

SAFETY DATA SHEET

According to OSHA Hazard Communication Standard, 29 CFR
1910.1200



Version 2.1

Revision Date: 09/03/2015

Print Date: 09/09/2015

SECTION 1. IDENTIFICATION

Product name : Tripropylene Glycol Monomethyl Ether

Product code : EF13

Manufacturer or supplier's details

Company : **Everchem Specialty Chemicals**
1400 N. Providence Rd.
Media, PA 19063
USA

SDS Request : 484-234-5030
Customer Service : 484-234-5030

Emergency telephone number

Chemtrec Domestic (24 hr) : 1-800-424-9300
Chemtrec International (24 hr) : 1-703-527-3887

Recommended use of the chemical and restrictions on use

Recommended use : Speciality solvent.

Restrictions on use : This product must not be used in applications other than the above without first seeking the advice of the supplier.

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Not a dangerous substance according to GHS.

GHS Label element

Hazard pictograms : No Hazard Symbol required

Signal word : No signal word

Hazard statements : **PHYSICAL HAZARDS:**
Not classified as a physical hazard under GHS criteria.
HEALTH HAZARDS:
Not classified as a health hazard under GHS criteria.
ENVIRONMENTAL HAZARDS:
Not classified as an environmental hazard under GHS criteria.

Precautionary statements : No precautionary phrases.

Other hazards which do not result in classification

The classification of this material is based on OSHA HCS 2012 criteria.

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SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms : MethylTriProxitol, TPM, Tripropylene Glycol Monomethyl Ether

Hazardous components

Chemical Name	Synonyms	CAS-No.	Concentration (%)
[2-(2-methoxymethylethoxy)methylethoxy]propanol	[2-(2-methoxymethylethoxy)methylethoxy]propanol	25498-49-1	<= 100

SECTION 4. FIRST-AID MEASURES

General advice : Not expected to be a health hazard when used under normal conditions.

If inhaled : No treatment necessary under normal conditions of use. If symptoms persist, obtain medical advice.

In case of skin contact : Remove contaminated clothing. Flush exposed area with water and follow by washing with soap if available.

In case of eye contact : Flush eye with copious quantities of water. If persistent irritation occurs, obtain medical attention.

If swallowed : In general no treatment is necessary unless large quantities are swallowed, however, get medical advice.

Most important symptoms and effects, both acute and delayed : Not expected to give rise to an acute hazard under normal conditions of use.

Protection of first-aiders : When administering first aid, ensure that you are wearing the appropriate personal protective equipment according to the incident, injury and surroundings.

Immediate medical attention, special treatment : No specific recommendations

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media : Alcohol-resistant foam, water spray or fog. Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.

Unsuitable extinguishing media : None

Specific hazards during fire-fighting : Carbon monoxide may be evolved if incomplete combustion occurs.

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- Specific extinguishing methods : Standard procedure for chemical fires.
- Further information : Clear fire area of all non-emergency personnel.
Keep adjacent containers cool by spraying with water.
- Special protective equipment for firefighters : Proper protective equipment including chemical resistant gloves are to be worn; chemical resistant suit is indicated if large contact with spilled product is expected. Self-Contained Breathing Apparatus must be worn when approaching a fire in a confined space. Select fire fighter's clothing approved to relevant Standards (e.g. Europe: EN469).

SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Observe all relevant local and international regulations. Notify authorities if any exposure to the general public or the environment occurs or is likely to occur. Local authorities should be advised if significant spillages cannot be contained.
- : Avoid contact with spilled or released material. Immediately remove all contaminated clothing. For guidance on selection of personal protective equipment see Chapter 8 of this Safety Data Sheet. For guidance on disposal of spilled material see Chapter 13 of this Safety Data Sheet. Stay upwind and keep out of low areas. Be ready for fire or possible exposure.
- Environmental precautions : Prevent from spreading or entering into drains, ditches or rivers by using sand, earth, or other appropriate barriers. Use appropriate containment to avoid environmental contamination. Ventilate contaminated area thoroughly.
- Methods and materials for containment and cleaning up : For large liquid spills (> 1 drum), transfer by mechanical means such as vacuum truck to a salvage tank for recovery or safe disposal. Do not flush away residues with water. Retain as contaminated waste. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely. For small liquid spills (< 1 drum), transfer by mechanical means to a labeled, sealable container for product recovery or safe disposal. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Remove contaminated soil and dispose of safely.
- Additional advice : For guidance on selection of personal protective equipment see Chapter 8 of this Safety Data Sheet. For guidance on disposal of spilled material see Chapter 13 of this Safety Data Sheet.

