



SAFETY DATA SHEET

1. Identification

Product identifier Ethylene Glycol

Other means of identification

Product code -

Recommended use Industrial use.

Recommended restrictions None known.

Manufacturer / Importer / Supplier / Distributor information

Manufacturer/Supplier KMG Electronic Chemicals, Inc.
Address 300 Throckmorton, Suite 1900, Fort Worth, Texas 76102 US
Phone number 817-761-6100
Emergency phone number CHEMTREC: 1-800-424-9300 (Transportation emergency only)
3E Emergency Services +1 866-706-3266 Access code: 333035

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Acute toxicity, oral Category 4
Specific target organ toxicity, repeated exposure Category 2 (Kidney)

Environmental hazards Not classified.

OSHA defined hazards Not classified.

Label elements



Signal word Warning

Hazard statement Harmful if swallowed. May cause damage to organs (Kidney) through prolonged or repeated exposure.

Precautionary statement

Prevention Do not breathe mist or vapor. Wash thoroughly after handling. Do not eat, drink or smoke when using this product.

Response If swallowed: Call a poison center/doctor if you feel unwell. Rinse mouth. Get medical advice/attention if you feel unwell.

Storage Store away from incompatible materials.

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

Hazard(s) not otherwise classified (HNOC) Not classified.

3. Composition/information on ingredients

Substances

Chemical name	Common name and synonyms	CAS number	%
Ethylene Glycol		107-21-1	100

Composition comments All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

Inhalation Move injured person into fresh air and keep person calm under observation. Get medical attention if any discomfort continues.

Skin contact Flush thoroughly with water for at least 15 minutes. Remove contaminated clothing immediately and wash skin with soap and water. Get medical attention if irritation develops and persists.

Eye contact	Immediately flush with plenty of water for up to 15 minutes. Remove any contact lenses and open eyelids wide apart. Get medical attention if irritation develops and persists.
Ingestion	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. DO NOT induce vomiting. If victim is fully conscious, give a cupful of water. Never give anything by mouth to an unconscious person. If vomiting occurs, keep head lower than the hips to help prevent aspiration. Call a physician or poison control center immediately.
Most important symptoms/effects, acute and delayed	Symptoms can include irritation, redness, scratching of the cornea, and tearing.
Indication of immediate medical attention and special treatment needed	In case of shortness of breath, give oxygen. Keep victim warm. Symptoms may be delayed.
General information	IF exposed or concerned: Get medical advice/attention. In case of shortness of breath, give oxygen. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

5. Fire-fighting measures

Suitable extinguishing media	Not flammable, but reacts with most metals to form flammable hydrogen gas. Extinguish with alcohol-resistant foam, carbon dioxide or dry powder. Addition of water or foam to the fire may cause frothing.
Unsuitable extinguishing media	No restrictions known.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Selection of respiratory protection for firefighting: follow the general fire precautions indicated in the workplace. Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire-fighting equipment/instructions	Use water spray to cool unopened containers. Cool containers with flooding quantities of water until well after fire is out. Prevent runoff from fire control or dilution from entering streams, sewers, or drinking water supply.
General fire hazards	Not flammable, but reacts with most metals to form flammable hydrogen gas.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep unnecessary personnel away. Local authorities should be advised if significant spillages cannot be contained. Stay upwind. Keep out of low areas. Keep people away from and upwind of spill/leak. Ventilate closed spaces before entering. Ensure adequate ventilation. Use personal protection recommended in Section 8 of the SDS.
Methods and materials for containment and cleaning up	Should not be released into the environment. Large Spills: Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Dike far ahead of liquid spill for later disposal. Do not flush away residues with water. Small Spills: Absorb spillage with suitable absorbent material. Allow residues to evaporate or soak up with an appropriate absorbent material and dispose of safely. Never return spills in original containers for re-use. For waste disposal, see Section 13 of the SDS.
Environmental precautions	Prevent further leakage or spillage if safe to do so. Do not contaminate water.

