



# SILVER FERN CHEMICAL

## Material Safety Data Sheet

### GLYCOL ETHER EB

#### SECTION 1: IDENTIFICATION

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**Product Name:** GLYCOL ETHER EB

**Chemical Family:** Glycol Ethers

**CAS Number:** 111-76-2

**Chemical Name:** 2-butoxyethanol

**Synonyms:** ethylene glycol monobutyl ether; glycol butyl ether

**Type of Use:** Chemical intermediaries. Solvent. Stabilizing agent

**Company**

Silver Fern Chemical, Inc.  
2226 Queen Anne Avenue North  
Suite #C  
Seattle WA 98109, USA

**Business Contact**

Customer Service: 206-282-3376  
[info@silverfernchemical.com](mailto:info@silverfernchemical.com)

**24 Hour Emergency Contact**

Infotrac 800-535-5053  
Outside USA & Canada 352-323-3500

#### SECTION 2: HAZARD IDENTIFICATION

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**Emergency Overview**

This material is HAZARDOUS by OSHA Hazard Communication definition.

**Signal Word**

WARNING!

**Hazards**

Inhalation of vapors may cause central nervous system depression. Eye irritant. Skin irritant.

**HMIS (U.S.A.):**

Health Hazard: 2

Fire Hazard: 2

Reactivity: 0

Personal Protection: E

**National Fire Protection Association (U.S.A.):**



# SILVER FERN CHEMICAL

## Material Safety Data Sheet

### GLYCOL ETHER EB

Health: 2  
Flammability: 2  
Reactivity: 0

#### Physical State

Liquid.

#### Color

Colorless.

#### Odor

Ether-like odor.

#### Odor Threshold

No value available.

#### **Potential Health Effects**

##### Routes of Exposure

Skin. Eye Inhalation

##### Signs and Symptoms of Acute Exposure

See component summary.

##### ***Ethylene glycol monobutyl ether 111-76-2***

May be irritating to the eyes, skin, and respiratory system. Exposure could cause central nervous system depression and liver and kidney damage. Severe over-exposure may cause red blood cell damage.

##### ***1,2-Ethandiol 107-21-1***

Ingestion hazard. Ingestion may include inebriation, nausea and vomiting, metabolic acidosis, and CNS depression. Cardiopulmonary effects including tachycardia, hypertension, severe metabolic acidosis with hyperventilation, hypoxia, congestive heart failure and adult respiratory distress syndrome, as well as, renal failure are also possible. May also produce a local irritation effect on the digestive system, and cause pain and bleeding. Irritation of the eyes and respiratory system. Effects of eye irritation are reversible. High aerosol concentrations may cause respiratory irritation. Mildly irritating to the skin but not a skin sensitizer. Not a skin absorption hazard.

#### Skin

Repeated or prolonged contact may cause skin irritation.

#### Inhalation

May produce symptoms of central nervous system depression including headache, dizziness, nausea, euphoria, loss of equilibrium, drowsiness, visual disturbances, fatigue, unconsciousness and respiratory arrest. Severe over-exposure may cause red blood cell damage.



# SILVER FERN CHEMICAL

## Material Safety Data Sheet

### GLYCOL ETHER EB

#### Eye

Moderate to severe eye irritant.

#### Ingestion

This material is low to moderately toxic. May cause headache, dizziness and gastrointestinal distress. Causes rapid damage to red blood cells and subsequent anemia. Repeated exposure may cause liver and kidney damage.

#### Chronic Health Effects

See component summary.

#### *Ethylene glycol monobutyl ether 111-76-2*

May cause dermatitis by defatting the skin from prolonged or repeated contact. This substance may have effects on the haematopoietic system, resulting in blood disorders. Animal carcinogen.

#### *1,2-Ethanediol 107-21-1*

Repeated or prolonged exposure may result in kidney damage. May produce symptoms of central nervous system depression including headache, dizziness, nausea, euphoria, loss of equilibrium, drowsiness, visual disturbances, fatigue, unconsciousness and respiratory arrest.

#### Conditions Aggravated by Exposure

Any pre-existing disorders or diseases of the nervous system, liver, respiratory system, skin, eyes, blood-forming organs, kidneys, and gastrointestinal system.

## SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

Component Name	CAS #	EU Inventory	Concentration	Wt.%*	Risk	Symbol
Ethylene glycol monobutyl ether	111-76-2	203-905-0	99.0	<= 99.9	R20/21/22, R36/38	Xn
1,2-Ethanediol	107-21-1	203-473-3	<= 1.0		R22	Xn

\* Concentration of gaseous products or materials is given in Mole %  
Compositions given are typical values not specifications.