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U.S. regulations may require reporting releases of this material to the environment which exceed the reportable quantity (refer to Chapter 15) to the National Response Center at (800) 424-8802.

SECTION 7. HANDLING AND STORAGE

Technical measures : Avoid breathing of or direct contact with material. Only use in well ventilated areas. Wash thoroughly after handling. For guidance on selection of personal protective equipment see Chapter 8 of this Safety Data Sheet.
Use the information in this data sheet as input to a risk assessment of local circumstances to help determine appropriate controls for safe handling, storage and disposal of this material.
Ensure that all local regulations regarding handling and storage facilities are followed.

Precautions for safe handling : Avoid contact with skin, eyes and clothing.
Do not empty into drains.

Avoidance of contact : Copper.
Copper alloys.
Strong oxidising agents.
Aluminum

Product Transfer : Keep containers closed when not in use. Refer to guidance under Handling section.

Storage

Conditions for safe storage, including any incompatibilities : Refer to section 15 for any additional specific legislation covering the packaging and storage of this product.

Other data : Tanks should be fitted with heating coils in areas where the ambient temperatures are below the recommended product handling temperatures. Heating coil skin temperatures should not exceed 100 °C.
Bulk storage tanks should be diked (bunded).
Vapours from tanks should not be released to atmosphere.
Breathing losses during storage should be controlled by a suitable vapour treatment system.
Nitrogen blanket recommended for large tanks (capacity 100 m³ or higher).
Insulation (lagging) will minimize heat loss in areas of low ambient temperature.
Tanks should be fitted with heating coils in areas where ambient conditions can result in handling temperatures below the freezing point/pour point of the product.

Packaging material : Suitable material: Stainless steel., Epoxy resins, Polyester.
Unsuitable material: Aluminum, Copper., Copper alloys.

Container Advice : Containers, even those that have been emptied, can contain explosive vapours. Do not cut, drill, grind, weld or perform

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similar operations on or near containers.

Specific use(s)

: Not applicable

Ensure that all local regulations regarding handling and storage facilities are followed.

SECTION 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

Biological occupational exposure limits

No biological limit allocated.

Monitoring Methods

Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls. For some substances biological monitoring may also be appropriate.

Validated exposure measurement methods should be applied by a competent person and samples analysed by an accredited laboratory.

Examples of sources of recommended exposure measurement methods are given below or contact the supplier. Further national methods may be available.

National Institute of Occupational Safety and Health (NIOSH), USA: Manual of Analytical Methods
<http://www.cdc.gov/niosh/>

Occupational Safety and Health Administration (OSHA), USA: Sampling and Analytical Methods
<http://www.osha.gov/>

Health and Safety Executive (HSE), UK: Methods for the Determination of Hazardous Substances
<http://www.hse.gov.uk/>

Institut für Arbeitsschutz Deutschen Gesetzlichen Unfallversicherung (IFA), Germany
<http://www.dguv.de/inhalt/index.jsp>

L'Institut National de Recherche et de Sécurité, (INRS), France <http://www.inrs.fr/accueil>

Engineering measures

: The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances.

Appropriate measures include:

Use sealed systems as far as possible.

Adequate explosion-proof ventilation to control airborne concentrations below the exposure guidelines/limits.

Local exhaust ventilation is recommended.

Firewater monitors and deluge systems are recommended.

Eye washes and showers for emergency use.

Where material is heated, sprayed or mist formed, there is greater potential for airborne concentrations to be generated.

General Information:

Always observe good personal hygiene measures, such as washing hands after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned.

Practice good housekeeping.

Define procedures for safe handling and maintenance of controls.

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Educate and train workers in the hazards and control measures relevant to normal activities associated with this product.
Ensure appropriate selection, testing and maintenance of equipment used to control exposure, e.g. personal protective equipment, local exhaust ventilation.
Drain down system prior to equipment break-in or maintenance.
Retain drain downs in sealed storage pending disposal or subsequent recycle.

