

## Ethylene Glycol, 99% Reagent

### 1. PRODUCT AND COMPANY IDENTIFICATION

**Product Name:** Ethylene Glycol, 99% Reagent

**Synonyms/Generic Names:** 1,2-Dihydroxyethane; 1,2-Ethandiol; Ethylene dihydrate; Monoethylene glycol

**Product Number:** 2165

**Product Use:** Industrial, Manufacturing or Laboratory use

**Manufacturer:** Columbus Chemical Industries, Inc.  
N4335 Temkin Rd.  
Columbus, WI. 53925

**For More Information:** 920-623-2140 (Monday-Friday 8:00-4:30)  
[www.columbuschemical.com](http://www.columbuschemical.com)

**In Case of Emergency Call:** CHEMTREC - 800-424-9300 or 703-527-3887 (24 Hours/Day, 7 Days/Week)

### 2. HAZARDS IDENTIFICATION

**OSHA Hazards:** Harmful by ingestion, Irritant

**Target Organs:** Liver, Cardiovascular system, Eyes, Kidney, Central nervous system

**Signal Words:** Warning

**Pictograms:**



**GHS Classification:**

Acute toxicity, Oral	Category 4
Eye irritation	Category 2B

**GHS Label Elements, including precautionary statements:**

**Hazard Statements:**

H302	Harmful if swallowed.
H320	Causes eye irritation.

**Precautionary Statements:**

P264	Wash hands thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P301+P312	IF SWALLOWED: Call a POISON CENTER/doctor/physician if you feel unwell.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P330	Rinse mouth.
P337+P313	If eye irritation persists: Get medical advice/attention.

P501

Dispose of contents/container in accordance with local regulations.

**Potential Health Effects**

<b>Eyes</b>	Causes eye irritation.
<b>Inhalation</b>	May be harmful if inhaled. Causes respiratory tract irritation.
<b>Skin</b>	May be harmful if absorbed through skin. Causes skin irritation.
<b>Ingestion</b>	Toxic if swallowed.

**NFPA Ratings**

<b>Health</b>	1
<b>Flammability</b>	1
<b>Reactivity</b>	0
<b>Specific hazard</b>	Not Available

**HMIS Ratings**

<b>Health</b>	1
<b>Fire</b>	1
<b>Reactivity</b>	0
<b>Personal</b>	Not Available

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Component	Weight %	CAS #	EINECS# / ELINCS#	Formula	Molecular Weight
Ethylene Glycol	>95	107-21-1	203-473-3	C <sub>2</sub> H <sub>6</sub> O <sub>2</sub>	62.07 g/mol
Water	<3	7732-18-5	231-791-2	H <sub>2</sub> O	18.00 g/mol
Dipotassium Hydrogen Phosphate	<3	7758-11-4	231-864-5	K <sub>2</sub> HPO <sub>4</sub>	174.18 g/mol

**4. FIRST-AID MEASURES**

<b>Eyes</b>	Rinse with plenty of water for at least 15 minutes and seek medical attention if necessary.
<b>Inhalation</b>	Move casualty to fresh air and keep at rest. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention if necessary.
<b>Skin</b>	Flush with plenty of water for at least 15 minutes and wash using soap. Get medical attention if necessary.
<b>Ingestion</b>	<b>Do Not Induce Vomiting!</b> Never give anything by mouth to an unconscious person. If conscious, wash out mouth with water. Get medical attention if necessary.

**5. FIRE-FIGHTING MEASURES**

<b>Suitable (and unsuitable) extinguishing media</b>	Product is flammable. Use fog or dry chemical for fires involving this material. Use appropriate media for adjacent fire. Cool unopened containers with water.
<b>Special protective equipment and precautions for firefighters</b>	Wear self-contained, approved breathing apparatus and full protective clothing, including eye protection and boots.
<b>Specific hazards arising from the chemical</b>	Emits toxic fumes (carbon oxides, potassium oxides, phosphorus oxides) under fire conditions. (See also Stability and Reactivity section).

