

Glycol Ether EB**SECTION 1. IDENTIFICATION**

Product Identifier	Glycol Ether EB
Other Means of Identification	Butylglycol, Butoxyethanol, EB, Ethylene Glycol Monobutyl Ether, Ethylene Glycol n-butyl ether, O-Butyl Ethylene Glycol
Product Code(s)	GL5210
Product Family	Organic
Recommended Use	Industrial.
Restrictions on Use	None known.
Supplier Identifier	Alphachem Limited, 2485 Milltower Court, Mississauga, Ontario, L5N 5Z6, (905) 821-2995
Emergency Phone No.	CANUTEC CANADA, 613-996-6666, 24 Hours
SDS No.	0155

SECTION 2. HAZARD IDENTIFICATION

Classified according to Canada's Hazardous Products Regulations (WHMIS 2015) and the US Hazard Communication Standard (HCS 2012).

Classification

Flammable liquid - Category 4; Acute toxicity (Oral) - Category 4; Acute toxicity (Dermal) - Category 2; Acute toxicity (Inhalation) - Category 3; Skin irritation - Category 2; Eye irritation - Category 2B

Label Elements

Signal Word:
Danger

Hazard Statement(s):

Combustible liquid.
Toxic if inhaled.
Harmful if swallowed.
Causes skin irritation.
Causes serious eye irritation.

Precautionary Statement(s):

Keep away from heat/sparks/open flames/hot surfaces. – No smoking.
Avoid breathing dust/fume/gas/mist/vapours/spray.
Wash hands and skin thoroughly after handling.
Do not eat, drink or smoke when using this product.
Use only outdoors or in a well-ventilated area.
Wear eye protection/face protection.

Other Hazards

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None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance:

Chemical Name	CAS No.	%	Other Identifiers
2-Butoxyethanol	111-76-2	99	Butoxyethanol, O-Butyl Ethylene Glycol, Butylglycol

SECTION 4. FIRST-AID MEASURES

First-aid Measures

Inhalation

Take precautions to ensure your own safety before attempting rescue (e.g. wear appropriate protective equipment). Remove source of exposure or move to fresh air. Keep at rest in a position comfortable for breathing. If breathing is difficult, trained personnel should administer emergency oxygen if advised to do so by Poison Centre or doctor. Avoid mouth-to-mouth contact by using a barrier device.

Skin Contact

Avoid direct contact. Wear chemical protective clothing if necessary. Immediately rinse with lukewarm, gently flowing water for 15-20 minutes. Thoroughly clean clothing, shoes and leather goods before reuse or dispose of safely. Immediately call a Poison Centre or doctor.

Eye Contact

Avoid direct contact. Wear chemical protective gloves if necessary. Immediately rinse the contaminated eye(s) with lukewarm, gently flowing water for 15-20 minutes, while holding the eyelid(s) open. Take care not to rinse contaminated water into the unaffected eye or onto the face. Immediately call a Poison Centre or doctor. Specific treatment is required.

Ingestion

Never give anything by mouth if person is rapidly losing consciousness, or is unconscious or convulsing. Do not induce vomiting. Rinse mouth with water.

First-aid Comments

Some of the first-aid procedures recommended here require advanced first-aid training. Get medical advice or attention if you feel unwell or are concerned.

Most Important Symptoms and Effects, Acute and Delayed

If inhaled: can harm the nervous system. In severe cases, symptoms may include fatigue, shortness of breath, bluish lips and skin, headache, nausea, vomiting, irregular heartbeat, dizziness and confusion. Can harm the blood (destruction of red blood cells).

Immediate Medical Attention and Special Treatment

Special Instructions

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media

Carbon dioxide, dry chemical powder, appropriate foam, water spray or fog. Special "alcohol resistant fire-fighting foams".

Unsuitable Extinguishing Media

None known.

Specific Hazards Arising from the Product

May accumulate in hazardous amounts in low-lying areas especially inside confined spaces, resulting in a fire and/or health hazard. Closed containers may rupture violently when heated releasing contents.

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In a fire, the following hazardous materials may be generated: very toxic carbon monoxide, carbon dioxide.

Special Protective Equipment and Precautions for Fire-fighters

Evacuate area. Fight fire from a safe distance or a protected location. Approach fire from upwind to avoid hazardous vapours or gases. Use water spray to flush spills away from ignition sources. For a massive fire, immediately evacuate the area and use unmanned hose holder or monitor nozzles. Dike and recover contaminated water for appropriate disposal.

