

### SECTION 1: Identification

#### 1.1. Identification

Product form	: Substance
Substance name	: Glycol Ether EB
CAS-No.	: 111-76-2
Formula	: C6H14O2
Synonyms	: 2-butoxyethanol / BGE / butyl cellosolve / butyl OXITOL / butylglycol / butylglycol ether / EGBE / ethanol, 2-butoxy- / ethyleenglycolmonobutylether / ethylene glycol monobutyl ether / glycolmonobutylether / monobutyl ether of ethyleneglycol

#### 1.2. Recommended use and restrictions on use

Use of the substance/mixture	: Solvent Stabilizers Chemical intermediate
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#### 1.3. Supplier

##### **ECOLINK**

2177 Flintstone Drive  
Suite A  
Tucker, GA 30084  
770-621-8240 (t)  
[www.ecolink.com](http://www.ecolink.com)

#### 1.4. Emergency telephone number

Emergency number : **INFOTRAC** 800-535-5053

### SECTION 2: Hazard(s) identification

#### 2.1. Classification of the substance or mixture

##### GHS-US classification

Flammable liquids Category 4	H227	Combustible liquid
Acute toxicity (oral) Category 4	H302	Harmful if swallowed
Serious eye damage/eye irritation Category 2A	H319	Causes serious eye irritation
Specific target organ toxicity (single exposure) Category 3	H336	May cause drowsiness or dizziness

Full text of H statements : see section 16

#### 2.2. GHS Label elements, including precautionary statements

##### GHS-US labeling

Hazard pictograms (GHS-US) :



Signal word (GHS-US) :

Warning

Hazard statements (GHS-US) :

H227 - Combustible liquid  
H302 - Harmful if swallowed  
H319 - Causes serious eye irritation  
H336 - May cause drowsiness or dizziness

Precautionary statements (GHS-US) :

P210 - Keep away from heat, hot surfaces, open flames, sparks. - No smoking  
P261 - Avoid breathing dust, fume, gas, mist, spray, vapors  
P264 - Wash Skin thoroughly after handling  
P270 - Do not eat, drink or smoke when using this product  
P271 - Use only outdoors or in a well-ventilated area  
P280 - Wear eye protection, face protection, protective clothing, protective gloves  
P301+P312 - If swallowed: Call a POISON CENTER or doctor/physician if you feel unwell

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P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing  
P305+P351+P338 - If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P312 - Call a POISON CENTER/ doctor if you feel unwell  
P330 - Rinse mouth  
P337+P313 - If eye irritation persists: Get medical advice/attention  
P370+P378 - In case of fire: Use dry sand, water fog, foam, dry chemical or carbon dioxide (CO<sub>2</sub>) to extinguish  
P403+P233 - Store in a well-ventilated place. Keep container tightly closed  
P403+P235 - Store in a well-ventilated place. Keep cool  
P405 - Store locked up  
P501 - Dispose of contents/container in an approved waste disposal plant

### 2.3. Other hazards which do not result in classification

No additional information available

### 2.4. Unknown acute toxicity (GHS US)

Not applicable

## SECTION 3: Composition/Information on ingredients

### 3.1. Substances

Substance type : Mono-constituent

Name	Product identifier	%	GHS-US classification
2-Butoxyethanol (Main constituent)	(CAS-No.) 111-76-2	100	Flam. Liq. 4, H227 Acute Tox. 4 (Oral), H302 Eye Irrit. 2A, H319 STOT SE 3, H336

Full text of hazard classes and H-statements : see section 16

### 3.2. Mixtures

Not applicable

## SECTION 4: First-aid measures

### 4.1. Description of first aid measures

First-aid measures general : Call a poison center/doctor/physician if you feel unwell.  
First-aid measures after inhalation : Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.  
First-aid measures after skin contact : Wash immediately with lots of water. Soap may be used. Take victim to a doctor if irritation persists.  
First-aid measures after eye contact : Rinse immediately with plenty of water. Do not apply neutralizing agents. Remove contact lenses, if present and easy to do. Continue rinsing. Take victim to an ophthalmologist if irritation persists.  
First-aid measures after ingestion : Rinse mouth with water. Immediately after ingestion: give lots of water to drink. Do not induce vomiting. Keep respiratory tract clear. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. Call a POISON CENTER/ doctor.

