

Safety Data Sheet

File version: 1

Ethylene glycol, 100%(v/v)

SDS Date: 08 Dec 2016

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**SECTION 1: PRODUCT AND COMPANY IDENTIFICATION**

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**PRODUCT NAME:** 100%(v/v) Ethylene glycol  
**SYNONYMS:** 1,2-Ethanediol  
**PRODUCT CODES:** 1008398  
1008399  
**MANUFACTURER:** Rigaku Reagents  
**ADDRESS:** 9009 New Trails Drive  
The Woodlands, TX 77381  
USA  
**PHONE:** +1 (281) 362-2300  
**EMAIL:** ReagentOrders@Rigaku.com

**CHEMICAL NAME:** Ethylene glycol  
**CHEMICAL FORMULA:** C<sub>2</sub>H<sub>6</sub>O<sub>2</sub>

**PREPARED BY:** Rigaku Reagents

**SECTION 1 NOTES:**

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**SECTION 2: HAZARDS IDENTIFICATION**

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**EMERGENCY OVERVIEW:**

**OSHA HAZARDS:** Target organ effect, harmful by ingestion, irritant, teratogen

**TARGET ORGANS:** Liver, cardiovascular system, eyes, kidney, central nervous system

**GHS CLASSIFICATION:**

Acute toxicity, Oral (Category 4)

Eye irritation (Category 2B)

**GHS LABEL ELEMENTS, INCLUDING PRECAUTIONARY STATEMENTS**

**Signal word:** Warning

**Hazard statement(s):**

H302 Harmful if swallowed.

H320 Causes eye irritation.

**Precautionary statement(s):**

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

**POTENTIAL HEALTH EFFECTS:**

**EYES:** Causes eye irritation.

**SKIN:** May be harmful if absorbed through skin. Causes skin irritation.

**INGESTION:** Toxic if swallowed.

**INHALATION:** May be harmful if inhaled. Causes respiratory tract irritation.

**SECTION 2 NOTES:**

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

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**INGREDIENTS:** Ethylene glycol

**ETHYLENE GLYCOL:**

<u>CAS NO.</u>	<u>% WT</u>	<u>% VOL</u>
107-21-1		≤ 100%

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	<u>ppm</u>	<u>mg/m3</u>
OSHA PEL-TWA:		
OSHA PEL STEL :		
OSHA PEL CEILING:	50	125
ACGIH TLV-TWA:		
ACGIH TLV STEL:		
ACGIH TLV CEILING:		100

**SECTION 3 NOTES:****SECTION 4: FIRST AID MEASURES****EYES:** Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.**SKIN:** Wash off with soap and plenty of water. Consult a physician.**INGESTION:** Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.**INHALATION:** If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.**SECTION 4 NOTES:****SECTION 5: FIRE-FIGHTING MEASURES****FLASH POINT:**

F: 232 °

C: 111 °

**AUTOIGNITION TEMPERATURE:**

F: No data available

C: No data available

**NFPA HAZARD CLASSIFICATION**

HEALTH: 2

FLAMMABILITY: 1

REACTIVITY: 0

**HMIS HAZARD CLASSIFICATION**

HEALTH: 2

FLAMMABILITY: 1

REACTIVITY: 0

**EXTINGUISHING MEDIA:** Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.**HAZARDOUS DECOMPOSITION PRODUCTS:** Hazardous decomposition products formed under fire conditions. - Carbon oxides**SECTION 5 NOTES:****SECTION 6: ACCIDENTAL RELEASE MEASURES****PERSONAL PRECAUTIONS:** Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation.**ENVIRONMENTAL PRECAUTIONS:** Do not let product enter drains.**METHODS AND MATERIALS FOR CONTAINMENT AND CLEANING UP:** Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.**SECTION 6 NOTES:****SECTION 7: HANDLING AND STORAGE**

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**HANDLING AND STORAGE:** Avoid contact with skin and eyes. Avoid inhalation of vapor or mist. Keep container tightly closed in a dry and well-ventilated place. Hygroscopic.