Fire-fighters should enter area wearing specialized protective equipment. (Bunker Gear will not provide adequate protection.) chemical protective clothing (e.g. chemical splash suit) and positive pressure SCBA may be necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures

Evacuate the area immediately. Isolate the hazard area. Keep out unnecessary and unprotected personnel. Use the personal protective equipment recommended in Section 8 of this safety data sheet. Increase ventilation to area or move leaking container to a well-ventilated and secure area. Do not touch damaged containers or spilled product unless wearing appropriate protective equipment. Eliminate all ignition sources if safe to do so. Remove or isolate incompatible materials as well as other hazardous materials.

Environmental Precautions

Do not allow into any sewer, on the ground or into any waterway.

Methods and Materials for Containment and Cleaning Up

Stop or reduce leak if safe to do so. Contain and soak up spill with absorbent that does not react with spilled product. Place used absorbent into suitable, covered, labelled containers for disposal. Large spills or leaks: dike and recover contaminated water for appropriate disposal. Contact emergency services and manufacturer/supplier for advice.

Other Information

Report spills to local health, safety and environmental authorities, as required. Contact supplier, local fire and emergency services for help.

SECTION 7. HANDLING AND STORAGE

Precautions for Safe Handling

Wear personal protective equipment to avoid direct contact with this chemical. Prevent accidental contact with incompatible chemicals. Avoid ignition sources. Avoid heating that will increase the amount of vapours. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Avoid generating vapours or mists. Only use where there is adequate ventilation. Do not get in eyes, on skin or on clothing. Avoid release to the environment. Immediately report leaks, spills or failures of the safety equipment (e.g. ventilation system). In the event of a spill or leak, exit the area immediately. Keep containers tightly closed when not in use or empty.

Conditions for Safe Storage

Store in an area that is: cool, dry, well-ventilated, out of direct sunlight and away from heat and ignition sources, separate from incompatible materials (see Section 10: Stability and Reactivity). Keep amount in storage to a minimum. Restrict access to authorized personnel only. Store in a closed container. Empty containers may contain hazardous residue. Store separately. Keep closed. Follow all precautions given on this safety data sheet. Comply with all applicable health and safety regulations, fire and building codes.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Chemical Name	ACGIH TLV®		OSHA PEL		AIHA WEEL	
	TWA	STEL	TWA	Ceiling	8-hr TWA	TWA
2-Butoxyethanol	20 ppm A3		25 ppm Skin			

ACGIH® = American Conference of Governmental Industrial Hygienists. TLV® = Threshold Limit Value. TWA = Time-Weighted Average. A3 = Animal carcinogen.

OSHA = US Occupational Safety and Health Administration. PEL = Permissible Exposure Limits. TLV® = Threshold Limit Value.

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Appropriate Engineering Controls

Use local exhaust ventilation and enclosure, if necessary, to control amount in the air. Exhaust directly to the outside, taking any necessary precautions for environmental protection. Use non-sparking ventilation systems, approved explosion-proof equipment and intrinsically safe electrical systems in areas where this product is used and stored.

Individual Protection Measures

Eye/Face Protection

Wear chemical safety goggles and face shield when contact is possible.

Skin Protection

Wear chemical protective clothing e.g. gloves, aprons, boots.

Suitable materials are: butyl rubber, Viton®, Viton®/butyl rubber, Barrier® (PE/PA/PE), Tychem® SL (Saranex™), Tychem® Responder.

The following materials should NOT be used: natural rubber, polyvinyl chloride.

Respiratory Protection

Wear a NIOSH approved air-purifying respirator with an organic vapour cartridge, wear a NIOSH approved air-purifying respirator with an appropriate cartridge.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Basic Physical and Chemical Properties

Appearance	Clear colourless liquid.
Odour	Sweet
Odour Threshold	0.48 ppm
pH	Not available
Melting Point/Freezing Point	-75 °C (-103 °F) (melting)
Initial Boiling Point/Range	168.4 °C (335.1 °F)
Flash Point	62 °C (144 °F) (closed cup)
Evaporation Rate	0.07 - 0.08 (n-butyl acetate = 1)
Flammability (solid, gas)	Not available
Upper/Lower Flammability or Explosive Limit	12.7% (upper); 1.1% (lower)
Vapour Pressure	0.101 kPa (0.758 mm Hg)
Vapour Density (air = 1)	4.075 (calculated)
Relative Density (water = 1)	0.901 at 20 °C
Solubility	Soluble in all proportions in water; Soluble in all proportions in alcohols (e.g. ethanol).
Partition Coefficient, n-Octanol/Water (Log Kow)	0.83
Auto-ignition Temperature	238 °C (460 °F)
Decomposition Temperature	Not available
Viscosity	3.62 mm ² /s at 20 °C (kinematic); 3.26 mPa.s at 20 °C (dynamic)
Other Information	
Physical State	Liquid

SECTION 10. STABILITY AND REACTIVITY

Reactivity

Not reactive under normal conditions of use.