## SECTION 4: FIRST AID MEASURES

#### General

Take proper precautions to ensure your own health and safety before attempting rescue and providing first aid. For specific information refer to the Emergency Overview in Section 3 of this MSDS.

#### Skin



# SILVER FERN CHEMICAL

## Material Safety Data Sheet

### GLYCOL ETHER EB

Immediately remove excess chemical and contaminated clothing; thoroughly wash contaminated skin with mild soap and water. If irritation persists after washing, seek medical attention. Thoroughly clean contaminated clothing before reuse; discard contaminated leather goods (gloves, shoes, belts, wallets, etc.).

#### Inhalation

Move the exposed person to fresh air at once. If breathing has stopped, perform artificial respiration. When breathing is difficult, properly trained personnel may assist the affected person by administering oxygen. Keep the affected person warm and at rest. Get medical attention immediately.

#### Eye

Thoroughly flush the eyes with large amounts of clean low-pressure water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Protect unharmed eye. Remove contact lenses. If irritation persists, seek medical attention.

#### Ingestion

If victim is conscious and able to swallow, have victim drink water to dilute. Never give anything by mouth if victim is unconscious or having convulsions. Induce vomiting only if advised by a physician or Poison Control Center. CALL A PHYSICIAN OR POISON CONTROL CENTER IMMEDIATELY!

#### Note to Physician

In vitro results with human red blood cells suggest that humans are more resistant to the hemolytic effects of EGBE than laboratory test animals such as mice, rats, and rabbits. These results suggest that hemolysis and secondary effects observed in laboratory animals are unlikely to occur in humans except in extreme cases when exposure is severe and/or prolonged. Indicators for treatment and observation include metabolic acidosis, urinary excretion of 2-butoxy acetic acid (BAA), hemolysis, or hematuria.

## SECTION 5: FIRE FIGHTING MEASURES

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#### Flammable Properties

**Classification:** OSHA/NFPA Class IIIA Combustible Liquid.

**Flash Point:** 72 °C (161.6 °F) ASTM D-56 (Tag Closed Cup)

**Auto-Ignition Temperature:** 244 °C (471.2 °F)

**Lower Flammable Limit:** 1.1 vol%

**Upper Flammable Limit:** 10.6 vol%

#### Extinguishing Media

**Suitable:** 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:** Do not use solid water stream.



# SILVER FERN CHEMICAL

## Material Safety Data Sheet

### GLYCOL ETHER EB

#### **Protection of Firefighters**

**Protective Equipment/Clothing:** Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters protective clothing will only provide limited protection.

**Fire Fighting Guidance:** Vapors can travel to a source of ignition and flash back. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Move containers from fire area if you can do it without risk. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. Always stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

**Hazardous Combustion Products:** Carbon oxides (CO, CO<sub>2</sub>)

## SECTION 6: ACCIDENTAL RELEASE MEASURES

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#### **Release Response**

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.

## SECTION 7: HANDLING AND STORAGE

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#### **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.

#### **Storage**

Store containers in a cool, dry, ventilated, fire resistant area away from sources of ignition and incompatible materials. Keep container tightly closed and properly labeled. Prevent unauthorized access. No smoking.

## SECTION 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION

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#### **Engineering Controls**

Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. Emergency shower and eyewash facility should be in close proximity (ANSI Z358.1)



# SILVER FERN CHEMICAL

## Material Safety Data Sheet

### GLYCOL ETHER EB

#### Personal Protection

**Inhalation:** A respiratory protection program that meets OSHA's 29 CFR 1910.134 or ANSI Z88.2 requirements must be followed whenever workplace conditions warrant respirator use.

**Skin:** Wear chemical resistant gloves such as: Rubber Use PPE that is chemical resistant to the product and prevents skin contact.

**Eye:** 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.

#### Additional Remarks

Selection of appropriate personal protective equipment should be based on an evaluation of the performance characteristics of the protective equipment relative to the task(s) to be performed, conditions present, duration of use, and the hazards and/or potential hazards that may be encountered during use.

#### Occupational Exposure Limits:

<u>Component Name</u>	<u>Source / Date</u>	<u>Value</u>	<u>Type</u>	<u>Notation</u>
Ethylene glycol monobutyl ether	US (ACGIH) / 2004	20 ppm	8 HRS/TWA	
	US (OSHA) / 2003	50 ppm	8 HRS/TWA	Skin.
1,2-Ethandiol	US (ACGIH)	100 mg/m <sup>3</sup> Aerosol	CEILING	
	US (OSHA)	N/L		

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

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**Appearance:** Liquid. Colorless.

