



# SAFETY DATA SHEET

**MATERION**

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

### 1.1. Product identifier

<b>Name of the substance</b>	Triethylene Glycol
<b>Identification number</b>	203-953-2 (EC number)
<b>Synonyms</b>	None.
<b>Document number</b>	1UH
<b>Materion Code</b>	1UH
<b>Issue date</b>	24-October-2016
<b>Version number</b>	02
<b>Revision date</b>	12-January-2018
<b>Supersedes date</b>	24-October-2016

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

<b>Identified uses</b>	Not available.
<b>Uses advised against</b>	None known.

### 1.3. Details of the supplier of the safety data sheet

#### Supplier

<b>Company name</b>	Materion Advanced Chemicals Inc.
<b>Address</b>	407 N. 13th Street 1316 W. St. Paul Avenue Milwaukee, WI 53233 United States
<b>Division</b>	Milwaukee
<b>Telephone</b>	414.212.0257
<b>e-mail</b>	advancedmaterials@materion.com
<b>Contact person</b>	Noreen Atkinson

### 1.4. Emergency telephone number

## SECTION 2: Hazards identification

### 2.1. Classification of the substance or mixture

#### Classification according to Regulation (EC) No 1272/2008 as amended

<b>Health hazards</b>	
Acute toxicity, inhalation	Category 3
<b>Environmental hazards</b>	
Hazardous to the aquatic environment, long-term aquatic hazard	Category 3

**Hazard summary** Not available.

### 2.2. Label elements

#### Label according to Regulation (EC) No. 1272/2008 as amended

<b>Contains:</b>	Triethylene Glycol
<b>Hazard pictograms</b>	None.
<b>Signal word</b>	Warning
<b>Hazard statements</b>	
H335	May cause respiratory irritation.
H302	Harmful if swallowed.
H336	May cause drowsiness or dizziness.
H373	May cause damage to organs through prolonged or repeated exposure.

### Precautionary statements

<b>Prevention</b>	
P264	Wash thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.

P260 Do not breathe dust/fume/mist/vapours.  
P271 Use only outdoors or in a well ventilated area.

**Response**

P307 + P311 IF exposed: Call a POISON CENTRE or doctor/physician.

**Storage**

Store away from incompatible materials.

**Disposal**

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

**Supplemental label information**

None.

**2.3. Other hazards**

None known.

**SECTION 3: Composition/information on ingredients**

**3.1. Substances**

**General information**

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	INDEX No.	Notes
Triethylene Glycol	100	112-27-6 203-953-2	-	-	
<b>Classification:</b>	Acute Tox. 4;H302, STOT SE 3;H335, STOT SE 3;H336, STOT RE 2;H373				

**SECTION 4: First aid measures**

**General information** Not available.

**4.1. Description of first aid measures**

**Inhalation** Breathing difficulty caused by inhalation of particulate requires immediate removal to fresh air. If breathing has stopped, perform artificial respiration and obtain medical help. Get medical attention if symptoms persist.

**Skin contact** Remove contaminated clothing immediately and wash skin with soap and water. Obtain medical help for persistent irritation.

**Eye contact** Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention if symptoms persist.

**Ingestion** Do not induce vomiting. Immediately call a poison centre/doctor.

**4.2. Most important symptoms and effects, both acute and delayed** Not available.

**4.3. Indication of any immediate medical attention and special treatment needed** Not available.

**SECTION 5: Firefighting measures**

**General fire hazards** Not available.

**5.1. Extinguishing media**

**Suitable extinguishing media** Dry chemical, CO2, water spray or alcohol resistant foam.

**Unsuitable extinguishing media** Not available.

**5.2. Special hazards arising from the substance or mixture** During fire, gases hazardous to health may be formed.

**5.3. Advice for firefighters**

**Special protective equipment for firefighters** Not available.

**SECTION 6: Accidental release measures**

**6.1. Personal precautions, protective equipment and emergency procedures**

**For non-emergency personnel** Avoid inhalation of dust. Ensure adequate ventilation. Wear appropriate personal protective equipment.

**For emergency responders** Not available.

6.2. Environmental precautions Not available.

6.3. Methods and material for containment and cleaning up Not available.

6.4. Reference to other sections Not available.

## SECTION 7: Handling and storage

7.1. Precautions for safe handling Not available.

7.2. Conditions for safe storage, including any incompatibilities Not available.

7.3. Specific end use(s) Not available.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

#### Occupational exposure limits

##### Austria. MAK List, OEL Ordinance (GwV), BGBl. II, no. 184/2001

Material	Type	Value	Form
Triethylene Glycol (CAS 112-27-6)	MAK	1000 mg/m3	Inhalable fraction.
	STEL	4000 mg/m3	Inhalable fraction.