**SECTION 7 NOTES:****SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

**RESPIRATORY PROTECTION:** Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**EYE PROTECTION:** Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

**SKIN PROTECTION:** Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. Complete suit protecting against chemicals. Flame retardant antistatic protective clothing, the type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**WORK HYGIENIC PRACTICES:** Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

**SECTION 8 NOTES:****SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES**

**APPEARANCE:** clear, colorless

**PHYSICAL STATE:** liquid, clear

**pH AS SUPPLIED:** No data available

**pH (Other):** No data available

**BOILING POINT:**

F: 385 - 388 °

C: 196 - 198 °

**FREEZING POINT:**

F: 9 °

C: -13 °

**VAPOR PRESSURE (mmHg):** 0.08

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F: 68 °

C: 20 °

**VAPOR DENSITY (AIR = 1):** 2.14

**SPECIFIC GRAVITY (H<sub>2</sub>O = 1):** 1.113

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F: 77 °

C: 25 °

**EVAPORATION RATE:** 1

**SOLUBILITY IN WATER:** completely miscible

**VISCOSITY:** No data available

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F: No data available

C: No data available

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**SECTION 9 NOTES:**

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**SECTION 10: STABILITY AND REACTIVITY**

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**STABILITY:** Stable under recommended storage conditions.**CONDITIONS TO AVOID (STABILITY):** No data available**INCOMPATIBILITY (MATERIAL TO AVOID):** Strong acids, strong oxidizing agents, strong bases, aldehydes, aluminum**HAZARDOUS DECOMPOSITION OR BY-PRODUCTS:** Hazardous decomposition products formed under fire conditions. - Carbon oxides  
Other decomposition products - no data available**SECTION 10 NOTES:**

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**SECTION 11: TOXICOLOGICAL INFORMATION**

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**ACUTE TOXICITY:**

**ORAL LD50:** Rat - 4,700 mg/kg  
**INHALATION LC50:** No data available  
**DERMAL LD50:** Rabbit - 10,626 mg/kg

**SKIN CORROSION/IRRITATION:** No data available**SERIOUS EYE DAMAGE/EYE IRRITATION:**

**RABBIT:** Mild eye irritation - 24 h

**RESPIRATORY OR SKIN SENSITIZATION:** No data available.**GERM CELL MUTAGENICITY:** No data available.**CARCINOGENICITY:**

**IARC:** No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.  
**NTP:** 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.  
**OSHA:** No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**REPRODUCTIVE TOXICITY:** Overexposure may cause reproductive disorder(s) based on tests with laboratory animals.**SECTION 11 NOTES:**

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**SECTION 12: ECOLOGICAL INFORMATION**

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**TOXICITY:**

**TOXICITY TO FISH:** 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

**TOXICITY TO DAPHNIA AND OTHER AQUATIC INVERTEBRATES:**

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

**PERSISTENCE AND DEGRADABILITY**

No data available

**BIOACCUMULATIVE POTENTIAL:** Does not bioaccumulate**MOBILITY IN SOIL**

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No data available

**PBT AND vPvB ASSESSMENT**

No data available

**SECTION 12 NOTES:** An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.**SECTION 13: DISPOSAL CONSIDERATIONS****PRODUCT:** Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Offer surplus and non-recyclable solutions to a licensed disposal company.**CONTAMINATED PACKAGING:** Dispose of as unused product.**SECTION 14: TRANSPORT INFORMATION****U.S. DEPARTMENT OF TRANSPORTATION**

<b>PROPER SHIPPING NAME:</b>	Environmentally hazardous substances, liquid, n.o.s. (Ethylene glycol)
<b>HAZARD CLASS:</b>	9
<b>ID NUMBER:</b>	3082
<b>PACKING GROUP:</b>	III
<b>MARINE POLLUTANT:</b>	No
<b>POISON INHALATION HAZARD:</b>	No

**WATER TRANSPORTATION**

Not dangerous goods

**AIR TRANSPORTATION**

Not dangerous goods

**SECTION 14 NOTES:****SECTION 15: REGULATORY INFORMATION****OSHA HAZARDS:** Target organ effect, harmful by ingestion., irritant, teratogen**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:

	<b><u>CAS-No.</u></b>
Ethylene glycol	107-21-1

**SARA 311/312 HAZARDS:** Acute health hazard, chronic health hazard**MASSACHUSETTS RIGHT TO KNOW COMPONENTS:**

	<b><u>CAS-No.</u></b>
Ethylene glycol	107-21-1

**PENNSYLVANIA RIGHT TO KNOW COMPONENTS:**

	<b><u>CAS-No.</u></b>
Ethylene glycol	107-21-1

**NEW JERSEY RIGHT TO KNOW COMPONENTS:**

	<b><u>CAS-No.</u></b>
Ethylene glycol	107-21-1

**CALIFORNIA PROP. 65 COMPONENTS:** This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

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**SECTION 15 NOTES:**

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**SECTION 16: OTHER INFORMATION**

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**DISCLAIMER:** The above information is believed to be correct but does not necessarily include all information and should be used only as a guide. The information in this document is based on our current knowledge and applies to the product with regard to appropriate safety precautions. This document does not represent any guarantee of the properties of the product. Rigaku Reagents will not be held liable for any damage resulting from handling or contact with the above product.