7. Handling and storage

Precautions for safe handling	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid inhalation of mists or aerosols. Avoid contact with skin and eyes. Use only with adequate ventilation. Wash thoroughly after handling. Handle and open container with care. Use Personal Protective Equipment recommended in section 8 of the SDS.
Conditions for safe storage, including any incompatibilities	Keep in a well-ventilated place. Keep container tightly closed. Keep this material away from food, drink and animal feed. Use care in handling/storage. Store away from incompatible materials. Tanks must be clean, dry and rust-free. Store at ambient temperature and atmospheric pressure. Store below 60 °C. Recommended containers materials: mild steel, stainless steel, carbon steel.

8. Exposure controls/personal protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

Material	Type	Value	Form
Ethylene Glycol (CAS 107-21-1)	Ceiling	100 mg/m3	Aerosol.

Biological limit values	No biological exposure limits noted for the ingredient(s).
Exposure guidelines	Follow standard monitoring procedures.
Appropriate engineering controls	Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits.
Individual protection measures, such as personal protective equipment	
Eyeface protection	Wear approved safety goggles.
Skin protection	
Hand protection	Wear protective gloves. Be aware that the liquid may penetrate the gloves. Frequent change is advisable. Suitable gloves can be recommended by the glove supplier.
Other	Wear appropriate chemical resistant gloves. Wear appropriate chemical resistant clothing. Protective shoes or boots. Structural firefighters protective clothing provides limited protection in fire situations ONLY; it is not effective in spill situations. Wear chemical protective equipment that is specifically recommended by the Personal Protective Equipment manufacturer.
Respiratory protection	If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Use a NIOSH/MSHA approved air purifying respirator as needed to control exposure. Consult with respirator manufacturer to determine respirator selection, use, and limitations. Use positive pressure, air-supplied respirator for uncontrolled releases or when air purifying respirator limitations may be exceeded. Follow respirator protection program requirements (OSHA 1910.134 and ANSI Z88.2) for all respirator use.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	When using, do not eat, drink or smoke. Avoid contact with eyes. Remove and isolate contaminated clothing and shoes. Wash hands before breaks and immediately after handling the product. Handle in accordance with good industrial hygiene and safety practice. Launder contaminated clothing before reuse.

9. Physical and chemical properties

Appearance	Colorless liquid.
Physical state	Liquid.
Form	Liquid.
Color	Colorless.
Odor	Mild.
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	8.6 °F (-13 °C)
Initial boiling point and boiling range	384.8 - 392 °F (196 - 200 °C)
Flash point	239.0 °F (115.0 °C) Cleveland Open Cup
Evaporation rate	0 (n-BuAc = 1)
Flammability (solid, gas)	Not available.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	3.2
Flammability limit - upper (%)	28
Explosive limit - upper (%)	Not available.
Vapor pressure	< 10 kPa Pa (20°C)
Vapor density	2.14 (Air = 1)
Relative density	1.116 (20 °C)
Solubility(ies)	
Solubility (water)	Completely soluble in water.
Partition coefficient (n-octanol/water)	-1.93 (20 °C)
Auto-ignition temperature	775.4 °F (413 °C)
Decomposition temperature	Not available.
Viscosity	24.8 mm ² /s (20 °C)
Other information	
Density	1.11 g/cm ³ (20°C)

10. Stability and reactivity

Reactivity	Not available.
Chemical stability	Stable at normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Heat, sparks, flames.
Incompatible materials	Strong oxidizing agents. Strong bases. Strong acids.
Hazardous decomposition products	Carbon oxides.

11. Toxicological information

Information on likely routes of exposure

Ingestion	Harmful if swallowed.
Inhalation	May cause respiratory tract irritation.
Skin contact	Prolonged skin contact may cause temporary irritation.
Eye contact	Direct contact with eyes may cause temporary irritation.

Symptoms related to the physical, chemical and toxicological characteristics Symptoms can include irritation, redness, scratching of the cornea, and tearing.

Information on toxicological effects

Acute toxicity Harmful if swallowed.