##### Bulgaria. OELs. Regulation No 13 on protection of workers against risks of exposure to chemical agents at work

Material	Type	Value
Triethylene Glycol (CAS 112-27-6)	TWA	15 mg/m3

##### Denmark. Exposure Limit Values

Material	Type	Value
Triethylene Glycol (CAS 112-27-6)	TLV	1000 mg/m3

##### Germany. DFG MAK List (advisory OELs). Commission for the Investigation of Health Hazards of Chemical Compounds in the Work Area (DFG)

Material	Type	Value	Form
Triethylene Glycol (CAS 112-27-6)	TWA	1000 mg/m3	Vapor and aerosol, inhalable fraction.

##### Germany. TRGS 900, Limit Values in the Ambient Air at the Workplace

Material	Type	Value	Form
Triethylene Glycol (CAS 112-27-6)	AGW	1000 mg/m3	Inhalable fraction.

##### Romania. OELs. Protection of workers from exposure to chemical agents at the workplace

Material	Type	Value
Triethylene Glycol (CAS 112-27-6)	STEL	1000 mg/m3
	TWA	163 ppm 700 mg/m3 114 ppm

##### Slovakia. OELs. Regulation No. 300/2007 concerning protection of health in work with chemical agents

Material	Type	Value
Triethylene Glycol (CAS 112-27-6)	TWA	1000 mg/m3

##### Slovenia. OELs. Regulations concerning protection of workers against risks due to exposure to chemicals while working (Official Gazette of the Republic of Slovenia)

Material	Type	Value	Form
Triethylene Glycol (CAS 112-27-6)	TWA	1000 mg/m3	Inhalable fraction.

**Switzerland. SUVA Grenzwerte am Arbeitsplatz**

<b>Material</b>	<b>Type</b>	<b>Value</b>	<b>Form</b>
Triethylene Glycol (CAS 112-27-6)	STEL	2000 mg/m3	Inhalable dust.
	TWA	1000 mg/m3	Inhalable dust.
<b>Biological limit values</b>	No biological exposure limits noted for the ingredient(s).		
<b>Recommended monitoring procedures</b>	Not available.		
<b>Derived no effect levels (DNELs)</b>	Not available.		
<b>Predicted no effect concentrations (PNECs)</b>	Not available.		
<b>8.2. Exposure controls</b>			
<b>Appropriate engineering controls</b>	Not available.		
<b>Individual protection measures, such as personal protective equipment</b>			
<b>General information</b>	Not available.		
<b>Eye/face protection</b>	Not available.		
<b>Skin protection</b>			
- <b>Hand protection</b>	Not available.		
- <b>Other</b>	Not available.		
<b>Respiratory protection</b>	Not available.		
<b>Thermal hazards</b>	Not available.		
<b>Hygiene measures</b>	Not available.		
<b>Environmental exposure controls</b>	Not available.		

**SECTION 9: Physical and chemical properties****9.1. Information on basic physical and chemical properties****Appearance**

<b>Physical state</b>	Liquid.
<b>Form</b>	Not available.
<b>Colour</b>	Not available.
<b>Odour</b>	Not available.
<b>Odour threshold</b>	Not available.
<b>pH</b>	Not available.
<b>Melting point/freezing point</b>	-7 °C (19,4 °F)
<b>Initial boiling point and boiling range</b>	285 °C (545 °F)
<b>Flash point</b>	165 °C (329 °F) 1,866513 kPa
<b>Evaporation rate</b>	176,7 °C (350,0 °F) Open cup
<b>Flammability (solid, gas)</b>	Not available.
<b>Upper/lower flammability or explosive limits</b>	
<b>Flammability limit - lower (%)</b>	Not available.
<b>Flammability limit - upper (%)</b>	Not available.
<b>Vapour pressure</b>	0,0002 kPa at 25 °C
<b>Vapour density</b>	Not available.
<b>Relative density</b>	Not available.
<b>Solubility(ies)</b>	
<b>Solubility (water)</b>	Not available.
<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Auto-ignition temperature</b>	347,22 °C (657 °F)

<b>Decomposition temperature</b>	Not available.
<b>Viscosity</b>	Not available.
<b>Explosive properties</b>	Not available.
<b>Oxidising properties</b>	Not available.

