

**TRIETHYLENE GLYCOL, INDUSTRIAL**

Gen. Variant: SDS\_US\_GHS

Version 1.0

Revision Date 07/01/2014

Print Date 03/20/2015

SDS No.: 3362

**SECTION 1. PRODUCT AND COMPANY IDENTIFICATION**

Product name : TRIETHYLENE GLYCOL, INDUSTRIAL  
CAS Number: 112-27-6  
Chemical characterization : Ethylene glycols  
Chemical Name : 2,2'-[1,2-ethanediylbis(oxy)]bis-ethanol  
Synonyms : 1,2-Bis(2-hydroxyethoxy)ethane, Ethylene glycol dihydroxydiethyl ether

Use of the Substance/Mixture : Use as intermediate, Use in polymer production, Use in Cleaning Agents, Use in solvents, Use in gas treatment

Company : Everchem Specialty Chemicals  
1400 N. Providence Road  
Suite 302.  
Media, PA 19063, USA

Telephone : Customer Service (484) 234-5030

Emergency telephone : CHEMTREC USA 800-424-9300  
Everchem Specialty Chemicals (484) 234-5030

www.everchem.com

**SECTION 2. HAZARDS IDENTIFICATION****GHS Classification**

Specific target organ systemic toxicity - single exposure, Inhalation, Respiratory Tract

Category 3

GHS Classification Scale (1= severe hazard; 4= slight hazard)

**Label elements****Hazard symbols** :**Signal Word** : Warning**Hazard Statements** : H335 May cause respiratory irritation.

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**Precautionary Statements : Prevention**

P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.  
P271 Use only outdoors or in a well-ventilated area.

**Response**

P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
P312 Call a POISON CENTER or doctor/ physician if you feel unwell.

**Storage**

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.  
P235 Keep cool.

**Other hazards**

No additional information available.

**3. Composition/information on ingredients****Substances****Ingredients**

Chemical Name	CAS-No. EC-No.	Weight %	Component Type
Triethylene Glycol	112-27-6	>= 99.0 %	A
Diethylene Glycol	111-46-6	<1.0 %	C
Tetraethylene Glycol	112-60-7	<1.0 %	C

Key:

(A) Substance

(C) Impurity

**SECTION 4. FIRST AID MEASURES****First aid procedures**

General advice : 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 2 of this SDS.

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- In case of skin contact : Immediately remove excess chemical and contaminated clothing; thoroughly wash contaminated skin with mild soap and water. If irritation persists after washing, seek medical attention. Thoroughly clean contaminated clothing before reuse; discard contaminated leather goods (gloves, shoes, belts, wallets, etc.).
- In case of eye contact : Immediately flush the eyes with large amounts of clean low-pressure water for at least 15 minutes, occasionally lifting the upper and lower lids. If pain or irritation persists, promptly obtain medical attention.
- If swallowed : Never give anything by mouth to an unconscious person. If swallowed, do not induce vomiting. Give large quantities of water. (If available, give several glasses of milk.) If vomiting occurs spontaneously, keep airway clear and give more water. Get medical attention immediately.
- Notes to physician**
- Treatment : Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient. No detoxification information available.

**SECTION 5. FIRE-FIGHTING MEASURES****Flammable properties**

Flash point : 315 °F (157 °C)  
at 1,013 hPa (760 mm Hg)  
Method: Pensky-Martens Closed Cup

Autoignition temperature : 657 °F (347 °C)  
at 1,013 hPa (760 mm Hg)

Lower explosion limit : 0.9 vol%

Upper explosion limit : 9.2 vol%

**Fire fighting**

Suitable extinguishing media : SMALL FIRE: Use dry chemicals, CO<sub>2</sub>, water spray or alcohol-resistant foam  
LARGE FIRE: Use water spray, water fog or foam. DO NOT use straight streams  
Water may be ineffective, but should be used to keep fire-exposed containers cool.

**Protective equipment and precautions for firefighters**

Specific hazards during fire : Airborne mists from this substance are a moderate fire and

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**fighting**

explosion hazard.

