures are explosive. May form explosive peroxides.

EXTINGUISHING MEDIA: alcohol-resistant foam, carbon dioxide, regular dry chemical, water

Large fires: Use alcohol-resistant foam or flood with fine water spray.

FIRE FIGHTING: Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Stay away from the ends of tanks. For fires in cargo or storage area: Cool containers with water from unmanned hose holder or monitor nozzles until well after fire is out. If this is impossible then take the following precautions: Keep unnecessary people away, isolate hazard area and deny
entry. Let the fire burn. Withdraw immediately in case of rising sound from venting safety device or any
discoloration of tanks due to fire. For tank, rail car or tank truck: Evacuation radius: 800 meters (1/2 mile).
Do not attempt to extinguish fire unless flow of material can be stopped first. Flood with fine water spray.
Do not scatter spilled material with high-pressure water streams. Cool containers with water spray until well
after the fire is out. Apply water from a protected location or from a safe distance. Avoid inhalation of
material or combustion by-products. Stay upwind and keep out of low areas.

FLASH POINT: 21 F (-6 C) (CC)
LOWER FLAMMABLE LIMIT: 1.6%
UPPER FLAMMABLE LIMIT: 10.4%
AUTOIGNITION: 396 F (202 C)
FLAMMABILITY CLASS (OSHA): IB

HAZARDOUS COMBUSTION PRODUCTS:
Thermal decomposition or combustion products: oxides of carbon

6. ACCIDENTAL RELEASE MEASURES

OCCUPATIONAL RELEASE:
Avoid heat, flames, sparks and other sources of ignition. Stop leak if possible without personal risk. Reduce
vapors with water spray. Small spills: Absorb with sand or other non-combustible material. Collect spilled
material in appropriate container for disposal. Large spills: Dike for later disposal. Remove sources of
ignition. Keep unnecessary people away, isolate hazard area and deny entry.

7. HANDLING AND STORAGE

STORAGE: Store and handle in accordance with all current regulations and standards. Subject to storage
incompatible substances. Avoid contact with air or light. May form explosive peroxides. Store in a cool, dry
place. Store under an inert atmosphere.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION

EXPOSURE LIMITS:
ETHYLENE GLYCOL DIMETHYL ETHER:
No occupational exposure limits established.

VENTILATION: Ventilation equipment should be explosion-resistant if explosive concentrations of
material are present. Provide local exhaust ventilation system. Ensure compliance with applicable exposure
limits.

EYE PROTECTION: Wear splash resistant safety goggles. Provide an emergency eye wash fountain and
quick drench shower in the immediate work area.
CLOTHING: Wear appropriate chemical resistant clothing.

GLOVES: Wear appropriate chemical resistant gloves.

PROTECTIVE MATERIAL TYPES: butyl rubber, neoprene

RESPIRATOR: Under conditions of frequent use or heavy exposure, respiratory protection may be needed. Respiratory protection is ranked in order from minimum to maximum. Consider warning properties before use.
Any chemical cartridge respirator with organic vapor cartridge(s).
Any chemical cartridge respirator with a full facepiece and organic vapor cartridge(s).
Any air-purifying respirator with a full facepiece and an organic vapor canister.
For Unknown Concentrations or Immediately Dangerous to Life or Health -
Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive-pressure mode.
Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: liquid
APPEARANCE: clear
COLOR: colorless
ODOR: sweet odor
MOLECULAR WEIGHT: 90.12
MOLECULAR FORMULA: C-H3-O-C-H2-C-H2-O-C-H3
BOILING POINT: 181-185 F (83-85 C) @ 760 mmHg
FREEZING POINT: -92 to -72 F (-69 to -58 C)
VAPOR PRESSURE: 61.2 mmHg @ 20 C
VAPOR DENSITY (air=1): 3.1
SPECIFIC GRAVITY (water=1): 0.8683
WATER SOLUBILITY: soluble
PH: 8.2
VOLATILITY: 100%
ODOR THRESHOLD: Not available
EVAPORATION RATE: 4.99 (butyl acetate=1)
COEFFICIENT OF WATER/OIL DISTRIBUTION: Not available
SOLVENT SOLUBILITY:
Soluble: alcohol, ether, acetone, benzene, hydrocarbons

10. STABILITY AND REACTIVITY
REACTIVITY: May form explosive peroxides. Avoid prolonged storage or contact with air, light or storage and use above room temperature.

CONDITIONS TO AVOID: Avoid heat, flames, sparks and other sources of ignition. Containers may rupture or explode if exposed to heat. Keep out of water supplies and sewers.

INCOMPATIBILITIES: oxidizing materials, acids, halogens

HAZARDOUS DECOMPOSITION:
Thermal decomposition or combustion products: oxides of carbon

POLYMERIZATION: Will not polymerize.

11. TOXICOLOGICAL INFORMATION

ETHYLENE GLYCOL DIMETHYL ETHER:
TOXICITY DATA: 775 mg/kg oral-rat LD50
LOCAL EFFECTS: Irritant: inhalation, skin, eye
ACUTE TOXICITY LEVEL: Moderately Toxic: ingestion
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: skin disorders
REPRODUCTIVE EFFECTS DATA: Available.

12. ECOLOGICAL INFORMATION

Not available

13. DISPOSAL CONSIDERATIONS

Subject to disposal regulations: U.S. EPA 40 CFR 262. Hazardous Waste Number(s): D001. Dispose in accordance with all applicable regulations.

14. TRANSPORT INFORMATION

U.S. DOT 49 CFR 172.101:
PROPER SHIPPING NAME: 1,2-Dimethoxyethane
ID NUMBER: UN2252
HAZARD CLASS OR DIVISION: 3
PACKING GROUP: II
LABELING REQUIREMENTS: 3
15. REGULATORY INFORMATION

U.S. REGULATIONS:
CERCLA SECTIONS 102a/103 HAZARDOUS SUBSTANCES (40 CFR 302.4): Not regulated.


SARA TITLE III SARA SECTIONS 311/312 HAZARDOUS CATEGORIES (40 CFR 370 Subparts B and C):
ACUTE: Yes
CHRONIC: No
FIRE: Yes
REACTIVE: No
SUDDEN RELEASE: No

SARA TITLE III SECTION 313 (40 CFR 372.65):
ETHYLENE GLYCOL DIMETHYL ETHER


STATE REGULATIONS:
California Proposition 65: Not regulated.

CANADIAN REGULATIONS:
WHMIS CLASSIFICATION: Not determined.

NATIONAL INVENTORY STATUS:
U.S. INVENTORY (TSCA): Listed on inventory.

TSCA 12(b) EXPORT NOTIFICATION: Not listed.

CANADA INVENTORY (DSL/NDSL): Not determined.
16. OTHER INFORMATION

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