## 9.2. Other information

<b>Density</b>	1,13 g/cm <sup>3</sup> estimated at 15 °C
<b>Dynamic viscosity</b>	47,8 mPa.s (20 °C (68 °F))
<b>Kinematic viscosity</b>	42,4 mm <sup>2</sup> /s estimated
<b>Molecular formula</b>	C <sub>6</sub> -H <sub>14</sub> -O <sub>4</sub>
<b>Molecular weight</b>	150,17 g/mol
<b>Percent volatile</b>	100 %
<b>Specific gravity</b>	1,13 at 15 °C
<b>VOC</b>	100 %

## SECTION 10: Stability and reactivity

<b>10.1. Reactivity</b>	Not available.
<b>10.2. Chemical stability</b>	Not available.
<b>10.3. Possibility of hazardous reactions</b>	Not available.
<b>10.4. Conditions to avoid</b>	Not available.
<b>10.5. Incompatible materials</b>	Not available.
<b>10.6. Hazardous decomposition products</b>	Not available.

## SECTION 11: Toxicological information

<b>General information</b>	Not available.
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### Information on likely routes of exposure

<b>Inhalation</b>	Not available.
<b>Skin contact</b>	Not available.
<b>Eye contact</b>	Not available.
<b>Ingestion</b>	Not available.

<b>Symptoms</b>	Not available.
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### 11.1. Information on toxicological effects

#### Acute toxicity

Product	Species	Test results
Triethylene Glycol (CAS 112-27-6)		
<b>Acute</b>		
<b>Inhalation</b>		
LC50	Rat	> 3,9 mg/l, 4 Hours

<b>Skin corrosion/irritation</b>	Not available.
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<b>Serious eye damage/eye irritation</b>	Not available.
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<b>Respiratory sensitisation</b>	Not available.
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<b>Skin sensitisation</b>	Not available.
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<b>Germ cell mutagenicity</b>	Not available.
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#### Carcinogenicity

##### Hungary. 26/2000 EüM Ordinance on protection against and preventing risk relating to exposure to carcinogens at work (as amended)

Not listed.

<b>Reproductive toxicity</b>	Not available.
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<b>Specific target organ toxicity - single exposure</b>	Not available.
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<b>Specific target organ toxicity - repeated exposure</b>	Not available.
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<b>Aspiration hazard</b>	Not available.
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**Mixture versus substance information** Not available.

**Other information** Not available.

## SECTION 12: Ecological information

### 12.1. Toxicity

Product	Species	Test results
Triethylene Glycol (CAS 112-27-6)		
<b>Aquatic</b>		
Crustacea	EC50	Water flea (Daphnia magna) 48,9 - 56 mg/l, 48 hours
Fish	LC50	Bluegill (Lepomis macrochirus) > 10000 mg/l, 96 hours

**12.2. Persistence and degradability** Not available.

**12.3. Bioaccumulative potential** Not available.

**Partition coefficient n-octanol/water (log Kow)** Not available.

**Bioconcentration factor (BCF)** Not available.

**12.4. Mobility in soil** Not available.

**12.5. Results of PBT and vPvB assessment** Not a PBT or vPvB substance or mixture.

**12.6. Other adverse effects** Not available.

### 12.7. Additional information

#### Estonia Dangerous substances in groundwater Data

Triethylene Glycol (CAS 112-27-6)

Pesticides (total) 0,5 UG/L

Pesticides (total) 5 UG/L

#### Estonia Dangerous substances in soil Data

Triethylene Glycol (CAS 112-27-6)

Synthetic pesticides (total of active substances) 0,5 mg/kg

Synthetic pesticides (total of active substances) 20 mg/kg

Synthetic pesticides (total of active substances) 5 mg/kg

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

**Residual waste** Not available.

**Contaminated packaging** Not available.

**EU waste code** Not available.

## SECTION 14: Transport information

### ADR

14.1. - 14.6.: Not regulated as dangerous goods.

### RID

14.1. - 14.6.: Not regulated as dangerous goods.

### ADN

14.1. - 14.6.: Not regulated as dangerous goods.

### IATA

14.1. - 14.6.: Not regulated as dangerous goods.

### IMDG

14.1. - 14.6.: Not regulated as dangerous goods.

## SECTION 15: Regulatory information

### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

#### EU regulations

**Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended**

Not listed.

**Regulation (EC) No. 850/2004 On persistent organic pollutants, Annex I as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended**

Not listed.

**Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended**

Not listed.

**Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry, as amended**

Not listed.

**Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA**

Not listed.

#### **Authorisations**

**Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorization, as amended**

Not listed.

#### **Restrictions on use**

**Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended**

Not listed.

**Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work, as amended.**

Not listed.

#### **Other EU regulations**

**Directive 2012/18/EU on major accident hazards involving dangerous substances, as amended**

Not listed.

#### **National regulations**

Not available.

#### **15.2. Chemical safety assessment**

Not available.

### **SECTION 16: Other information**

#### **List of abbreviations**

Not available.

#### **Information on evaluation method leading to the classification of mixture**

Not available.