

Material Safety Data Sheet

Triethylene glycol dimethyl ether, 99% stabilized with 0.01% BHT

ACC# 55160

Section 1 - Chemical Product and Company Identification

MSDS Name: Triethylene glycol dimethyl ether, 99% stabilized with 0.01% BHT

Catalog Numbers: AC139600000, AC139600010, AC139600050, AC139602500, NC9874384, XXAC13960-20

Synonyms: 1,2-Bis(2-methoxyethoxy)ethane; Triglyme.

Company Identification:

Fisher Scientific
1 Reagent Lane
Fair Lawn, NJ 07410

For information, call: 201-796-7100

Emergency Number: 201-796-7100

For CHEMTREC assistance, call: 800-424-9300

For International CHEMTREC assistance, call: 703-527-3887

Section 2 - Composition, Information on Ingredients

CAS#	Chemical Name	Percent	EINECS/ELINCS
112-49-2	Triethylene glycol dimethyl ether	99	203-977-3
128-37-0	BHT	0.01	204-881-4

Section 3 - Hazards Identification

EMERGENCY OVERVIEW

Appearance: clear, colorless liquid.

Warning! Uninhibited material, or material from which the inhibitor has been removed or reacted, may form explosive peroxides. May cause eye, skin, and respiratory tract irritation. This substance has caused adverse reproductive and fetal effects in animals. The toxicological properties of this material have not been fully investigated.

Target Organs: None known.

Potential Health Effects

Eye: May cause eye irritation. The toxicological properties of this material have not been fully investigated.

Skin: May cause skin irritation. The toxicological properties of this material have not been fully investigated.

Ingestion: May cause gastrointestinal irritation with nausea, vomiting and diarrhea. The toxicological properties of this substance have not been fully investigated.

Inhalation: May cause respiratory tract irritation. The toxicological properties of this substance have not been fully investigated.

Chronic: Adverse reproductive effects have been reported in animals.

Section 4 - First Aid Measures

Eyes: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.

Skin: Get medical aid. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.

Ingestion: Never give anything by mouth to an unconscious person. Get medical aid immediately. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water.

Inhalation: Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

Notes to Physician: Treat symptomatically and supportively.

Section 5 - Fire Fighting Measures

General Information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. May form explosive peroxides. Vapors may be heavier than air. They can spread along the ground and collect in low or confined areas.

Extinguishing Media: Use agent most appropriate to extinguish fire. Use water spray, dry chemical, carbon dioxide, or appropriate foam.

Flash Point: 113 deg C (235.40 deg F)

Autoignition Temperature: 195 deg C (383.00 deg F)

Explosion Limits, Lower: .70 vol %

Upper: .00 vol %

NFPA Rating: 1 - health, 1 - flammability, 0 - instability

Section 6 - Accidental Release Measures

General Information: Use proper personal protective equipment as indicated in Section 8.

Spills/Leaks: Absorb spill with inert material (e.g. vermiculite, sand or earth), then place in suitable container. Clean up spills immediately, observing precautions in the Protective Equipment section. Isolate area and deny entry. Provide ventilation. Place under an inert atmosphere.

Section 7 - Handling and Storage

Handling: Wash thoroughly after handling. Remove contaminated clothing and wash before reuse. Use with adequate ventilation. Avoid contact with skin and eyes. Keep container tightly closed. Avoid ingestion and inhalation. If peroxide formation is suspected, do not open or move container. Avoid contact with air and sunlight. Unused chemicals should not be returned to the container. Do not distill since this removes peroxide-inhibitors.

Storage: Do not store in direct sunlight. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances. Regularly check inhibitor levels to maintain peroxide levels below 1%. Do not break the seal on the container until it is needed. Label the container with the date it was first opened. Long-term storage is not recommended.

Section 8 - Exposure Controls, Personal Protection

Engineering Controls: Use explosion-proof ventilation equipment. Use adequate ventilation to keep airborne concentrations low.

Exposure Limits

Chemical Name	ACGIH	NIOSH	OSHA - Final PELs
Triethylene glycol dimethyl ether	none listed	none listed	none listed
BHT	2 mg/m3 TWA (inhalable fraction and vapor)	10 mg/m3 TWA	none listed

OSHA Vacated PELs: Triethylene glycol dimethyl ether: No OSHA Vacated PELs are listed for this chemical. BHT: 10 mg/m3 TWA

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure.

Respirators: Wear a NIOSH/MSHA or European Standard EN 149 approved full-facepiece airline respirator in the positive pressure mode with emergency escape provisions. Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Section 9 - Physical and Chemical Properties

Physical State: Liquid

Appearance: clear, colorless

Odor: None reported.

pH: Not available.

Vapor Pressure: 1.2 mbar @ 20 C

Vapor Density: 6.14

Evaporation Rate: Not available.

