

**Ethylene Glycol****BDH1125**

Version 1.3

Revision Date 03/25/2015

Print Date 05/08/2015

**SECTION 1. PRODUCT AND COMPANY IDENTIFICATION**

Product name : Ethylene Glycol

MSDS Number : 000000011718

Product Use Description : Solvent

Manufactured for : VWR International LLC  
Radnor Corporate Center  
Building One  
Suite 200  
100 Matsonford Road  
Radnor PA 19087

For more information call : (Monday-Friday, 8:00am-5:00pm)  
1-800-932-5000

In case of emergency call : (24 hours/day, 7 days/week)  
1-800-424-9300 (USA Only)  
**For Transportation Emergencies:**  
1-800-424-9300 (CHEMTREC - Domestic)  
1-613-996-6666 (CANUTEC - Canada)

**SECTION 2. HAZARDS IDENTIFICATION****Emergency Overview**

Form : liquid, clear

Color : colourless

Odor : odourless

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**Classification of the substance or mixture**

Classification of the substance or mixture : Specific target organ toxicity - repeated exposure, Category 2, Oral, Kidney

**GHS Label elements, including precautionary statements**

Symbol(s)

:



Signal word

: Warning

Hazard statements

: May cause damage to organs through prolonged or repeated exposure if swallowed.

Precautionary statements

: **Prevention:**

Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.  
Use personal protective equipment as required.

**Response:**

Get medical advice/ attention if you feel unwell.

**Disposal:**

Dispose of contents/container in accordance with local, state & federal regulations.

Hazards not otherwise classified

: May cause eye and skin irritation.

**Carcinogenicity**

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, IARC, or OSHA.

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

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Formula : C<sub>2</sub>H<sub>6</sub>O<sub>2</sub>  
Chemical nature : Substance

Chemical Name	CAS-No.	Concentration
Ethylene Glycol	107-21-1	100.00 %

**SECTION 4. FIRST AID MEASURES**

Inhalation : Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Use oxygen as required, provided a qualified operator is present. Call a physician.

Skin contact : Wash off immediately with plenty of water for at least 15 minutes. Take off contaminated clothing and shoes immediately. Wash contaminated clothing before re-use. Call a physician if irritation develops or persists.

Eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Call a physician if irritation develops or persists.

Ingestion : If swallowed, and the victim is conscious and alert, induce vomiting immediately, as directed by medical personnel. Call a physician.

**Notes to physician**

Treatment : Treat symptomatically.

**SECTION 5. FIREFIGHTING MEASURES**

Suitable extinguishing media : Water spray  
Dry chemical  
Alcohol-resistant foam  
Carbon dioxide (CO<sub>2</sub>)

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Specific hazards during firefighting : In case of fire hazardous decomposition products may be produced such as:  
Carbon monoxide  
Carbon dioxide (CO<sub>2</sub>)

Special protective equipment for firefighters : Wear self-contained breathing apparatus and protective suit.

**SECTION 6. ACCIDENTAL RELEASE MEASURES**

- Personal precautions : Wear personal protective equipment.  
Immediately evacuate personnel to safe areas.  
Keep people away from and upwind of spill/leak.  
Ensure adequate ventilation.  
Remove all sources of ignition.  
Do not swallow.  
Avoid breathing vapours, mist or gas.  
Avoid contact with skin, eyes and clothing.
- Environmental precautions : Prevent further leakage or spillage if safe to do so.  
Discharge into the environment must be avoided.  
Do not flush into surface water or sanitary sewer system.  
Prevent product from entering drains.  
Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
- Methods for cleaning up : Ventilate the area.  
Contain and collect spillage with non-combustible absorbent materials, e.g. sand, earth, vermiculite, diatomaceous earth and place in container for disposal according to local regulations (see section 13).

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

Handling : Wear personal protective equipment.



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Use only in well-ventilated areas.  
 Keep container tightly closed.  
 Do not smoke.  
 Do not swallow.  
 Avoid breathing vapours, mist or gas.  
 Avoid contact with skin, eyes and clothing.

Advice on protection against fire and explosion : Keep away from fire, sparks and heated surfaces.  
 Take precautionary measures against static discharges.  
 Ensure all equipment is electrically grounded before beginning transfer operations.  
 Use explosion-proof equipment.  
 Keep product and empty container away from heat and sources of ignition.  
 No sparking tools should be used.  
 No smoking.

#### Storage

Requirements for storage areas and containers : Keep containers tightly closed in a dry, cool and well-ventilated place.  
 Containers which are opened must be carefully resealed and kept upright to prevent leakage.  
 Keep away from heat and sources of ignition.  
 Keep away from direct sunlight.  
 Protect from physical damage.  
 Store away from incompatible substances.  
 Container hazardous when empty.  
 Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.

## SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Protective measures : Ensure that eyewash stations and safety showers are close to the workstation location.

Engineering measures : Use with local exhaust ventilation.

Eye protection : Wear as appropriate:

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- Safety glasses with side-shields  
Safety goggles
- Hand protection : Protective gloves  
Gloves must be inspected prior to use.  
Replace when worn.
- Skin and body protection : Wear as appropriate:  
Solvent-resistant apron  
Flame retardant antistatic protective clothing.  
If splashes are likely to occur, wear:  
Protective suit
- Respiratory protection : In case of insufficient ventilation wear suitable respiratory equipment.  
Use NIOSH approved respiratory protection.
- Hygiene measures : When using, do not eat, drink or smoke.  
Wash hands before breaks and immediately after handling the product.  
Keep working clothes separately.  
Remove and wash contaminated clothing before re-use.  
Do not swallow.  
Avoid breathing vapours, mist or gas.  
Avoid contact with skin, eyes and clothing.  
This material has an established AIHA ERPG exposure limit.  
The current list of ERPG exposure limits can be found at [http://www.aiha.org/insideaiha/GuidelineDevelopment/ERPG/Documents/2011erpgweelhandbook\\_table-only.pdf](http://www.aiha.org/insideaiha/GuidelineDevelopment/ERPG/Documents/2011erpgweelhandbook_table-only.pdf).

**Exposure Guidelines**

Components	CAS-No.	Value	Control parameters	Update	Basis
Ethylene Glycol	107-21-1	Ceiling : Ceiling Limit Value:	100 mg/m3	2008	ACGIH:US. ACGIH Threshold Limit Values
Further information	:	Form of exposure : Aerosol.			

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Ethylene Glycol	107-21-1	TWA : time weighted average	10 mg/m3	02 2014	ACGIHLIS_P:US. ACGIH Notice of Intended Changes (NIC) to Threshold Limit Values
Further information	: Form of exposure : Inhalable fraction and vapor.				

Ethylene Glycol	107-21-1	Ceiling : Ceiling Limit Value:	125 mg/m3 (50 ppm)	1989	Z1A:US. OSHA Table Z-1-A (29 CFR 1910.1000)
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**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Physical state	: liquid, clear
Color	: colourless
Odor	: odourless
pH	: Note: Not applicable
Melting point/freezing point	: -12 °C
Boiling point/boiling range	: 197 °C
Flash point	: 232 °F (111 °C) Method: closed cup
Lower explosion limit	: 3 %(V)
Upper explosion limit	: 15.3 %(V)

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Vapor pressure	: 0.08 hPa at 20 °C(68 °F)
Vapor density	: 2.1 Note: (Air = 1.0)
Density	: 1.113 g/cm <sup>3</sup>
Water solubility	: Note: completely miscible
Partition coefficient: n-octanol/water	: log Pow: -1.93
Ignition temperature	: 410 °C
Molecular weight	: 62.07 g/mol

**SECTION 10. STABILITY AND REACTIVITY**

Chemical stability	: Stable under normal conditions.
Possibility of hazardous reactions	: Hazardous polymerisation does not occur.
Conditions to avoid	: Heat, flames and sparks. Keep away from direct sunlight.
Incompatible materials to avoid	: Chromium trioxide permanganates, e.g. potassium permanganate Disilver oxide Chlorosulfonic acid Oleum Sulfuric acid



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Hazardous decomposition products : In case of fire hazardous decomposition products may be produced such as:  
Carbon monoxide  
Carbon dioxide (CO<sub>2</sub>)

**SECTION 11. TOXICOLOGICAL INFORMATION**

Acute oral toxicity : LD50: 8,000 mg/kg  
Species: Rat

Acute inhalation toxicity : LC50: > 100 mg/l  
Exposure time: 2 h  
Species: Rat

Acute dermal toxicity : LD50: 10,600 mg/kg  
Species: Rabbit

Skin irritation : Species: Rabbit  
Result: Mild skin irritation

Eye irritation : Species: Rabbit  
Note: mild transient effects

Sensitisation : Species: Guinea pig  
Result: Did not cause sensitisation on laboratory animals.

Repeated dose toxicity : Species: Rat  
Application Route: Oral  
Exposure time: 13 Weeks  
Note: Kidney toxicity

: Species: Rat

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Application Route: Oral  
Exposure time: 16 Weeks  
NOEL: 71 mg/kg  
Note: Kidney damage

: Species: Mouse  
Application Route: Oral  
Note: Developmental Toxicity Incomplete skeletal ossification  
Teratogenic effects occur at doses which did not also produce effects in the maternal animal.