**6. ACCIDENTAL RELEASE MEASURES**

<b>Personal precautions, protective equipment and emergency procedures</b>	See section 8 for recommendations on the use of personal protective equipment.
<b>Environmental precautions</b>	Prevent spillage from entering drains. Any release to the environment may be subject to federal/national or local reporting requirements.

<b>Methods and materials for containment and cleaning up</b>	Absorb spill with noncombustible absorbent material, then place in a suitable container for disposal. Clean surfaces thoroughly with water to remove residual contamination. Dispose of all waste and cleanup materials in accordance with regulations.
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## 7. HANDLING AND STORAGE

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### Precautions for safe handling

See section 8 for recommendations on the use of personal protective equipment. Use with adequate ventilation. Wash thoroughly after using. Keep container closed when not in use.

### Conditions for safe storage, including any incompatibilities

Store in cool, dry well ventilated area. Keep away from incompatible materials (see section 10 for incompatibilities).

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## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

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### Occupational exposure controls:

Component	Exposure Limits	Basis	Entity
Ethylene Glycol	100 mg/m <sup>3</sup>	STEL	ACGIH
	50 ppm 125 mg/m <sup>3</sup>	STEL	OSHA

TWA: Time Weighted Average over 8 hours of work.  
 TLV: Threshold Limit Value over 8 hours of work.  
 REL: Recommended Exposure Limit  
 PEL: Permissible Exposure Limit  
 STEL: Short Term Exposure Limit during x minutes.  
 IDLH: Immediately Dangerous to Life or Health  
 WEEL: Workplace Environmental Exposure Levels  
 CEIL: Ceiling

### Personal Protection

<b>Eyes</b>	Wear chemical safety glasses or goggles.
<b>Inhalation</b>	Provide local exhaust, preferably mechanical. If exposure levels are excessive, use an approved respirator.
<b>Skin</b>	Wear nitrile or rubber gloves, apron or lab coat.
<b>Other</b>	Not Available

### Other Recommendations

Provide eyewash stations, quick-drench showers and washing facilities accessible to areas of use and handling.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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Appearance (physical state, color, etc.)	Colorless, syrupy liquid.
Odor	Odorless.
Odor threshold	Not Available
pH	Not Available
Melting point/freezing point	-13°C (9°F)
Initial boiling point and boiling range	197.6°C (387.7°F)
Flash point	CLOSED CUP: 111°C (231.8°F)
Evaporation rate	1
Flammability (solid, gas)	Flammable
Upper/lower flammability or explosive limit	LOWER: 3.2% UPPER: 15.3%

Vapor pressure	0.11 hPa (0.08 mmHg) at 20°C (68°F) 0.13 hPa (0.10 mmHg) at 20°C (68°F)
Vapor density	2.14 (Air = 1)
Density	1.1088 (Water = 1)
Solubility (ies)	Soluble in cold water, hot water, acetone. Slightly soluble in diethyl ether. Miscible with lower aliphatic alcohols, glycerol, acetic acid, acetone and similar ketones, aldehydes, pyridine, similar coal tar bases.
Partition coefficient: n-octanol/water	log Pow: -1.36
Auto-ignition temperature	398°C (748.4°F)
Decomposition temperature	Not Available

## 10. STABILITY AND REACTIVITY

<b>Chemical Stability</b>	Stable
<b>Possibility of Hazardous Reactions</b>	Will not occur.
<b>Conditions to Avoid</b>	Not Available
<b>Incompatible Materials</b>	Strong acids, strong oxidizing agents, strong bases, aldehydes, aluminum.
<b>Hazardous Decomposition Products</b>	Carbon oxides.