Product	Species	Test Results
Ethylene Glycol (CAS 107-21-1)		
Acute		
<i>Dermal</i>		
LD50	-	> 5000 mg/kg
<i>Oral</i>		
LD50	-	300 - 2000 mg/kg
Skin corrosion/irritation	Not classified.	
Serious eye damage/eye irritation	Not classified.	
Respiratory or skin sensitization		
Respiratory sensitization	Not classified.	
Skin sensitization	A few cases of sensitization have been reported.	
Germ cell mutagenicity	Not classified.	
Carcinogenicity	Not classified.	
Reproductive toxicity	Not classified.	
Specific target organ toxicity - single exposure	Not classified.	
Specific target organ toxicity - repeated exposure	Causes damage to the following organs through prolonged or repeated exposure: Kidneys.	
Aspiration hazard	Not classified.	
Chronic effects	May cause central nervous system effects. Suspected of damaging fertility or the unborn child.	
Further information	None known.	

12. Ecological information

Ecotoxicity The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Product	Species	Test Results
Ethylene Glycol (CAS 107-21-1)		
Aquatic		
Fish	LC50	Fathead minnow (<i>Pimephales promelas</i>) 8050 mg/l, 96 hours
Persistence and degradability	The product is readily biodegradable.	
Bioaccumulative potential	The product is not expected to bioaccumulate.	

Partition coefficient n-octanol / water (log Kow)

-1.93, (20 °C)

Mobility in soil	The product is soluble in water. If the product enters soil, one or more constituents will or may be mobile and may contaminate groundwater.
Other adverse effects	No data available.

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	Waste codes should be assigned by the user based on the application for which the product was used.
Waste from residues / unused products	Dispose of in accordance with local regulations.
Contaminated packaging	Dispose of in accordance with local regulations.

14. Transport information

DOT	Not regulated as dangerous goods.
IATA	Not regulated as dangerous goods.
IMDG	Not regulated as dangerous goods.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	This product is a liquid and when transported in bulk is covered under MARPOL 73/78 Annex II. This product is listed in the IBC Code. Ship type: 3 Pollution category: Y

15. Regulatory information

US federal regulations	This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. All components are on the U.S. EPA TSCA Inventory List.
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TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

CERCLA Hazardous Substance List (40 CFR 302.4)

Ethylene Glycol (CAS 107-21-1) LISTED

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories	Immediate Hazard - Yes Delayed Hazard - Yes Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No
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SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical	Yes
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SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
Ethylene Glycol	107-21-1	100

Other federal regulations**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Ethylene Glycol (CAS 107-21-1)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA)	Contaminate candidate list
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US state regulations	This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.
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US. Massachusetts RTK - Substance List

Ethylene Glycol (CAS 107-21-1)

US. New Jersey Worker and Community Right-to-Know Act

Ethylene Glycol (CAS 107-21-1)

US. Pennsylvania Worker and Community Right-to-Know Law

Ethylene Glycol (CAS 107-21-1)

US. Rhode Island RTK

Ethylene Glycol (CAS 107-21-1)

US. California Proposition 65**US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance**

Not listed.

International Inventories

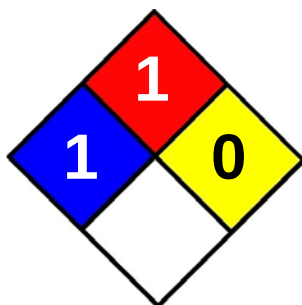
Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision**Issue date** 17-December-2012**Revision date** 03-April-2014**Version #** 03

Further information HMIS® is a registered trade and service mark of the NPCA. The mixture is classified based on test data for physical hazards. The classification for health and environmental hazards is derived by a combination of calculation methods and test data, if available. For details, refer to Sections 9, 11 and 12.

NFPA Ratings**References**

RTECS
HSDB® - Hazardous Substances Data Bank
GESTIS Substance Database
C&L Inventory database. ACGIH
EPA: Acquire database
NLM: Hazardous Substances Data Base
US. IARC Monographs on Occupational Exposures to Chemical Agents

Disclaimer

This information is provided without warranty. The information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment.