ESSENTIAL CHEMISTRY. INNOVATIVE SOLUTIONS.

SAFETY DATA SHEET

Print Date: April 1, 2024

Section 1: Product & Company Information

Product Identifier: **Ethylene Glycol**

Other Means of Identification
Product Number: 152500

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
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.
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.
P314: Get medical advice/attention if you feel unwell.
P330: Rinse mouth.

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	107-21-1	95 – 100%	No
Diethylene Glycol (impurity)	-	111-46-6	<= 5%	Yes

1. 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.
2. Non-hazardous ingredients are not presented as to protect the proprietary formula of the product.
3. "— "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

After contact with skin, wash immediately with plenty of soap and water. If symptoms persist, call a physician.

Eye Contact

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

Ingestion

When swallowed, allow water to be drunk. Rinse mouth. Call a physician immediately.

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

Foam. Dry powder. Carbon dioxide. Water spray.

Unsuitable Extinguishing Media

Do not use a heavy water stream.

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.

Section 6: Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures

Evacuate personnel to safe areas. Wear personal protective equipment. Unprotected people must be kept away. Avoid contact with skin and eyes. Ensure adequate ventilation.

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.

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.

Section 8: Exposure Controls/Personal Protection

Control Parameters

Occupational Exposure Limits

Chemical Identity	Type	Value	Source
Ethylene Glycol	TWA	25 ppm	ACGIH OEL
Ethylene Glycol	STEL	100 mg/m³	ACGIH OEL
Ethylene Glycol	STEL	50 ppm	ACGIH OEL
Ethylene Glycol	TWA	10 mg/m³	ACGIH OEL

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 this 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 health and 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 and protective equipment to remove contaminants. Discard contaminated footwear that cannot be cleaned. Wash hands before breaks and immediately after handling the product. Wash contaminated clothing before reuse. Avoid contact with eyes, skin, and clothing.

Section 9: Physical and Chemical Properties

Appearance:	
Physical State:	Liquid
Color:	Colorless
Odor:	Almost odorless
Odor Threshold:	No data available.
pH:	No data available.
Melting Point/Freezing Point:	-11.2 °C
Initial Boiling Point and Boiling Range:	198 °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:	0.1 hPa (at 20 °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:	$C_2H_6O_2$

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

Carbon oxides (CO, CO2), Acids, Alcohols, Aldehydes, Ketones.

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: 46300 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: >= 90 %
Exposure time: 10 d
Result: Readily biodegradable
BOD/COD Ratio
COD- 1.24 g O_2/g substance

Bioaccumulative Potential
Bioconcentration Factor (BCF)
This material is not expected to bioaccumulate.
Partition Coefficient n-octanol / water (log Kow)
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
Dispose of it in a safe manner in accordance with local/national regulations. Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

Section 14: Transportation Information

US Department of Transportation (DOT)

This material is not regulated as a hazardous material for transport by the U.S. Department of Transportation in accordance with 49 CFR 172.101.

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)

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 not 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: 1
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: 2
Fire Hazard: 1
Reactivity Hazard: 1
Special: N/A
(Hazard Rating: 0 – Minimal / 1 – Slight / 2 – Moderate / 3 – Serious / 4 – Severe)

Prepared By: Regulatory Manager
Version #: 001
Issue Date: August 4, 2015
Last Revised By: Regulatory Assistant C
Last Revision Date: 4/1/2024
Current Revision: 02
Sections Revised: Changes were made to sections 9-12, 14, 16

Key to Abbreviations and Acronyms

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

References

HSDB® - Hazardous Substances Data Bank

Disclaimer

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