### 4.2. Most important symptoms and effects (acute and delayed)

Potential Adverse human health effects and symptoms : May be harmful if swallowed and enters airways. Harmful if swallowed. Causes mild skin irritation. Causes serious eye irritation. May cause drowsiness or dizziness.  
Chronic symptoms : No effects known.

### 4.3. Immediate medical attention and special treatment, if necessary

Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient. Do not induce vomiting.

## SECTION 5: Fire-fighting measures

### 5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Small fire: Use dry chemicals, CO<sub>2</sub>, water spray or alcohol-resistant foam.  
Large fire: Use water spray, water fog or alcohol-resistant foam.  
Unsuitable extinguishing media : Do not use solid water stream

### 5.2. Specific hazards arising from the chemical

Fire hazard : Evacuate area. Eliminate all ignition sources if safe to do so. Flash back possible over considerable distance. Fight fire with normal precautions from a reasonable distance. Cool closed containers exposed to fire with water spray.  
Reactivity : On exposure to air: peroxidation resulting in increased fire or explosion risk. Reacts violently with (strong) oxidizers: (increased) risk of fire/explosion. Reacts violently with (some) bases: (increased) risk of fire.

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### 5.3. Special protective equipment and precautions for fire-fighters

- Precautionary measures fire : 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.
- Firefighting instructions : Cool tanks/drums with water spray/remove them into safety.
- Protection during firefighting : Heat/fire exposure: compressed air/oxygen apparatus.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

#### 6.1.1. For non-emergency personnel

- Protective equipment : Gloves. Face-shield. Protective clothing.
- Emergency procedures : Evacuate personnel to safe areas. Keep people away from upwind of spill/leak. Use personal protective equipment. Ensure adequate ventilation. Eliminate all sources of ignition.

#### 6.1.2. For emergency responders

- Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

### 6.2. Environmental precautions

- Environmental precautions : Do not allow contact with soil, surface or ground water. Do not discharge product into the aquatic environment without pretreatment (biological treatment plant). Prevent product from entering drains. Prevent further leakage or spillage if safe to so. If the product contaminates rivers and lakes or drains inform respective authorities.

### 6.3. Methods and material for containment and cleaning up

- For containment : Contain released product, pump into suitable containers. Plug the leak, cut off the supply.
- Methods for cleaning up : Eliminate all sources of ignition. All equipment used when handling this product must be grounded. Do not touch or walk through spilled material. Stop leak if you can do it without risk. Prevent entry into waterways, sewers, basements or confined areas. A vapor suppressing foam may be used to reduce vapors. Absorb or cover with dry earth, sand or other non-combustible material and transfer to containers. Use clean non-sparking tools to collect absorbed material.
- Other information : Dispose of materials or solid residues at an authorized site.

### 6.4. Reference to other sections

- For further information refer to section 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

- Precautions for safe handling : Containers, even those that have been emptied, will retain product residue and vapor and should be handled as if they were full. Do not eat, drink or smoke in areas where this material is used.  
After handling, always wash hands thoroughly with soap and water.  
Do not handle near heat, sparks, or flame. Avoid contact with incompatible agents. Use only with adequate ventilation/ personal protection. Avoid contact with eyes, skin and clothing. Do not enter storage area unless adequately ventilated. Metal containers involved in the transfer of this material should be grounded and bonded.
- Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

### 7.2. Conditions for safe storage, including any incompatibilities

- Storage conditions : Prevent unauthorized access. Keep away from open flames, hot surfaces and sources of ignition. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Observe label precautions. Electrical installations / working materials must comply with the technological safety standards.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

Glycol Ether EB (111-76-2)		
ACGIH	Local name	2-Butoxyethanol (EGBE)
ACGIH	ACGIH TWA (ppm)	20 ppm
ACGIH	Remark (ACGIH)	Eye & URT irr

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Glycol Ether EB (111-76-2)		
ACGIH	Regulatory reference	ACGIH 2017
OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	240 mg/m <sup>3</sup>
OSHA	OSHA PEL (TWA) (ppm)	50 ppm
OSHA	Regulatory reference (US-OSHA)	OSHA

### 8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station. Ensure that eyewash stations and safety showers are close to the workstation location. Handle only in a place equipped with local exhaust (or other appropriate exhaust).

Environmental exposure controls : Avoid release to the environment.

### 8.3. Individual protection measures/Personal protective equipment

#### Hand protection:

Gloves

#### Eye protection:

Wear safety glasses as minimum eye protection. Conditions may warrant the use of chemical goggles and possibly a face shield. Consult your standard operating procedure or safety professional for advice. Use protective eye and face devices that comply with ANSI Z87.1-1987.

#### Skin and body protection:

Protective clothing

#### Respiratory protection:

Full face mask with filter type A at conc. in air > exposure limit

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Appearance	: Liquid.
Color	: Colorless
Odor	: Mild odor Ether odor
Odor threshold	: No data available
pH	: No data available
Melting point/ freezing point	: -74.8 °C
Boiling point	: 171 - 173.5 °C
Flash point	: 68 - 70 °C
Relative evaporation rate (butyl acetate=1)	: 0.1
Flammability (solid, gas)	: Not applicable.
Vapor pressure	: 0.8 – 1.0 hPa (20 °C)
Relative vapor density at 20 °C	: 4.1
Relative density	: 0.9 (20 °C)
Relative density of saturated gas/air mixture	: 1
Specific gravity / density	: 0.9 g/cm <sup>3</sup>
Molecular mass	: 118.17 g/mol
Solubility	: Miscible
Log Pow	: 0.81 (Test data, 20 °C)
Auto-ignition temperature	: 230 - 245 °C
Decomposition temperature	: No data available
Viscosity, kinematic	: 20 mm <sup>2</sup> /s
Viscosity, dynamic	: 3.3 mPa.s

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Explosion limits	: 1.1 - 10.6 vol % LEL: 1.1 vol % UEL: 10.6 vol %
Explosive properties	: No data available
Oxidizing properties	: Not considered an oxidizing agent

### 9.2. Other information

Specific conductivity	: > 10000 pS/m
Saturation concentration	: 5.8 g/m <sup>3</sup>
VOC content	: 100 %
Other properties	: Gas/vapour heavier than air at 20°C. Clear. Slightly volatile. Substance has neutral reaction. May generate electrostatic charges.

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

May form peroxides in the presence of air.

### 10.2. Chemical stability

Unstable on exposure to air.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

### 10.4. Conditions to avoid

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

### 10.5. Incompatible materials

Oxidizing agents. Acids. Bases. Amines. Ammonia. Acid chlorides.

### 10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity : Oral: Harmful if swallowed. Dermal: Not classified.

Glycol Ether EB (111-76-2)	
LD50 oral rat	1746 mg/kg body weight (Equivalent or similar to OECD 401, Rat, Male, Experimental value)
LD50 dermal rat	> 2000 mg/kg body weight (OECD 402: Acute Dermal Toxicity, Rat, Male/female, Experimental value)
LC50 inhalation rat (ppm)	450 ppm (Equivalent or similar to OECD 403, 4 h, Rat, Female, Experimental value)
ATE US (oral)	1414 mg/kg body weight

Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Causes serious eye irritation.
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
Specific target organ toxicity – single exposure	: May cause drowsiness or dizziness.
Specific target organ toxicity – repeated exposure	: Not classified
Aspiration hazard	: Not classified
Potential Adverse human health effects and symptoms	: Harmful if swallowed. Harmful in contact with skin. Causes skin irritation. Harmful if inhaled. Causes serious eye irritation. Caution! Substance is absorbed through the skin.
Symptoms/effects	: May cause drowsiness or dizziness.
Symptoms/effects after inhalation	: Runny nose. EXPOSURE TO HIGH CONCENTRATIONS: Metal taste. Central nervous system depression. Headache. Nausea. Dizziness. Mental confusion. Disturbances of consciousness.
Symptoms/effects after skin contact	: Tingling/irritation of the skin. Red skin. ON CONTINUOUS EXPOSURE/CONTACT: Symptoms similar to those listed under inhalation.

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Symptoms/effects after eye contact	: Irritation of the eye tissue.
Symptoms/effects after ingestion	: Risk of aspiration pneumonia. AFTER INGESTION OF HIGH QUANTITIES: Central nervous system depression. Symptoms similar to those listed under inhalation. Change in the haemogramme/blood composition. Change in urine composition. Irritation of the oral mucous membranes. Dry/sore throat. Gastrointestinal complaints.
Chronic symptoms	: No effects known.