Personal protective equipment

Respiratory protection : If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, select respiratory protection equipment suitable for the specific conditions of use and meeting relevant legislation. Check with respiratory protective equipment suppliers. Where air-filtering respirators are unsuitable (e.g. airborne concentrations are high, risk of oxygen deficiency, confined space) use appropriate positive pressure breathing apparatus. Where air-filtering respirators are suitable, select an appropriate combination of mask and filter. If air-filtering respirators are suitable for conditions of use: Select a filter suitable for organic gases and vapours [Type A boiling point >65°C (149°F)].

Respirator selection, use and maintenance should be in accordance with the requirements of the OSHA Respiratory Protection Standard, 29 CFR 1910.134.

Hand protection
Remarks

: Where hand contact with the product may occur the use of gloves approved to relevant standards (e.g. Europe: EN374, US: F739) made from the following materials may provide suitable chemical protection. Longer term protection: Nitrile rubber gloves. Incidental contact/Splash protection: PVC, neoprene or nitrile rubber gloves For continuous contact we recommend gloves with breakthrough time of more than 240 minutes with preference for > 480 minutes where suitable gloves can be identified. For short-term/splash protection we recommend the same, but recognize that suitable gloves offering this level of protection may not be available and in this case a lower breakthrough time maybe acceptable so long as appropriate maintenance and replacement regimes are followed. Glove thickness is not a good predictor of glove resistance to a chemical as it is dependent on the exact composition of the glove material. Glove thickness should be typically greater than 0.35 mm depending on the glove make and model. Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material, dexterity. Always seek advice from glove suppliers. Contaminated gloves should be replaced. Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using

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- gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturizer is recommended.
- Eye protection : If material is handled such that it could be splashed into eyes, protective eyewear is recommended.
- Skin and body protection : Skin protection is not required under normal conditions of use.
For prolonged or repeated exposures use impervious clothing over parts of the body subject to exposure.
If repeated and/or prolonged skin exposure to the substance is likely, then wear suitable gloves tested to relevant Standard, and provide employee skin care programmes.
Wear antistatic and flame retardant clothing, if a local risk assessment deems it so.
- Protective measures : Personal protective equipment (PPE) should meet recommended national standards. Check with PPE suppliers.
- Hygiene measures : Wash hands before eating, drinking, smoking and using the toilet.
Launder contaminated clothing before re-use.

Environmental exposure controls

- General advice : Local guidelines on emission limits for volatile substances must be observed for the discharge of exhaust air containing vapour.
Minimise release to the environment. An environmental assessment must be made to ensure compliance with local environmental legislation.
Information on accidental release measures are to be found in section 6.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

- Appearance : Liquid.
- Colour : clear
- Odour : Ethereal
- Odour Threshold : Data not available
- pH : Not applicable
- Melting / freezing point : -77.8 °C / -108.0 °F
- Boiling point/boiling range : 242.8 °C / 469.0 °F
- Flash point : 124 °C / 255 °F
Method: ASTM D-93 / PMCC
- Evaporation rate : Data not available
- Flammability (solid, gas) : Not classified as flammable but will burn.

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Upper explosion limit	: 8.5 %(V)
Lower explosion limit	: 0.8 %(V)
Vapour pressure	: 1.7 Pa (20 °C / 68 °F)
Relative vapour density	: no data available
Relative density	: 0.95 - 0.96 (20 °C / 68 °F)
Density	: 0.965 g/cm ³ (20 °C / 68 °F) Method: ASTM D4052
Solubility(ies)	
Water solubility	: completely soluble (20 °C / 68 °F)
Partition coefficient: n-octanol/water	: log Pow: 0.31
Auto-ignition temperature	: 277 °C / 531 °F
Decomposition temperature	: no data available
Viscosity	
Viscosity, dynamic	: Data not available
Viscosity, kinematic	: 6.71 mm ² /s (20 °C / 68 °F)
Explosive properties	: Not applicable
Oxidizing properties	: Data not available
Surface tension	: 68.8 mN/m, 20 °C / 68 °F
Conductivity	: Electrical conductivity: > 10 000 pS/m, A number of factors, for example liquid temperature, presence of contaminants, and anti-static additives can greatly influence the conductivity of a liquid, This material is not expected to be a static accumulator.
Molecular weight	: 206.3 g/mol

SECTION 10. STABILITY AND REACTIVITY

Reactivity	: Stable at normal ambient temperature and pressure. May oxidise in the presence of air.
Chemical stability	: Stable under normal conditions.
Possibility of hazardous reac-	: None known.