Fine sprays/mists may be combustible at temperatures below normal flash point.

Avoid sparks, heat, and open flame.

Vapors can travel to a source of ignition and flash back.

Move containers from fire area if it can be done without risk.

Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.

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.

For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

Special protective equipment for fire-fighters : Wear an approved positive pressure self-contained breathing apparatus and firefighter turnout gear.

**SECTION 6. ACCIDENTAL RELEASE MEASURES**

Methods for containment / Methods for cleaning up : 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.

Additional advice : See Section 15: Regulatory Information.

**SECTION 7. HANDLING AND STORAGE****Handling**

Advice on safe handling : Containers, even those that have been emptied, will retain product residue and vapor and should be handled as if they were full. Do not eat, drink or smoke in areas where this material is used.  
After handling, always wash hands thoroughly with soap and water.  
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.

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**Storage**

Requirements for storage areas and containers : 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.

**8. Exposure controls/personal protection****Control parameters****Ingredients with workplace control parameters**

Consult local authorities for acceptable exposure limits.

**Exposure controls****Engineering measures**

Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits.

**Personal protective equipment**

- Respiratory protection : When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
- Hand protection : Wear chemical resistant gloves such as rubber, neoprene or vinyl.
- Eye and face protection : Eye protection such as chemical splash goggles and/or face shield must be worn when possibility exists for eye contact due to splashing or spraying liquid, airborne particles, or vapor.
- Skin and body protection : Appropriate protective clothing should be worn to prevent skin contact.
- Hygiene measures : Selection of appropriate personal protective equipment should be based on an evaluation of the performance characteristics of the protective equipment relative to the task(s) to be performed, conditions present, duration of use, and the hazards and/or potential hazards that may be encountered during use.  
Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure.  
Use good personal hygiene practices.  
Wash hands before eating, drinking, smoking, or using toilet facilities.  
Take off contaminated clothing and wash before reuse.

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**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES****Appearance**

Physical state : liquid  
Color : Clear  
Odor : Little or no odor.

**Safety data**

Flash point : 315 °F (157 °C)  
at 1,013 hPa (760 mm Hg)  
Method: Pensky-Martens Closed Cup

Lower explosion limit : 0.9 vol%

Upper explosion limit : 9.2 vol%

Flammability (solid, gas) : not applicable

Oxidizing properties : No Data Available.

Autoignition temperature : 657 °F (347 °C)  
at 1,013 hPa (760 mm Hg)

Decomposition temperature : 243 °C

pH : no data available

Melting point/freezing point : 19 - 25 °F (-7 - -4 °C)

Boiling point/boiling range : 545 °F (285 °C)  
at 1,013 hPa (760 mm Hg)

Vapor pressure : 0.0 hPa (0.0 mm Hg)  
at 68 °F (20 °C)

Density : 1.13 g/cm<sup>3</sup>  
at 59 - 68 °F (15 - 20 °C)  
(Water = 1)

Water solubility : Miscible in water.

Partition coefficient: n-  
octanol/water : log Pow: -1.75

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Viscosity, kinematic : 42.3 mm<sup>2</sup>/s  
at 68 °F (20 °C)

Relative vapor density : 5.17  
(Air = 1.0)

Explosive properties : No Data Available.

**SECTION 10. STABILITY AND REACTIVITY**

Conditions to avoid : None.

Materials to avoid : Oxidizers, Acids, Alkalis

Hazardous decomposition products : Carbon oxides (CO, CO<sub>2</sub>)

Thermal decomposition : ~243 °C  
Carbon oxides (CO, CO<sub>2</sub>), Gives off irritating and/or toxic gases in a fire.

**SECTION 11. TOXICOLOGICAL INFORMATION**

**Product Summary** : The below given information is based on the assessment of the product including impurities.

**Acute toxicity**

**Acute oral toxicity** : Based on acute toxicity values, not classified.  
Ingestion of high doses may cause CNS depression (fatigue, dizziness and possibly loss of concentration, with collapse, coma and death in cases of severe over-exposure).

