Triethylene Glycol

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date: 03/30/2016

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Substance

Substance name : Triethylene Glycol

CAS No : 112-27-6

Formula : HOCH2CH2OCH2CH2OCH2CH2OH

1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture : Bactericide
Fungicide
Chemical intermediate
Chemical raw material
Solvent

1.3. Details of the supplier of the safety data sheet

Old World Industries, LLC
4065 Commercial Ave.
Northbrook, IL 60062 - USA
T (847) 559-2000
www.oldworldind.com

1.4. Emergency telephone number

Emergency number : (800) 424-9300; (703) 527 3887 (International)
Chemtrec

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation H335

Full text of H statements : see section 16

2.2. Label elements

GHS-US labelling

Hazard pictograms (GHS-US) :

GHS07

Signal word (GHS-US) : Warning

Hazard statements (GHS-US) : H335 - May cause respiratory irritation

Precautionary statements (GHS-US) : P235 - Keep cool
P261 - Avoid breathing mist, spray, vapors
P271 - Use only outdoors or in a well-ventilated area
P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing
P312 - Call doctor/physician or poison center if you feel unwell
P403+P233 - Store in a well-ventilated place. Keep container tightly closed
P405 - Store locked up
P501 - Dispose of contents/container to appropriate waste disposal facility, in accordance with local/regional/national/international regulations

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS US)

No data available

SECTION 3: Composition/information on ingredients

3.1. Substance

Name : Triethylene Glycol

CAS No : 112-27-6

Name	Product identifier	%	GHS-US classification
triethylene glycol	(CAS No) 112-27-6	>= 99	Not classified
tetraethylene glycol	(CAS No) 112-60-7	< 1	Not classified
diethylene glycol	(CAS No) 111-46-6	< 1	Acute Tox. 4 (Oral), H302 STOT RE 2, H373

Full text of hazard classes and H-statements : see section 16

3.2. Mixture

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Call a poison center or a doctor if you feel unwell.

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Call a poison center or a doctor if you feel unwell.

First-aid measures after skin contact : Take off contaminated clothing. Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

First-aid measures after eye contact : Rinse immediately with plenty of water for 15 minutes, lifting lower and upper lids. Take victim to an ophthalmologist if irritation persists.

First-aid measures after ingestion : Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Drink directly plenty of water or milk. Vomiting: prevent asphyxia/aspiration pneumonia. Get immediate medical advice/attention.

4.2. Most important symptoms and effects, both acute and delayed

Symptoms/injuries after inhalation : May cause respiratory irritation.

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Carbon dioxide. Dry powder. Foam. Water fog. Water spray.

Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Vapors form an explosive mixture in air between the upper and lower explosive limits which can be ignited by many sources.

Explosion hazard : May form flammable/explosive vapor-air mixture.

5.3. Advice for firefighters

Firefighting instructions : Cool tanks/drums with water spray/remove them into safety. Use water spray or fog for cooling exposed containers.

Protection during firefighting : Do not attempt to take action without suitable protective equipment.

Special protective equipment for fire fighters : Wear positive pressure self-contained breathing apparatus (SCBA). Protective fire fighting clothing (includes fire-fighting helmet, coat, pants, boots and gloves).

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

No additional information available

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Take up liquid spill into absorbent material.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Wear personal protective equipment. Use only outdoors or in a well-ventilated area. Avoid breathing mist, spray, vapors.

Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store locked up. Store in a well-ventilated place. Keep container tightly closed. Keep cool.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.

Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Avoid all unnecessary exposure. Gloves. Protective goggles.

Hand protection:

Wear suitable gloves resistant to chemical penetration

Eye protection:

Safety glasses

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid

Color : Clear

Odor : Odorless

Odor threshold : No data available

Relative evaporation rate (butylacetate=1) : No data available

Freezing point : -7 - -4 °C (19 - 25 ºF)

Boiling point : 285 °C (545 ºF)

Flash point	:	157 °C (315 ºF) Method Used: Pensky-Martens Closed Cup
Auto-ignition temperature	:	347 °C (657 ºF)
Decomposition temperature	:	243 °C (469 ºF)
Flammability (solid, gas)	:	Not applicable
Vapor pressure	:	0 hPa (0 mm Hg)
Relative vapor density at 20 °C	:	5.17 (air = 1)
Specific Gravity	:	1.13
Density	:	1.13 g/cm³ (9.43 lbs/gal)
Solubility	:	Water: Complete
Log Pow	:	-1.75 Partition coefficient: n-octanol/water
Log Kow	:	No data available
Viscosity, kinematic	:	42.3 mm²/s @ 20 ºC (68 ºF)
Viscosity, dynamic	:	No data available
Explosive properties	:	No data available.
Oxidizing properties	:	No data available.
Explosive limits	:	0.9 - 9.2 vol %

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No additional information available

10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

No additional information available

10.4. Conditions to avoid

No additional information available

10.5. Incompatible materials

Keep away from strong acids, strong bases and oxidizing agents.