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Conditions to avoid : Extremes of temperature and direct sunlight.
Product cannot ignite due to static electricity.

Incompatible materials : Copper.
Copper alloys.
Strong oxidising agents.
Aluminum

Hazardous decomposition products : None expected under normal use conditions.

SECTION 11. TOXICOLOGICAL INFORMATION

Basis for assessment : Unless indicated otherwise, the data presented is representative of the product as a whole, rather than for individual component(s).
Information given is based on data on the components and the toxicology of similar products.

Information on likely routes of exposure

Skin and eye contact are the primary routes of exposure although exposure may occur through inhalation or following accidental ingestion.

Acute toxicity

Product:

Acute oral toxicity : LD 50 : > 5,000 mg/kg
Remarks: Low toxicity:

Acute inhalation toxicity : Remarks: Expected to be of low toxicity if inhaled.

Acute dermal toxicity : LD 50 : > 5,000 mg/kg
Remarks: Expected to be of low toxicity:

Skin corrosion/irritation

Product:

Remarks: Expected to be non-irritating to skin.

Serious eye damage/eye irritation

Product:

Remarks: Expected to be non-irritating to eyes.

Respiratory or skin sensitisation

Product:

Remarks: Not expected to be a sensitiser.

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Germ cell mutagenicity

Product:

: Remarks: Not considered a mutagenic hazard.

Carcinogenicity

Product:

Remarks: Data not available

IARC

No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

OSHA

No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

NTP

No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

Product:

:
Remarks: Not expected to be a developmental toxicant., Not expected to impair fertility.

STOT - single exposure

Product:

Remarks: Not expected to be a hazard.

STOT - repeated exposure

Product:

Remarks: Not expected to be a hazard.

Aspiration toxicity

Product:

Data not available

Further information

Product:

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Remarks: Classifications by other authorities under varying regulatory frameworks may exist.

SECTION 12. ECOLOGICAL INFORMATION

Basis for assessment : Unless indicated otherwise, the data presented is representative of the product as a whole, rather than for individual component(s).
Information given is based on product testing.

Ecotoxicity

Product:

Toxicity to fish (Acute toxicity) :
Remarks: Practically non toxic:
LL/EL/IL50 > 100 mg/l

Toxicity to daphnia and other aquatic invertebrates (Acute toxicity) :
Remarks: Practically non toxic:
LL/EL/IL50 > 100 mg/l

Toxicity to algae (Acute toxicity) :
Remarks: Practically non toxic:
LL/EL/IL50 > 100 mg/l

Toxicity to fish (Chronic toxicity) :
Remarks: Data not available

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) :
Remarks: Data not available

Toxicity to bacteria (Acute toxicity) :
Remarks: Practically non toxic:
LL/EL/IL50 > 100 mg/l

Persistence and degradability

Product:

Biodegradability :
Remarks: Readily biodegradable.

Bioaccumulative potential

Product:

Bioaccumulation :
Remarks: Not expected to bioaccumulate significantly.

Mobility in soil

Product:

Mobility :
Remarks: If the product enters soil, one or more constituents will or may be mobile and may contaminate groundwater.

Other adverse effects

Product:

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Results of PBT and vPvB assessment : The substance does not fulfill all screening criteria for persistence, bioaccumulation and toxicity and hence is not considered to be PBT or vPvB.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Recover or recycle if possible.
It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste classification and disposal methods in compliance with applicable regulations.
Do not dispose into the environment, in drains or in water courses
Waste product should not be allowed to contaminate soil or water.

Disposal should be in accordance with applicable regional, national, and local laws and regulations.
Local regulations may be more stringent than regional or national requirements and must be complied with.

Contaminated packaging : Drain container thoroughly.
After draining, vent in a safe place away from sparks and fire.
Residues may cause an explosion hazard.
Do not puncture, cut, or weld uncleaned drums.
Send to drum recoverer or metal reclaimer.

