

Section 1: Product & Company Information

Product Identifier: Ethylene Glycol (Includes Low Conductivity Grade)

Other Means of Identification

Product Number: 152500
152506

Recommended Use and Restrictions on Use

Recommended Use: Laboratory chemicals
Restrictions on Use: No data available

Manufacturer / Importer / Supplier / Distributor Information

Company Name: CORECHEM Inc.
Address: 4320 Greenway Drive
Knoxville, TN 37918 USA

Information Telephone Number: 1-865-524-4239

Fax Number: 1-865-524-3375

Website: www.corecheminc.com

Contact Person: Regulatory Manager

E-mail: regulatory@corecheminc.com

Emergency Phone Number: Chemtrec® 1-800-424-9300 / Outside USA 1-703-527-3887 (monitored 24 hours/day)

Section 2: Hazards Identification

GHS Hazard Classification(s)

In accordance with OSHA Hazard Communication Standard 29 CFR 1910.1200 (HazCom 2012).

Physical Hazard(s)

Not classified.

Health Hazard(s)

Acute Toxicity, Oral - 4
(Corrosion) Damage/Irritation, Eye - 2B
Specific Target Organ Toxicity (STOT), Repeated exposure - 2

Environmental Hazard(s)

Not classified.

Label Elements

Signal Word

WARNING

Hazard Symbol(s)



Hazard Statement(s)

H302: Harmful if swallowed.
H320: Causes eye Irritation.
H373: May cause damage to organs.

Precautionary Statements

General

Not applicable.

Prevention

P260: Do not breathe dust/fume/gas/mist/vapors/spray.
P264: Wash face, hands, and any exposed skin thoroughly after handling.
P270: Do not eat, drink, or smoke when using this product.

Response

P301 + P312: IF SWALLOWED: Call a POISON CENTER or 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.
P314: Get medical advice/attention if you feel unwell.
P330: Rinse mouth.
P337 + P313: If eye irritation persists: Get medical advice/attention.

Storage

P405: Store locked up.

Disposal

P501: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Hazard(s) not otherwise classified (HNOC)

None known.

Section 3: Composition/Information on Ingredients

Mixture

Chemical Identity ²	Common Name/Synonym(s)	CAS # ³	Weight %	Impurity or Stabilizing Additive
Ethylene Glycol	Monoethylene Glycol, Ethane-1, 2-Diol, Ethylene Glycol Low Conductivity Grade	107-21-1	95 – 100%	No

- Information regarding the composition and the percentage ranges of the mixtures ingredients are not presented as its Confidential Business Information (CBI). Where a medical emergency exists (as determined by medical professional), timely disclosure of CBI is assured. The information omitted pertains to only the names of the substances and the concentration in the mixture (product) and can only be requested by a doctor/physician or Local/State/Provincial or Federal Authority.
- Non-hazardous ingredients are not presented as to protect the proprietary formula of the product.
- “—” Indicates ingredient is a mixture and contains multiple ingredients or may have no identifying CAS number.

Section 4: First-Aid Measures

General Information

First aider needs to protect himself. Move out of dangerous area. Take off all contaminated clothing immediately. Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).

Inhalation

If breathed in, move the person into fresh air. If symptoms persist, call a physician.

Skin Contact

Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If skin irritation persists, call a physician. Wash contaminated clothing before re-use.

Eye Contact

Rinse thoroughly with plenty of water, also under the eyelids. Protect unharmed eyes. If eye irritation persists, consult a specialist.

Ingestion

Call a physician immediately. Do not induce vomiting without medical advice. If conscious, drink plenty of water. Never give anything by mouth to an unconscious person.

Most important symptoms/effects, acute and delayed

Symptoms

Potential Adverse human health effects and symptoms: Based on available data, the classification criteria are not met. Harmful if swallowed.
Symptoms/effects after inhalation: EXPOSURE TO HIGH CONCENTRATIONS: Dry/sore throat.
Symptoms/effects after skin contact: No effects known.
Symptoms/effects after eye contact: ON CONTINUOUS EXPOSURE/CONTACT: Redness of the eye tissue. Lacrimation.
Symptoms/effects after ingestion: Swallowing a small quantity of this material will result in serious health hazard.
Chronic symptoms: Affection of the renal tissue.

Indication of immediate medical attention and special treatment needed

Hazards

No data available.

Treatment

Immediately after ingestion, give a glass of strong drink, beer, or wine to drink. Hospitalize at once for treatment with the right antidotes.