10.6. Hazardous decomposition products

Carbon monoxide. Carbon dioxide. Thermal decomposition generates : irritating gases. Toxic vapors.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

triethylene glycol (112-27-6)	
LD50 oral rat	> 5,000.00 mg/kg (Rat)
LD50 dermal rabbit	> 5,000.00 mg/kg (Rabbit)

diethylene glycol (111-46-6)	
LD50 dermal rabbit	11,890.00 mg/kg (Rabbit)
ATE US (oral)	500.00 mg/kg bodyweight
ATE US (dermal)	11,890.00 mg/kg bodyweight

tetraethylene glycol (112-60-7)	
LD50 oral rat	29,000.00 mg/kg (Rat)
LD50 dermal rabbit	> 20,000.00 mg/kg (Rabbit)
ATE US (oral)	29,000.00 mg/kg bodyweight

Skin corrosion/irritation : Not classified

Serious eye damage/irritation : Not classified

Respiratory or skin sensitisation : Not classified

Germ cell mutagenicity : Not classified

Carcinogenicity	:	Not classified
Reproductive toxicity	:	Not classified
Specific target organ toxicity (single exposure)	:	May cause respiratory irritation.
Specific target organ toxicity (repeated exposure)	:	Not classified
Aspiration hazard	:	Not classified
Symptoms/injuries after inhalation	:	May cause respiratory irritation.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.

triethylene glycol (112-27-6)	
EC50 Daphnia 1	42,426.00 mg/l (EC50; 48 h)
LC50 fish 2	61,000.00 mg/l (LC50; 96 h; Lepomis macrochirus)
Threshold limit algae 2	> 10000 mg/l (EC0; 168 h)

12.2. Persistence and degradability

Triethylene Glycol (112-27-6)	
Persistence and degradability	Not established.

triethylene glycol (112-27-6)	
Persistence and degradability	Inherently biodegradable. Readily biodegradable in water. Photolysis in the air.
Biochemical oxygen demand (BOD)	0.03 g O_2/g substance
Chemical oxygen demand (COD)	1.57 g O_2/g substance
ThOD	1.60 g O_2/g substance

diethylene glycol (111-46-6)	
Persistence and degradability	Readily biodegradable in water. Biodegradable in the soil. Highly mobile in soil. Photolysis in the air.
Biochemical oxygen demand (BOD)	0.02 g O_2/g substance
Chemical oxygen demand (COD)	1.51 g O_2/g substance
ThOD	1.51 g O_2/g substance
BOD (% of ThOD)	0.02

tetraethylene glycol (112-60-7)	
Persistence and degradability	Readily biodegradable in water.
Biochemical oxygen demand (BOD)	0.50 g O_2/g substance (10d)
ThOD	2.23 g O_2/g substance
BOD (% of ThOD)	0.29

12.3. Bioaccumulative potential

Triethylene Glycol (112-27-6)	
Log Pow	-1.75 Partition coefficient: n-octanol/water

triethylene glycol (112-27-6)	
Log Pow	-2.08 - -1.17 (Calculated)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

diethylene glycol (111-46-6)	
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

tetraethylene glycol (112-60-7)	
Log Pow	-2.18 - -1.38

tetraethylene glycol (112-60-7)	
Bioaccumulative potential	Bioaccumulation: not applicable.

12.4. Mobility in soil

Triethylene Glycol (112-27-6)	
Ecology - soil	No additional data available.

triethylene glycol (112-27-6)	
Surface tension	0.05 N/m (20 °C)

diethylene glycol (111-46-6)	
Surface tension	0.05 N/m
Log Koc	Koc,SRC PCKOCWIN v1.66; 1; Calculated value; log Koc; SRC PCKOCWIN v1.66; 0; Calculated value

tetraethylene glycol (112-60-7)	
Surface tension	0.02 N/m

12.5. Other adverse effects

Effect on ozone layer : No known effect on the ozone layer

Effect on global warming : No known effects from this product.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product/Packaging disposal recommendations : Dispose of contents/container to appropriate waste disposal facility, in accordance with local/regional/national/international regulations.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Not applicable

TDG

Refer to current TDG Canada for further Canadian regulations

Not applicable

Transport by sea

Not applicable

Air transport

Not applicable

SECTION 15: Regulatory information

15.1. US Federal regulations

Triethylene Glycol (112-27-6)	
EPA TSCA Regulatory Flag	Toxic Substances Control Act (TSCA): The intentional ingredients of this product are listed
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard Delayed (chronic) health hazard

triethylene glycol (112-27-6)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
SARA Section 311/312 Hazard Classes	Delayed (chronic) health hazard Immediate (acute) health hazard

diethylene glycol (111-46-6)
Listed on the United States TSCA (Toxic Substances Control Act) inventory

15.2. International regulations

CANADA

Triethylene Glycol (112-27-6)	
WHMIS Classification	This SDS has been prepared according to the criteria of the Hazardous Products Regulations (HPR) (WHMIS 2015) and the SDS contains all of the information required by the HPR. Applicable GHS information is listed in section 2.2 of this SDS.

EU-Regulations

No additional information available

National regulations

Triethylene Glycol (112-27-6)
DSL (Canada): The intentional ingredients of this product are listed ECL (South Korea): The intentional ingredients of this product are listed. EINECS (Europe): The intentional ingredients of this product are listed ENCS (Japan): The intentional ingredients of this product are listed

15.3. US State regulations

diethylene glycol (111-46-6)
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List

SECTION 16: Other information

Revision date : 03/30/2016

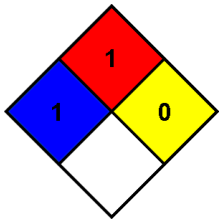
Full text of H-statements:

H302	Harmful if swallowed
H335	May cause respiratory irritation
H373	May cause damage to organs through prolonged or repeated exposure

NFPA health hazard : 1 - Exposure could cause irritation but only minor residual injury even if no treatment is given.

NFPA fire hazard : 1 - Must be preheated before ignition can occur.

NFPA reactivity : 0 - Normally stable, even under fire exposure conditions, and are not reactive with water.



HMIS III Rating

Health : 1 Slight Hazard - Irritation or minor reversible injury possible

Flammability : 1 Slight Hazard - Materials that must be preheated before ignition will occur. Includes liquids, solids and semi solids having a flash point above 200 ºF (93 ºC). (Class IIIB)

Physical : 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.

SDS GHS US (GHS HazCom 2012) OWI

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