Material Safety Data Sheet

Glycol Ether DM

SECTION 1: IDENTIFICATION

COMPANY: **TRInternational, Inc.**
1218 Third Avenue, Suite 2100
Seattle, WA 98101
206-505-3500
Emergency Contact: **Infotrac 800-505-5053**

Product Name: GLYCOL ETHER DM INDUSTRIAL GRADE
Chemical Family: Glycol Ethers
Chemical Name: 2-(2-methoxyethoxy) ethanol
Synonyms: All Grades includes: Industrial and Jet Fuel Grades

SECTION 2 : COMPOSITION/INFORMATION ON INGREDIENTS

Component Name: Diethylene glycol monomethyl ether, Ethanol, 2-methoxy

SECTION 3: HAZARD IDENTIFICATION

Emergency Overview
This material is HAZARDOUS by OSHA Hazard Communication definition.
Signal Word
WARNING!
Hazards
Combustible liquid. Eye irritant. Skin irritant. Respiratory tract irritant. CNS depressant.
Physical State
Liquid.
Color
Clear
Odor
Pleasant. Mild aromatic.
Odor Threshold
No value available.

Potential Health Effects
Routes of Exposure
Eye Skin. Inhalation Ingestion
Signs and Symptoms of Acute Exposure
See component summary.
- *Diethylene glycol monomethyl ether 111-77-3*

May be irritating to the eyes.
- *Ethanol, 2-methoxy 109-86-4*

Eye, skin and respiratory tract irritant. May be harmful if inhaled ingested or absorbed through the skin. Overexposure may cause Central Nervous System depression.
Skin
May be irritating to the skin. Possible systemic toxicity by skin absorption.
Inhalation
Due to low vapor pressure, this mixture is not expected to present an inhalation hazard at ambient temperatures.

Eye
May be irritating to the eyes.
Ingestion
Ingestion not a likely route of exposure.
Chronic Health Effects
See component summary.
Health * 1
Flammability 2
Reactivity 0
- *Diethylene glycol monomethyl ether 111-77-3*

Extensive/prolonged or repeated exposure to this material can result in significant absorption. Repeated or prolonged exposure to mists of this material may cause long-term adverse health effects.
- *Ethanol, 2-methoxy 109-86-4*

Prolonged or repeated exposure to liquid can cause irritation such as redness, burning and cracking of the skin and dermatitis. Effects caused by chronic exposures include toxic encephalopathy, bone marrow depression without hemolysis, lung, kidney and liver damage, lethargy, loss of appetite, tremors, fever, bed wetting and marked anemia.
Conditions Aggravated by Exposure
Any pre-existing disorders or diseases of the: skin and/or eyes Special precautions are nessesary for pregnant women and nursing mothers.

SECTION 4: FIRST AID MEASURES
General
Take proper precautions to ensure your own health and safety before attempting rescue and providing first aid. For specific information refer to the Emergency Overview in Section 3 of this MSDS.
Skin
Immediately flush affected area with plenty of water while removing contaminated clothing. Wash contaminated clothing before reuse. If irritation persists, get medical attention.
Inhalation
If symptoms are experienced, move victim to fresh air. Seek medical attention if discomfort persists.
Eye
Thoroughly flush the eyes with large amounts of clean low-pressure water for at least 15 minutes, occasionally lifting the upper and lower eyelids. If irritation persists, seek medical attention.
Ingestion
DO NOT induce vomiting. If vomiting does occur, have victim lean forward to reduce risk of aspiration. Get medical attention immediately.

SECTION 5: FIRE FIGHTING MEASURES
Flammable Properties
Classification
Combustible liquid.
Flash Point:
83.9 °C (183.02 °F) closed cup
Auto-Ignition Temperature
192.85 °C (379.13 °F)
Lower Flammable Limit
1.38 vol%
Upper Flammable Limit
22.7 vol%

Extinguishing Media
Suitable: SMALL FIRE: Use dry chemicals, CO2, water spray or alcohol-resistant foam LARGE FIRE: Use water spray, water fog or alcohol-resistant foam

Protection of Firefighters
Protective Equipment/Clothing: Wear an approved positive pressure self-contained breathing apparatus and firefighter
turnout gear.

Fire Fighting Guidance: Avoid sparks, heat, and open flame. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Do not get water inside containers. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. Always stay away from tanks engulfed in fire.
Hazardous Combustion Products: Carbon oxides (CO, CO2)

SECTION 6: ACCIDENTAL RELEASE MEASURES
Release Response
Contain spill with dike to prevent entry into sewers or waterways. For large spills, dike and pump into properly labeled containers for reclamation or disposal. For small spills, soak up with absorbent material and place in properly labeled containers for disposal. All recovered material should be packaged, labeled, transported and disposed of or reclaimed in conformance with applicable laws and regulations and in conformance with good engineering practices. Reclaim where possible.

SECTION 7: HANDLING AND STORAGE
Handling
Do not handle near heat, sparks, or flame. Avoid contact with incompatible agents. Use only with adequate ventilation/personal protection. Avoid contact with eyes, skin and clothing. Do not enter storage area unless adequately ventilated. Metal containers involved in the transfer of this material should be grounded and bonded. It is recommended that any liquid product exposed to air not be highly concentrated by evaporation without first assuring that no peroxide is present.
Storage
Store containers in a cool, dry, ventilated, fire resistant area away from sources of ignition and incompatible materials. Keep container tightly closed and properly labeled.

SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION
Engineering Controls
Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. Emergency shower and eyewash facility should be in close proximity (ANSI Z358.1)
Personal Protection
Inhalation A respiratory protection program that meets OSHA's 29 CFR 1910.134 or ANSI Z88.2 requirements must be followed whenever workplace conditions warrant respirator use. Skin Wear chemical resistant gloves such as rubber, neoprene or vinyl. Appropriate protective clothing should be worn to prevent skin contact. Eye Wear safety glasses as minimum eye protection. Conditions may warrant the use of chemical goggles and possibly a face shield. Consult your standard operating procedure or safety professional for advice. Use protective eye and face devices that comply with ANSI Z87.1-1987.
Occupational Exposure Limits
Component Name Source / Date Value Type Notation

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Liquid. Clear
Odor: Pleasant. Mild aromatic.
Odor Threshold: No value available.
pH: Not applicable.
Boiling Point/Boiling Range: 193.6 °C (380.48 °F)
Freezing Point/Melting Point: -65 °C (-85 °F) Melting point.
Flash Point: 83.9 °C (183.02 °F) closed cup
Auto-ignition: 192.85 °C (379.13 °F)
Flammability: Combustible liquid.
Lower Flammable Limit: 1.38 vol%
Upper Flammable Limit: 22.7 vol%
Explosive Properties: No Data Available.
Oxidizing Properties: No Data Available.
Vapor Pressure: 0.2 mm Hg @ 20 °C (68 °F)
Evaporation Rate: 0.015 (butyl acetate = 1)
Relative Density: 1.025 @ 20 °C (68 °F)
Relative Vapor Density: 4.1 (Air = 1.0)
Viscosity: ~ 3.89 mPa.s @ 20 °C (68 °F)
Solubility (Water): 100%
Partition Coefficient (Kow): -1.18 (estimated)
Additional Physical and Chemical Properties: No additional information available.

SECTION 10: STABILITY AND REACTIVITY

Chemical Stability
Stable under normal conditions. May form peroxides if in contact with air for long periods of time.
Conditions to Avoid
Heat, sparks, open flames and strong oxidizing conditions.
Substances to Avoid
Oxidizers, Acids, Alkalis
Decomposition Products
Carbon oxides (CO, CO2)
Hazardous Polymerization
Will not occur.
Reactions with Air and Water
May form peroxides in the presence of air.

SECTION 11: TOXICOLOGICAL INFORMATION

Product Summary
No additional toxicology information is available for this material. (See Component Toxicity Information).
COMPONENT INFORMATION
Diethylene glycol monomethyl ether 111-77-3
Acute Toxicity - Lethal Doses
Rat > 2 GM/M3 1 HOURS
LD50 (Oral) Rat 9.2 G/KG
Guinea Pig 4.2 G/KG
LD50 (Skin) Rabbit 20.2 G/KG
Reproductive Effects
Laboratory test indicate high doses may cause adverse reproductive effects in rats and mice.
Ethanol, 2-methoxy 109-86-4
Acute Toxicity - Lethal Doses
LC50 (Inhl) Rat 1480 PPM 7 HOURS

LD50 (Oral) Rat 2370 MG/KG
Mouse 2560 MG/KG
LD50 (Skin) Rabbit 1280 MG/KG

Reproductive Effects

Animal studies indicate the potential for reproductive effects in males.

Carcinogenicity

Not listed by IARC, NTP, or OSHA.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity

This material is highly soluble in water. Limited toxicity tests and models indicate this material should exhibit low toxicity to aquatic organisms. The odor and flavor of this material may attract some wildlife and cause them to consume spilled material.

Environmental Fate and Pathway

This material should biodegrade after an acclimation period, and it is is not expected to be environmentally persistant. Due care should be taken to avoid accidental releases to aquatic or terrestrial systems. See component summary.
Persistance and Degradability.
Bioaccumulation: This material is highly soluble in water and should not bioaccumulate in aquatic or terrestrial organisms.

COMPONENT INFORMATION

- *Diethylene glycol monomethyl ether 111-77-3*

Ecotoxicity

No Data Available.

Environmental Fate and Pathway

Expected to have high mobility in soils. This material is expected to exist solely as a vapor in the ambient atmosphere. Vapor-phase is degraded in the atmosphere by reaction with photochemically produced hydroxyl radicals. Volatilization from dry soil surfaces is expected. While this material may evaporate into the air from dry soil, it is unlikely to evaporate from moist soil or water.
Persistance and Degradability
Biodegradation: Biodegradable under aerobic conditions.
Bioaccumulation: BCF < 1.0 This material is not expected to bioaccumulate.

- *Ethanol, 2-methoxy 109-86-4*

Ecotoxicity

No Data Available.

Environmental Fate and Pathway

Expected to exist solely as a vapor in the ambient atmosphere. Vapor-phase is degraded in the atmosphere by reaction with photochemically produced hydroxyl radicals. It is expected to be poorly adsorbed onto soils or sediments. Volatilization from dry soil surfaces is expected. It will leach into soil. Hydrolysis is not expected to be an important factor in the environmental fate process for this material.
Persistance and Degradability
Biodegradation: This material is expected to be biodegradable.
Bioaccumulation: This material is not expected to bioaccumulate.

SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of all waste and contaminated equipment in accordance with all applicable federal, state and local health and environmental regulations. Recovery and reuse, rather than disposal, should be the ultimate goal of handling efforts. The materials resulting from clean-up operations may be hazardous wastes and therefore, subject to specific regulations.

SECTION 14: TRANSPORT INFORMATION

Special Requirements

If you reformulate or further process this material, you should consider re-evaluation of the regulatory status of the components listed in the composition section of this sheet, based on final composition of your product.

Proper Shipping Name Combustible liquid, n.o.s. (DIETHYLENE GLYCOL MONOMETHYL ETHER)
ID No. NA1993
Hazard Class Combustible Liquid
PG III

SECTION 15: OTHER INFORMATION

DISCLAIMER OF RESPONSIBILITY

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