Section 5: Fire-Fighting Measures

General Fire Hazards

DIRECT FIRE HAZARD: Combustible. INDIRECT FIRE HAZARD: Temperature above flashpoint: higher fire/explosion hazard.

Suitable (and Unsuitable) Extinguishing Media

Suitable Extinguishing Media

Water spray. Dry powder. Foam. Carbon dioxide.

Unsuitable Extinguishing Media

Water (quick-acting extinguisher, reel); risk of puddle expansion. Water; risk of puddle expansion.

Specific Hazards Arising from the Chemical

In case of fire hazardous decomposition products may be produced such as: Carbon monoxide, Carbon dioxide (CO₂)

Special Protective Equipment and Precautions for Firefighters

Special Fire-Fighting Equipment Procedures

Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.

Special Protective Equipment for Fire-Fighters

As in any fire, wear self-contained breathing apparatus pressure-demand (OSHA/NIOSH approved or equivalent) and full protective gear. Exposure to fire/heat: keep upwind. Exposure to fire/heat: seal off low-lying areas. Exposure to fire/heat: have neighborhood close doors and windows.

Section 6: Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures

Avoid all eye and skin contact and do not breathe vapor and mist. Stop leak if safe to do so. Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material damage.

Methods and Materials for Containment and Clean-Up

For containment: Contain released product, collect/pump into suitable containers. Plug the leak, cut off the supply. Methods for cleaning up: Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials. Other information: Dispose of materials or solid residues at an authorized site.

Notification Procedures

In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

Environmental Precautions

Do not flush into surface water or sanitary sewer system.

Section 7: Handling and Storage

Precautions for Safe Handling

Wash hands and other exposed areas with mild soap and water before eating, drinking, or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor. Avoid breathing dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. . Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

Conditions for Safe Storage, including any Incompatibilities

Keep container tightly closed. Store in a cool, dry, well-ventilated place. Store away from incompatible materials (See Section 10). Ensure that all local regulations regarding handling and storage facilities are followed.

KEEP SUBSTANCE AWAY FROM: Combustible materials. oxidizing agents. (strong) acids. (strong) bases. water/moisture.

Section 8: Exposure Controls/Personal Protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	Type	Value	Source
Ethylene Glycol	TWA	25 ppm 10 mg/m ³	ACGIH
	STEL	50 ppm 10 mg/m ³	
	Ceiling	39.4 ppm	

Biological Limit Values

The product does not contain any relevant quantities of hazardous materials with assigned biological limit values.

Appropriate Engineering Controls

Ensure good ventilation of the workstation.

Individual protection measures, such as personal protective equipment (PPE)

General Information

Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling product.

Eye/Face Protection

Wear safety glasses with side shields (or goggles) and a face shield. Wear a full-face respirator, if needed.

Skin Protection

Hand Protection

Wear appropriate chemical resistant gloves.

Other

Wear appropriate chemical resistant clothing.

Respiratory Protection

If engineering controls do not keep 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. Air-purifying respirator with a proper, government approved (where applicable), air-purifying filter, cartridge, or canister. Contact safety professional or manufacturer for specific information.

Hygiene Measures

When using, do not eat, drink, or smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing & PPE to remove contaminants. Discard contaminated footwear that cannot be cleaned. Wash hands before breaks & immediately after handling the product. Wash contaminated clothing before reuse. Avoid contact w/eyes, skin, and clothing.

Section 9: Physical and Chemical Properties

Appearance:

Physical State: Liquid
Color: Colorless

Odor:

Sweet

Odor Threshold:

No data available.

pH:

≤ 6.5 - 9

Melting Point/Freezing Point:

232 °F (-11.2 °C)

Initial Boiling Point and Boiling Range:

388 °F (197 °C) at (1013) hPa

Flash Point:

232 °F (111 °C)

Evaporation Rate (butyl acetate=1):

No data available.

Flammability (solid, gas):

Non-flammable

Upper/Lower Limit on Flammability or Explosive Limits

Flammability Limit – Upper: No data available

Flammability Limit – Lower: No data available

Explosive Limit – Upper: 15.3% volume

Explosive Limit – Lower: 3.2% volume

Vapor Pressure:

0.123 hPa (25 °C)

Vapor Density (air =1):

> 1

Relative Density (water=1):

1.11 g/cm³ (20 °C)

Solubility(ies):

Solubility in water: Soluble in water.

Solubility (other): Soluble in ethanol. Soluble in acetone. Soluble in acetic acid. Soluble in glycerol. Soluble in pyridine.

Partition coefficient (n-octanol/water):

log Pow: -1.93

Auto-Ignition Temperature:

770 °F (410 °C)

Decomposition Temperature:

> 500 °C

Viscosity:

Viscosity dynamic: 16.1 mPa·s (25 °C)

Other Information:

Molecular Weight: 62.07 g/mol

Formula: C₂H₆O₂

Section 10: Stability and Reactivity

Reactivity

Reacts violently with (strong) oxidizers: (increased) risk of fire/explosion. Violent to explosive reaction with (some) acids. Reacts on exposure to temperature rise with (some) bases. Reacts on exposure to water and heat with (some) metals

Chemical Stability

No decomposition if used as directed.

Possibility of Hazardous Reactions

Vapors may form explosive mixture with air.

Conditions to Avoid

None under recommended storage and handling conditions. Direct sunlight. Extremely high or low temperatures. Heat, flames and sparks. Possible elimination of gaseous decomposition products may lead to a dangerous pressure build up.

Incompatible Materials

Strong oxidizing agents, Strong acids, Alkalis.

Hazardous Decomposition Products

Stable under recommended storage conditions. Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to: Aldehydes, Ketones, Acids.

Section 11: Toxicological Information

Information on routes of exposure

Ingestion: Harmful if swallowed.

Inhalation: Not classified.

Skin Contact: Not classified.

Eye Contact: Not classified.

Information on Toxicological Effects

Acute Toxicity (List all routes of exposure)

Oral

Ethylene Glycol: LD50 (Rat): 7,712 mg/kg

Dermal

Ethylene Glycol: LD50 (Mouse): > 3,500 mg/kg

Inhalation

Ethylene Glycol: LC50 (Rat, 6 h): > 2.5 mg/l

Repeated Dose Toxicity

No data available.

Skin Corrosion/Irritation

Species: Rabbit Result: non-irritant

Serious Eye Damage/Eye Irritation

Causes eye irritation.

Respiratory/Skin Sensitization

Species: Guinea pig Result: Did not cause sensitization on laboratory animals

Carcinogenicity

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans

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.

US. National Toxicology Program (NTP) Report on Carcinogens

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.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)

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.

Germ Cell Mutagenicity

In Vitro

No data available.

In Vivo

No data available.

Reproductive Toxicity

May be toxic to embryo/fetal development and teratogenic at high exposure levels. (Based on Diethylene Glycol)

Specific Target Organ Toxicity – Single Exposure

May cause damage to organs (central nervous system, kidneys) (oral).

Specific Target Organ Toxicity – Repeated Exposure

May cause damage to organs (kidneys) through prolonged or repeated exposure.

Aspiration Hazard

Not classified.

Other Effects

No data available.

Section 12: Ecological Information

Ecotoxicity

Acute Hazards to the Aquatic Environment

Fish

Ethylene Glycol: EC50 – Crustacea: 100 mg/l

Aquatic Invertebrates

EC50 – Crustacea: 46,300 mg/l (Exposure time: 48 h - Species: Daphnia magna)

Toxicity to Aquatic Plants

No data available.

Chronic Hazards to the Aquatic Environment

Fish

No data available.

Aquatic Invertebrates

No data available.

Toxicity to Aquatic Plants

No data available.

Persistence and Degradability

Biodegradation

Biodegradability: DOC decrease

Biodegradation: $\geq 90\%$

Exposure time: 10 d

Result: Readily biodegradable

BOD/COD Ratio

COD- 1.24 g O₂/g substance

Bioaccumulative Potential

Bioconcentration Factor (BCF)

This material is not expected to bioaccumulate.

Partition Coefficient n-octanol / water (log K_{ow})

log Pow ≤ -1.36 (Experimental value)

Mobility in Soil

Highly mobile in soil.

Other Adverse Effects

No data available.

Section 13: Disposal Considerations

Disposal Instructions

Dispose of contents/container in accordance with licensed collector's sorting instructions.

Contaminated Packaging

Do not re-use empty containers. Empty containers retain product residue (liquid/ vapor) and can be dangerous. Empty drums should be completely drained, triple-rinsed, properly bunged and promptly returned to a drum reconditioner, or properly disposed. Do not dispose of waste into sewer. Disposal must be done according to official regulations.

Section 14: Transportation Information

US Department of Transportation (DOT)

UN Number: UN 3082

UN Proper Shipping Name: Environmentally hazardous substances, liquid, n.o.s.

Technical Name: Ethylene Glycol

Hazard Class: 9

Subsidiary Hazard Risk: -

Packing Group: III

DOT Label/Placard Exemptions: Not determined

Special Provisions: 146, 171.8, 173, 335, IB3, C, T4, TP1, TP29

Packaging Exceptions: 49CFR 173.155

Packaging Non-Bulk: 49CFR 173.203

Packaging Bulk: 49CFR 173.241
Reportable Quantity (RQ): 5,000lb (2,270 kg)
Marine Pollutant: No
Poison Inhalation Hazard: No
Special precautions for user: Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that transporting the product know what to do in the event of an accident or spillage.
Emergency Response Guidebook (ERG) #: 171

ETHYLENE GLYCOL IS NON-HAZ UNLESS IN PACKAGE SIZES OVER 5,000lbs.

Important Note: Shipping descriptions may vary based on mode of transport, quantities, package size, and/or origin and destination. Consult your company's Hazardous Materials/Dangerous Goods expert for information specific to your situation.

Section 15: Regulatory Information

US Federal Regulations

Toxic Substance Control Act (TSCA), Chemical Substance Inventory, Section 8(b)

This product or ingredient(s) are listed on the TSCA inventory. Any impurities present in this product are exempt from listing.

Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Hazardous Substance List (40 CFR 302.4)

The following chemical(s) in this material are subject to reporting levels established by CERCLA:

Ethylene Glycol (CAS# 107-21-1) – 5000 lb

Clean Air Act (CAA), Section 112(r)

No chemical(s) in this material are subject to the reporting requirements of CAA.

Emergency Planning and Community Right-To-Know Act (EPCRA)

EPCRA 302 Extremely Hazardous Substance

No chemical(s) in this material are subject to the reporting requirements of SARA Title III, Section 302.

EPCRA 304 Emergency Response Notification

No chemical(s) in this material are subject to the reporting requirements of SARA Title III, Section 304.

EPCRA 311/312 Emergency and Hazardous Materials Reporting

Fire Hazard: No
Sudden Release of Pressure: No
Reactive: No
Acute (Immediate) Health Hazard: Yes
Chronic (Delayed) Health Hazard: Yes

EPCRA 313 Toxic Chemical Release Inventory (TRI) Reporting

The following chemical(s) in this material are subject to reporting levels established by SARA Title III, Section 313:
Ethylene Glycol (CAS# 107-21-1)

US State Regulations

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65)

This product does contain any chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

Important Note: Due to the changing nature of regulatory requirements, the information in this document should NOT be considered all-inclusive or authoritative. Users should make their own investigations to determine the suitability of the information for their purposes. International, Federal, State and Local regulations should be consulted to determine compliance with all required reporting requirements.

Section 16: Other Information

Hazardous Materials Identification System (HMIS®) Classification

Health Hazard: 2

Chronic Health Hazard: *

Flammability: 1

Physical Hazard: 0

(Hazard Rating: 0 – Minimal / 1 – Slight / 2 – Moderate / 3 – Serious / 4 – Severe)

National Fire Protection Association (NFPA 704) Rating

Health Hazard: 1

Fire Hazard: 1

Reactivity Hazard: 0

Special: N/A

(Hazard Rating: 0 – Minimal / 1 – Slight / 2 – Moderate / 3 – Serious / 4 – Severe)

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Current Revision: 02
Sections Revised: Changes were made to sections 9-12, 14, 16

Key to Abbreviations and Acronyms

ATE - Acute Toxicity Estimate	ACGIH - American Conference of Industrial Hygienists
BCF - Bioconcentration Factor	AIHA - American Industrial Hygiene Association
EC50 - Effective concentration, 50%	BEI - Biological Exposure Indices
IDHL - Immediately Dangerous to Life and Health	CAS - Chemical Abstracts Service
Kg - Kilogram	DOT - US Department of Transportation
l - Liter	EPA - US Environmental Protection Agency
lb. - Pound	GHS - Globally Harmonized System of Classification and Labelling of Chemicals
LC50 - Lethal Concentration, 50%	IARC - International Agency for Research on Cancer
LD50 - Lethal Dose, 50%	IATA - International Air Transport Association
mg - milligram	IBC - Intermediate Bulk Container
ml - milliliter	IMDG - International Maritime Dangerous Goods
N/A - Not Applicable	NIOSH - National Institute for Occupational Safety and Health
N/D - Not Determined	NTP - National Toxicology Program
PEL - Permissible Exposure Limit	OSHA - US Occupational Health and Safety Administration
REL - Recommended Exposure Limit	SARA - US EPA Superfund Amendments and Reauthorization Act
STEL - Short-term Exposure Limit	TSCA - US EPA Toxic Substances Control Act
TWA - Time weighted average	UN - United Nations

References

HSDB® - Hazardous Substances Data Bank

Disclaimer

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