Chemical Stability

Normally stable.

Possibility of Hazardous Reactions

None known.

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Conditions to Avoid

Open flames, sparks, static discharge, heat and other ignition sources. Temperatures above 62 °C

Incompatible Materials

Strong oxidizing agents (e.g. perchloric acid), strong bases (e.g. sodium hydroxide).

Corrosive to: copper.

Not corrosive to metals. Carbon steel, cast iron, nickel, nickel alloys (e.g. Monel, Hastelloy), titanium.

Hazardous Decomposition Products

Very toxic carbon monoxide, carbon dioxide.

SECTION 11. TOXICOLOGICAL INFORMATION**Likely Routes of Exposure**

Inhalation; skin contact; skin absorption; eye contact; ingestion.

Acute Toxicity

Chemical Name	LC50	LD50 (oral)	LD50 (dermal)
2-Butoxyethanol	925 ppm (rat) (4-hour exposure)	530 mg/kg (female rat)	100 mg/kg (female rat)

Skin Corrosion/Irritation

Animal tests show moderate or severe irritation.

Serious Eye Damage/Irritation

Animal tests show serious eye irritation.

STOT (Specific Target Organ Toxicity) - Single Exposure**Inhalation**

Severe nose and throat irritation. Blood function tests may show abnormal results. Depression of the central nervous system.

Skin Absorption

Can cause effects as described for inhalation. Depression of the central nervous system.

Ingestion

May cause depression of the central nervous system. Can cause effects as described for inhalation. May cause harmful effects on the kidneys.

Aspiration Hazard

No information was located.

STOT (Specific Target Organ Toxicity) - Repeated Exposure

Dermatitis. Symptoms may include dry, red, cracked skin (dermatitis). Crystals or stones in the kidneys.

Respiratory and/or Skin Sensitization

Not known to be a skin sensitizer.

Carcinogenicity

Chemical Name	IARC	ACGIH®	NTP	OSHA
2-Butoxyethanol	Group 3	A3	Not Listed	

IARC: Group 3 – Not classifiable as to its carcinogenicity to humans.

ACGIH®: A3 – Confirmed animal carcinogen.

Reproductive Toxicity

Development of Offspring

No information was located.

Sexual Function and Fertility

No information was located.

Effects on or via Lactation

No information was located.

Germ Cell Mutagenicity

Conclusions cannot be drawn from the limited studies available.

Interactive Effects

No information was located.

SECTION 12. ECOLOGICAL INFORMATION

This section is not required by WHMIS. This section is not required by OSHA HCS 2012.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal Methods

Contact local environmental authorities for approved disposal or recycling methods in your jurisdiction.

SECTION 14. TRANSPORT INFORMATION

Not regulated under Canadian TDG regulations. Not regulated under US DOT Regulations.

Special Precautions Not applicable

Transport in Bulk According to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15. REGULATORY INFORMATION

Safety, Health and Environmental Regulations

Canada

Domestic Substances List (DSL) / Non-Domestic Substances List (NDSL)

Listed on the DSL.

USA

Toxic Substances Control Act (TSCA) Section 8(b)

Listed on the TSCA Inventory.

SECTION 16. OTHER INFORMATION

NFPA Rating **Health - 3** **Flammability - 2** **Instability - 0**

SDS Prepared By Alphachem Limited

Phone No. (905)-821-2995

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References CHEMINFO database. Canadian Centre for Occupational Health and Safety (CCOHS).
Megaloid Laboratories Ltd database.

Disclaimer This document is offered only as a guide in the safe handling of the above product, and has been prepared from the best information currently available. It is not intended to be all-inclusive and the conditions of use may involve other additional considerations. Since Alphachem Limited cannot anticipate or control the conditions under which the product may be used, it will not be liable for any claims, damages or losses which may result from the use or

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reliance on any information herein.