Viscosity: 2.5 MPA 20.00 deg C

Boiling Point: 216 deg C @ 760.00mm Hg

Freezing/Melting Point: -45 deg C

Decomposition Temperature: Not available.

Solubility: soluble in hydrocarbons

Specific Gravity/Density: .9860g/cm3

Molecular Formula: C8H18O4

Molecular Weight: 178.23

Section 10 - Stability and Reactivity

Chemical Stability: On long term storage, substances with similar functional groups form explosive peroxides. Explosive peroxides may form on concentration. Peroxides can be detonated by friction, impact, or heating. Tends to form explosive peroxides; especially when anhydrous. Peroxide formation may occur in containers that have been opened and remain in storage.

Conditions to Avoid: Incompatible materials, exposure to air, strong oxidants.

Incompatibilities with Other Materials: Oxidizing agents.

Hazardous Decomposition Products: Carbon monoxide, irritating and toxic fumes and gases, carbon dioxide.

Hazardous Polymerization: Has not been reported.

Section 11 - Toxicological Information

RTECS#:

CAS# 112-49-2: XF0665000

CAS# 128-37-0: GO7875000

LD50/LC50:

Not available.

CAS# 128-37-0:

Draize test, rabbit, eye: 100 mg/24H Moderate;
Draize test, rabbit, skin: 500 mg/48H Moderate;
Oral, mouse: LD50 = 650 mg/kg;
Oral, mouse: LD50 = 1040 mg/kg;
Oral, rabbit: LD50 = 2100 mg/kg;
Oral, rat: LD50 = 890 mg/kg;

Carcinogenicity:

CAS# 112-49-2: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

CAS# 128-37-0: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

Epidemiology: No information available.

Teratogenicity: No information available.

Reproductive Effects: No information available.

Mutagenicity: No information available.

Neurotoxicity: No information available.

Other Studies:

Section 12 - Ecological Information

No information available.

Section 13 - Disposal Considerations

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.

RCRA U-Series: None listed.

Section 14 - Transport Information

	US DOT	Canada TDG
Shipping Name:	Not regulated as a hazardous material	No information available.
Hazard Class:		
UN Number:		
Packing Group:		

Section 15 - Regulatory Information

US FEDERAL

TSCA

CAS# 112-49-2 is listed on the TSCA inventory.

CAS# 128-37-0 is listed on the TSCA inventory.

Health & Safety Reporting List

None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules

None of the chemicals in this product are under a Chemical Test Rule.

Section 12b

None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule

None of the chemicals in this material have a SNUR under TSCA.

CERCLA Hazardous Substances and corresponding RQs

None of the chemicals in this material have an RQ.

SARA Section 302 Extremely Hazardous Substances

None of the chemicals in this product have a TPQ.

SARA Codes

CAS # 112-49-2: reactive.

CAS # 128-37-0: immediate.

Section 313

This material contains Triethylene glycol dimethyl ether (listed as Glycol ethers), 99%, (CAS# 112-49-2) which is subject to the reporting requirements of Section 313 of SARA Title III and 40 CFR Part 373.

Clean Air Act:

CAS# 112-49-2 (listed as Glycol ethers) is listed as a hazardous air pollutant (HAP).

This material does not contain any Class 1 Ozone depleters.

This material does not contain any Class 2 Ozone depleters.

Clean Water Act:

None of the chemicals in this product are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA:

None of the chemicals in this product are considered highly hazardous by OSHA.

STATE

CAS# 112-49-2 can be found on the following state right to know lists: Pennsylvania, (listed as Glycol ethers).

CAS# 128-37-0 can be found on the following state right to know lists: California, New Jersey, Pennsylvania, Minnesota, Massachusetts.

California Prop 65

California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations

European Labeling in Accordance with EC Directives

Hazard Symbols:

XN

Risk Phrases:

R 19 May form explosive peroxides.

R 62 Possible risk of impaired fertility.

R 63 Possible risk of harm to the unborn child.

Safety Phrases:

S 36/37 Wear suitable protective clothing and gloves.

S 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

WGK (Water Danger/Protection)

CAS# 112-49-2: No information available.

CAS# 128-37-0: 1

Canada - DSL/NDSL

CAS# 112-49-2 is listed on Canada's DSL List.

CAS# 128-37-0 is listed on Canada's DSL List.

Canada - WHMIS

not available.

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.

Canadian Ingredient Disclosure List

CAS# 112-49-2 is not listed on the Canadian Ingredient Disclosure List.

CAS# 128-37-0 is listed on the Canadian Ingredient Disclosure List.

Section 16 - Additional Information

MSDS Creation Date: 7/01/1998

Revision #4 Date: 2/04/2004

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Fisher be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Fisher has been advised of the possibility of such damages.