## 11. TOXICOLOGICAL INFORMATION

### Acute Toxicity

<b>Skin</b>	LD50 Dermal - rabbit - 10,626 mg/kg
<b>Eyes</b>	Eyes - rabbit - Mild eye irritation - 24 h
<b>Respiratory</b>	Not Available
<b>Ingestion</b>	LD50 Oral - rat - 4,700 mg/kg

### Carcinogenicity

<b>IARC</b>	No components of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
<b>ACGIH</b>	A4: Not classifiable as a human carcinogen.
<b>NTP</b>	No components of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
<b>OSHA</b>	No components of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

### Signs & Symptoms of Exposure

<b>Skin</b>	Irritation, redness, itchiness.
<b>Eyes</b>	Irritation, redness, watering eyes, itchiness.
<b>Respiratory</b>	Respiratory failure, convulsions, cardiovascular collapse, pulmonary edema.
<b>Ingestion</b>	Nausea, vomiting, abdominal pain, weakness, muscle tenderness.

<b>Chronic Toxicity</b>	Not Available
<b>Teratogenicity</b>	Not Available
<b>Mutagenicity</b>	Not Available
<b>Embryotoxicity</b>	Not Available
<b>Specific Target Organ Toxicity</b>	Not Available
<b>Reproductive Toxicity</b>	Not Available
<b>Respiratory/Skin Sensitization</b>	Not Available

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## 12. ECOLOGICAL INFORMATION

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### Ecotoxicity

<b>Aquatic Vertebrate</b>	LC50 - Oncorhynchus mykiss (rainbow trout) - 18,500 mg/l - 96 h LC50 - Leuciscus idus (Golden orfe) - > 10,000 mg/l - 48 h NOEC - Pimephales promelas (fathead minnow) - 32,000 mg/l - 7 d NOEC - Pimephales promelas (fathead minnow) - 39,140 mg/l - 96 h
<b>Aquatic Invertebrate</b>	EC50 - Daphnia magna (Water flea) - 74,000 mg/l - 24 h NOEC - Daphnia - 24,000 mg/l - 48 h LC50 - Daphnia magna (Water flea) - 41,000 mg/l - 48 h
<b>Terrestrial</b>	Not Available

<b>Persistence and Degradability</b>	Not Available
<b>Bioaccumulative Potential</b>	Other fish - 61 d Bioconcentration factor (BCF): 0.60
<b>Mobility in Soil</b>	Not Available
<b>PBT and vPvB Assessment</b>	Not Available
<b>Other Adverse Effects</b>	Not Available

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## 13. DISPOSAL CONSIDERATIONS

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<b>Waste Residues</b>	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product or residue.
<b>Product Containers</b>	Users should review their operations in terms of the applicable federal/national or local regulations and consult with appropriate regulatory agencies if necessary before disposing of waste product container.

The information offered in section 13 is for the product as shipped. Use and/or alterations to the product may significantly change the characteristics of the material and alter the waste classification and proper disposal methods.

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## 14. TRANSPORTATION INFORMATION

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US DOT	Not Dangerous Goods
TDG	Not Dangerous Goods
IMDG	Not Dangerous Goods
Marine Pollutant	No
IATA/ICAO	Not Dangerous Goods

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## 15. REGULATORY INFORMATION

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TSCA Inventory Status	All ingredients are listed on the TSCA inventory.
DSCL (EEC)	All ingredients are listed on the DSCL inventory.
California Proposition 65	Listed: Ethylene Glycol
SARA 302	Not Listed
SARA 304	Not Listed
SARA 311	Acute Health Hazard, Chronic Health Hazard
SARA 312	Acute Health Hazard, Chronic Health Hazard
SARA 313	Listed: Ethylene Glycol
WHMIS Canada	Class D-1B: Poisonous and infectious material- Immediate and serious

effects- Toxic Class D-2A: Poisonous and infectious material- Other effects- Very toxic
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## 16. OTHER INFORMATION

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Revision	Date
Revision 1	07-18-2012
Revision 2	10/08/2015
Revision 3	07/14/2016
Revision 4	08/27/2018

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