### SECTION 12: Ecological information

#### 12.1. Toxicity

Ecology - water : Not harmful to crustacea. Not harmful to fishes. Groundwater pollutant. Slightly harmful to algae. Slightly harmful to bacteria. No significant hydrolysis.

Glycol Ether EB (111-76-2)	
LC50 fish 1	1474 mg/l (OECD 203: Fish, Acute Toxicity Test, 96 h, Oncorhynchus mykiss, Static system, Fresh water, Experimental value)
EC50 Daphnia 1	1550 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia magna, Static system, Fresh water, Experimental value)

#### 12.2. Persistence and degradability

Glycol Ether EB (111-76-2)	
Persistence and degradability	Readily biodegradable in water.

#### 12.3. Bioaccumulative potential

Glycol Ether EB (111-76-2)	
Log Pow	0.81 (Test data, 20 °C)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

#### 12.4. Mobility in soil

Glycol Ether EB (111-76-2)	
Surface tension	65.03 mN/m (20 °C, 2 g/l)
Ecology - soil	Low potential for adsorption in soil.

#### 12.5. Other adverse effects

No additional information available

### SECTION 13: Disposal considerations

#### 13.1. Disposal methods

Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Product/Packaging disposal recommendations	: Do not discharge into drains or the environment. Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Recycle by distillation. Remove to an authorized waste incinerator for solvents with energy recovery. May be discharged to wastewater treatment installation.

### SECTION 14: Transport information

#### Department of Transportation (DOT)

In accordance with DOT

Transport document description	: NA1993 Combustible liquid, n.o.s., 3, III
UN-No.(DOT)	: NA1993
Proper Shipping Name (DOT)	: Combustible liquid, n.o.s.
Class (DOT)	: 3 - Class 3 - Flammable and combustible liquid 49 CFR 173.120
Packing group (DOT)	: III - Minor Danger
DOT Packaging Non Bulk (49 CFR 173.xxx)	: 203
DOT Packaging Bulk (49 CFR 173.xxx)	: 241

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DOT Symbols	: D - Proper shipping name for domestic use only, or to and from Canada, G - Identifies PSN requiring a technical name
DOT Special Provisions (49 CFR 172.102)	: IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672). T1 - 1.5 178.274(d)(2) Normal..... 178.275(d)(2) T4 - 2.65 178.274(d)(2) Normal..... 178.275(d)(3) TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = $97 / 1 + a (tr - tf)$ Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.
DOT Packaging Exceptions (49 CFR 173.xxx)	: 150
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	: 60 L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	: 220 L
DOT Vessel Stowage Location	: A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.
Other information	: No supplementary information available.

### Transportation of Dangerous Goods

#### Transport by sea

#### Air transport

## SECTION 15: Regulatory information

### 15.1. US Federal regulations

#### Glycol Ether EB (111-76-2)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

SARA 302 / 304: This product contains no known chemicals regulated under SARA 302 / 304

SARA 311 / 312: Fire hazard. Acute health.

SARA 313: 2-Butoxyethanol Reporting threshold 1.0%

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

### 15.2. International regulations

#### CANADA

No additional information available

#### EU-Regulations

No additional information available

#### National regulations

No additional information available

### 15.3. US State regulations

This material contains the following chemical substance which is regulated under California Proposition 65.

Ethylene glycol 107-21-1

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State or local regulations

U.S. - New Jersey - Right to Know Hazardous Substance List  
U.S. - Pennsylvania - RTK (Right to Know) List

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### SECTION 16: Other information

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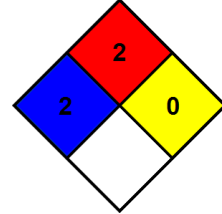
Full text of H-phrases:

H227	Combustible liquid
H302	Harmful if swallowed
H319	Causes serious eye irritation
H336	May cause drowsiness or dizziness

NFPA health hazard : 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.

NFPA fire hazard : 2 - Materials that must be moderately heated or exposed to relatively high ambient temperatures before ignition can occur.

NFPA reactivity : 0 - Material that in themselves are normally stable, even under fire conditions.



SDS US (GHS HazCom 2012)

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