: LD50: > 2,000 mg/kg  
Species: rat

**Acute inhalation toxicity** : Based on acute toxicity values, not classified.  
Saturated vapor/aerosols may cause eye, nasal and respiratory tract irritation.

: LC50: > 5 mg/l  
Exposure time: 4 HOURS  
Species: rat

**Acute dermal toxicity** : Based on acute toxicity values, not classified.

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: LD50: > 18,000 mg/kg  
Species: rabbit

**Skin corrosion/irritation** : Based on skin irritation values, not classified.  
May cause slight transient skin irritation.

**Serious eye damage/eye irritation** : Based on eye irritation values, not classified.  
May cause slight transient eye irritation.

**Respiratory or skin sensitization** : Respiratory sensitization  
Not classified  
no data available

: Skin sensitization  
Not classified  
no data available

**Chronic toxicity**

**Carcinogenicity** : Not classified  
Contains a substance that has a positive carcinogenicity study.  
Inconsistent reports of bladder tumors in rats that received chronic high oral exposure to diethylene glycol cannot be attributed to diethylene glycol and are not evidence of a primary carcinogenic effect but rather due to the development of bladder stones and their mechanical damage.

**Germ cell mutagenicity** : Not classified  
Tetraethylene glycol may cause genotoxicity. Chromosomal aberrations were observed in vitro, whereas in vivo findings were negative (dominant lethal test) or equivocal (bone marrow chromosome aberrations in rats, peripheral blood micronucleus test in mice).

**Reproductive toxicity**

Effects on fertility /  
Effects on or via lactation : Not classified  
No adverse effect observed.

Effects on Development : Not classified  
May be toxic to embryo/fetal development at high oral doses.



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- Target Organ Systemic Toxicant - Single exposure** : Routes of exposure: Inhalation  
Target Organs: Respiratory Tract  
Classified, May cause respiratory irritation.
- Target Organ Systemic Toxicant - Repeated exposure** : Based on repeated exposure toxicity values, not classified.
- Aspiration hazard** : Based on physico-chemical values or lack of human evidence, not classified.

**12. ECOLOGICAL INFORMATION****Ecotoxicology Assessment**

Acute aquatic toxicity : Based on acute aquatic toxicity values, not classified.

Chronic aquatic toxicity : Not classified, based on conclusive test data.

**Toxicity to fish** :  
Low acute toxicity to fish

**Toxicity to daphnia and other aquatic invertebrates** : Low acute toxicity to aquatic invertebrates.

**Toxicity to algae** : Low toxicity to algae.

**Toxicity to bacteria** : Low toxicity to sewage microbes.

**Toxicity to fish (Chronic toxicity)** : Low chronic toxicity to fish.

**Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)** : Low chronic toxicity to aquatic invertebrates.

**Persistence and degradability**

**Biodegradability** : Expected to be biodegradable  
Rapid biodegradability has not been clearly demonstrated, but expected to be inherently biodegradable.

**Bioaccumulative potential**

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**Bioaccumulation** : This material is not expected to bioaccumulate.

: Bioconcentration factor (BCF): 3.16  
(QSAR calculated value)

**Mobility in soil**

**Distribution among environmental compartments** : Stability in soil  
Low absorption to soil particulates predicted  
(QSAR calculated value)

: Stability in water  
Not expected to hydrolyze readily.

**Additional advice** : No additional information available.  
**Environmental fate and pathways**

**Results of PBT and vPvB assessment**

Not applicable.

**Other adverse effects**

**Additional ecological information** : No additional information available.

**SECTION 13. DISPOSAL CONSIDERATIONS**

Further information : 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**

Not regulated for transport

**SECTION 15. REGULATORY INFORMATION**

If identified components of this product are listed under the TSCA 12(b) Export Notification rule, they will be listed below.

**SARA 302/304**

This product contains no known chemicals regulated under SARA 302/304.