: Species: Rat  
Application Route: Oral gavage bioassay  
Note: Developmental Toxicity Incomplete skeletal ossification  
Skeletal malformation decrease in body weight

Genotoxicity in vitro : Note: In vitro tests did not show mutagenic effects

Carcinogenicity : Species: Rat  
Application Route: Oral  
Exposure time: Lifetime Exposure  
Note: Did not show carcinogenic effects in animal experiments.

: Species: Mouse  
Application Route: Oral  
Exposure time: Lifetime Exposure  
Note: Did not show carcinogenic effects in animal experiments.

Reproductive toxicity : Species: Mouse  
Method: No toxicity to reproduction

: Species: Rat  
Method: No toxicity to reproduction

Teratogenicity : Species: Mouse  
Application Route: Oral  
NOAEL, Teratog: 100 mg/kg/d

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Note: Incomplete skeletal ossification Teratogenic effects occur at doses which did not also produce effects in the maternal animal.

: Species: Rat  
Application Route: Oral  
NOAEL, Teratog: 200 mg/kg/d  
Note: Incomplete skeletal ossification Skeletal malformation decrease in body weight

Further information : Note: Acute toxicity Can cause kidney toxicity, narcotic effects and metabolic acidosis.

**SECTION 12. ECOLOGICAL INFORMATION****Ecotoxicity effects**

Toxicity to fish : LC50: 72,860 mg/l  
Exposure time: 96 h  
Species: Pimephales promelas (fathead minnow)

Toxicity to daphnia and other aquatic invertebrates : Immobilization  
EC50: > 20,000 mg/l  
Species: Daphnia (water flea)

Toxicity to algae : Growth inhibition  
EC50: > 100 mg/l  
Exposure time: 48 h  
Species: Algae

**Elimination information (persistence and degradability)**

Biodegradability : Note: Readily biodegradable.

**Further information on ecology**

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#### SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods : Dispose of contents/ container in accordance with local, state, and federal regulations.

#### SECTION 14. TRANSPORT INFORMATION

**DOT** Not dangerous goods

**TDG** Not dangerous goods

**IATA** Not dangerous goods

**IMDG** Not dangerous goods

#### SECTION 15. REGULATORY INFORMATION

##### Inventories

US. Toxic Substances Control Act : On TSCA Inventory

Australia. Industrial Chemical (Notification and Assessment) Act : On the inventory, or in compliance with the inventory

Canada. Canadian Environmental Protection Act (CEPA). Domestic Substances List (DSL) : All components of this product are on the Canadian DSL.

Japan. Kashin-Hou Law List : On the inventory, or in compliance with the inventory

Korea. Toxic Chemical Control Law (TCCL) List : On the inventory, or in compliance with the inventory



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Philippines. The Toxic Substances and Hazardous and Nuclear Waste Control Act : On the inventory, or in compliance with the inventory

China. Inventory of Existing Chemical Substances : On the inventory, or in compliance with the inventory

New Zealand. Inventory of Chemicals (NZIoC), as published by ERMA New Zealand : On the inventory, or in compliance with the inventory

#### National regulatory information

US. EPA CERCLA Hazardous Substances (40 CFR 302) : The following component(s) of this product is/are subject to release reporting under 40 CFR 302 when release exceeds the Reportable Quantity (RQ):

Reportable quantity: 5000 lbs  
: Ethylene Glycol 107-21-1

**SARA 302 Components** : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313 Components** : The following components are subject to reporting levels established by SARA Title III, Section 313:  
: Ethylene Glycol 107-21-1

**SARA 311/312 Hazards** : Acute Health Hazard  
Chronic Health Hazard

**CERCLA Reportable Quantity** : 5000 lbs

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**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.

**Massachusetts RTK** : Ethylene Glycol 107-21-1

**New Jersey RTK** : Ethylene Glycol 107-21-1

**Pennsylvania RTK** : Ethylene Glycol 107-21-1

**WHMIS Classification** : D2A: Very Toxic Material Causing Other Toxic Effects  
This product has been classified according to the hazard criteria of the CPR and the MSDS contains all of the information required by the CPR.

## SECTION 16. OTHER INFORMATION

	<b>HMIS III</b>	<b>NFPA</b>
Health hazard	: 2*	2
Flammability	: 1	1
Physical Hazard	: 0	
Instability	:	0

\* - Chronic health hazard

Hazard rating and rating systems (e.g. HMIS® III, NFPA): This information is intended solely for the use of individuals trained in the particular system.

### Further information

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe

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handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. Final determination of suitability of any material is the sole responsibility of the user. This information should not constitute a guarantee for any specific product properties.

Changes since the last version are highlighted in the margin. This version replaces all previous versions.

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