SECTION 14. TRANSPORT INFORMATION

National Regulations

US Department of Transportation Classification (49 CFR Parts 171-180)

Not regulated as a dangerous good

International Regulation

IATA-DGR

Not regulated as a dangerous good

IMDG-Code

Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Pollution category : Z
Ship type : 3
Product name : Poly (2-8) alkylene glycol monoalkyl (C1-C6) ether
Special precautions : Refer to Chapter 7, Handling & Storage, for special precautions which a user needs to be aware of or needs to comply with in connection with transport.

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Special precautions for user

Not applicable

Additional Information : This product may be transported under nitrogen blanketing. Nitrogen is an odourless and invisible gas. Exposure to nitrogen may cause asphyxiation or death. Personnel must observe strict safety precautions when involved with a confined space entry.

SECTION 15. REGULATORY INFORMATION

California Prop 65 : This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

The components of this product are reported in the following inventories:

AICS : Listed

DSL : Listed

IECSC : Listed

ENCS : Listed

KECI : Listed

NZIoC : Listed

PICCS : Listed

TSCA : Listed

Other regulations : The regulatory information is not intended to be comprehensive. Other regulations may apply to this material.

SECTION 16. OTHER INFORMATION

Further information

NFPA Rating (Health, Fire, Reactivity) : 0, 1, 0

A vertical bar (|) in the left margin indicates an amendment from the previous version. Due to the conversion of this product to GHS classification and labelling, there has been a significant change to the nature of the information presented in chapter 2.

Abbreviations and Acronyms : The standard abbreviations and acronyms used in this document can be looked up in reference literature (e.g. scientific dictionaries) and/or websites.

ACGIH = American Conference of Governmental Industrial

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ADR = European Agreement concerning the International
Carriage of Dangerous Goods by Road
AICS = Australian Inventory of Chemical Substances
ASTM = American Society for Testing and Materials
BEL = Biological exposure limits
BTEX = Benzene, Toluene, Ethylbenzene, Xylenes
CAS = Chemical Abstracts Service
CEFIC = European Chemical Industry Council
CLP = Classification Packaging and Labelling
COC = Cleveland Open-Cup
DIN = Deutsches Institut für Normung
DMEL = Derived Minimal Effect Level
DNEL = Derived No Effect Level
DSL = Canada Domestic Substance List
EC = European Commission
EC50 = Effective Concentration fifty
ECETOC = European Center on Ecotoxicology and Toxicology
Of Chemicals
ECHA = European Chemicals Agency
EINECS = The European Inventory of Existing Commercial
Chemical Substances
EL50 = Effective Loading fifty
ENCS = Japanese Existing and New Chemical Substances
Inventory
EWC = European Waste Code
GHS = Globally Harmonised System of Classification and
Labelling of Chemicals
IARC = International Agency for Research on Cancer
IATA = International Air Transport Association
IC50 = Inhibitory Concentration fifty
IL50 = Inhibitory Level fifty
IMDG = International Maritime Dangerous Goods
INV = Chinese Chemicals Inventory
IP346 = Institute of Petroleum test method N° 346 for the
determination of polycyclic aromatics DMSO-extractables
KECI = Korea Existing Chemicals Inventory
LC50 = Lethal Concentration fifty
LD50 = Lethal Dose fifty per cent.
LL/EL/IL = Lethal Loading/Effective Loading/Inhibitory loading
LL50 = Lethal Loading fifty
MARPOL = International Convention for the Prevention of
Pollution From Ships
NOEC/NOEL = No Observed Effect Concentration / No Ob-
served Effect Level
OE_HP V = Occupational Exposure - High Production Volume
PBT = Persistent, Bioaccumulative and Toxic
PICCS = Philippine Inventory of Chemicals and Chemical
Substances
PNEC = Predicted No Effect Concentration
REACH = Registration Evaluation And Authorisation Of
Chemicals
RID = Regulations Relating to International Carriage of Dan-
gerous Goods by Rail
SKIN_DES = Skin Designation
STEL = Short term exposure limit

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TRA = Targeted Risk Assessment
TSCA = US Toxic Substances Control Act
TWA = Time-Weighted Average
vPvB = very Persistent and very Bioaccumulative

Sources of key data used to compile the Safety Data Sheet : The quoted data are from, but not limited to, one or more sources of information (e.g. material suppliers' data, CONCAWE, EU IUCLID data base, EC 1272 regulation, etc).

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This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.