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**SARA 311/312**

Based upon available information, this material is classified as the following health and/or physical hazards according to Section 311 & 312:

Immediate (Acute) Health Hazard.  
Delayed (Chronic) Health Hazard.

**SARA 313**

This product contains no known chemicals regulated under SARA 313.

**State Reporting**

This material is not known to contain a chemical substance known to the State of California to cause cancer, reproductive, or developmental toxicity under California Proposition 65. However, Everchem Specialty Chemicals has not tested for the presence of listed chemical substances.

This product contains no known chemicals regulated by New Jersey's Worker and Community Right to Know Act.

No components are subject to the Massachusetts Right to Know Act.

This product contains the following chemicals regulated by Pennsylvania's Right to Know Act:

112-27-6 Triethylene Glycol  
111-46-6 Diethylene Glycol

**Other international regulations****Global Inventory Status**

The ingredients of this product are compliant with the following chemical inventory requirements or exemptions.

\*Additional Explanatory Status Statements follow the table, as necessary.

Country/Region	Inventory	Status Description
Australia	AICS	Compliant
Canada	DSL	Compliant
China	IECSC	Compliant
Europe	REACH	
Japan	ENCS	Compliant
Korea	KECI	Compliant
New Zealand	NZIoC	Not Compliant
Philippines	PICCS	Compliant
United States of America	TSCA	Compliant

**REACH status**

Contact Everchem Specialty Chemicals customer service for current and future status, where required under REACH, we have the intention to proceed with any required registration in accordance with the deadlines set forth in REACH. (Regulation (EU) No. 1907/2006)

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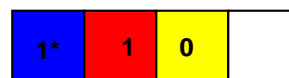
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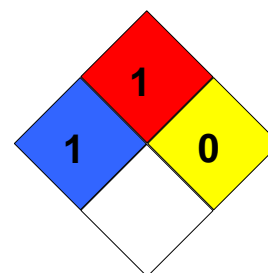
Contact customer service @ everchem.com for additional global inventory information.

**SECTION 16. OTHER INFORMATION****Further information**

**HMIS Classification** : Health Hazard: 1  
Chronic Health Hazard: \*  
Flammability: 1  
Physical hazards: 0



**NFPA Classification** : Health Hazard: 1  
Fire Hazard: 1  
Instability: 0

**Other Information**

HMIS rating scale (0 = minimal hazard; 4 = severe hazard)

NFPA rating scale (0 = minimal hazard; 4 = severe hazard)

**Material safety datasheet sections which have been updated:**

Updated format ; Revised Section(s): 1 - 16 June 18 2014

**Disclaimer**

This document is generated for the purpose of distributing health, safety, and environmental data.

Information is correct to the best of our knowledge at the date of the SDS publication.

It is not a specification sheet nor should any displayed data be construed as a specification.

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This product(s) may not be used in:

(i) any U.S. FDA Class I, Health Canada Class I, and/or European Union Class I medical devices, without prior notification to Seller for each specific product and application; or (ii) the manufacture of any of the following, without prior written approval by Seller for each specific product and application: U.S. FDA Class II Medical Devices; Health Canada Class II or Class

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III Medical Devices; European Union Class II Medical Devices; film, overwrap and/or product packaging that is considered a part or component of one of the aforementioned medical devices; packaging in direct contact with a pharmaceutical active ingredient and/or dosage form that is intended for inhalation, injection, intravenous, nasal, ophthalmic (eye), digestive, or topical (skin) administration; tobacco related products and applications, electronic cigarettes and similar devices, and pressure pipe or fittings that are considered a part or component of a nuclear reactor. Additionally, the product(s) may not be used in: (i) U.S. FDA Class III Medical Devices; Health Canada Class IV Medical Devices; European Class III Medical Devices; (ii) applications involving permanent implantation into the body; (iii) life-sustaining medical applications; and (iv) lead, asbestos or MTBE related applications. All references to U.S. FDA, Health Canada, and European Union regulations include another country's equivalent regulatory classification.