**Odor:** Ether-like odor.

**Odor Threshold:** No value available.

**pH:** No Data Available.

**Boiling Point/Boiling Range:** 169 °C (336.2 °F) @ 760 mm Hg

**Freezing Point/Melting Point:** -70 °C (-94 °F)

**Flash Point:** 72 °C (161.6 °F) ASTM D-56 (Tag Closed Cup)

**Auto-ignition:** 244 °C (471.2 °F)



# SILVER FERN CHEMICAL

## Material Safety Data Sheet

### GLYCOL ETHER EB

**Flammability:** OSHA/NFPA Class IIIA Combustible Liquid.

**Lower Flammable Limit:** 1.1 vol%

**Upper Flammable Limit:** 10.6 vol%

**Explosive Properties:** No Data Available.

**Oxidizing Properties:** No Data Available.

**Vapor Pressure:** 0.6 mm Hg @ 20 °C (68 °F)

**Evaporation Rate:** 0.1 (butyl acetate = 1) (butyl acetate = 1)

**Relative Density:** 0.901 - 0.904 @ 20 °C (68 °F) (Water = 1)

**Relative Vapor Density:** 4.1 (Air = 1.0)

**Viscosity:** 6.4 mPa.s @ 20 °C (68 °F)

**Solubility (Water):** Miscible

**Partition Coefficient (Kow):** Log Kow = 0.83 Estimated

**Additional Physical and Chemical Properties:** No additional information available.

## SECTION 10: STABILITY AND REACTIVITY

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### Chemical Stability

The product is stable.

### Conditions to Avoid

All sources of ignition.

### Substances to Avoid

Oxidizers, Acids, Alkalis Lime, ammonia, organic amines, chlorates, chlorine, sodium hydroxide, bases

### Decomposition Products

Carbon Monoxide and Carbon dioxide.

### Hazardous Polymerization

Will not occur.

### Reactions with Air and Water

May form peroxides in the presence of air.

## SECTION 11: TOXICOLOGICAL INFORMATION

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# SILVER FERN CHEMICAL

## Material Safety Data Sheet

### GLYCOL ETHER EB

#### PRODUCT INFORMATION

##### **Product Summary**

Ethylene glycol monobutyl ether (EGBE) presents moderate acute toxicity hazard after exposure via ingestion, skin contact, and inhalation. EGBE is irritating to the eye and skin. It is not a skin sensitizer. Results from acute and repeat exposure studies in animals indicate that EGBE causes injury to red blood cells with subsequent intravascular hemolysis and anemia, and secondary changes in the liver and kidney. Reproductive toxicity, as a decrease in the number of litters and a decrease in fertility index, and developmental toxicity, as a decrease in pup weights, were observed in mice after exposure to EGBE in drinking water, but only at doses which produced significant parental toxicity. There were no fetal malformations in offspring of female rats or rabbits exposed to EGBE during pregnancy, even at doses that produced maternal toxicity. EGBE is inactive in standardized mutagenicity tests in vitro and in vivo. Exposure to EGBE by inhalation for 2 years caused an increase in forestomach tumors in female mice and liver tumors in male mice. No significant increase in tumors was observed in male and female rats exposed to EGBE for 2 years by inhalation; a slight increase in adrenal tumors in female rats was considered an equivocal result.

#### COMPONENT INFORMATION

##### ***Ethylene glycol monobutyl ether 111-76-2***

##### **Acute Toxicity - Lethal Doses**

LC50 (Inhl) Rat ~ 450 PPM 4 HOURS  
LD50 (Oral) Rat 530 - 3000 MG/KG BWT  
Rabbit 320 - 370 MG/KG BWT  
LD50 (Skin) Rabbit. 612 MG/KG BWT

##### **Acute Toxicity - Effects**

**Inhalation:** Exposure to vapor may cause irritation of the eyes, nose, and respiratory tract. May cause nausea. May cause headaches. Severe over-exposure or prolonged contact may cause red blood cell damage with weakness, confusion, anxiety, decreased blood pressure, and CNS depression with collapse and coma. Causes rapid damage to red blood cells and subsequent anemia. Repeated exposure may cause liver and kidney damage.

**Ingestion:** Ingestion may cause weakness, confusion, anxiety, decreased blood pressure, and CNS depression with collapse and coma. Causes rapid damage to red blood cells and subsequent anemia. Repeated exposure may cause liver and kidney damage.

**Skin:** Contact Moderate hazard by skin contact with liquid or vapor. May be absorbed through the skin and produce toxic effects such as CNS depression. High dermal doses (most likely achieved from exposure to undiluted liquid) may cause red blood cell damage with weakness, headache and nausea. Severe over-exposure or prolonged contact may cause red blood cell damage with weakness, confusion, anxiety, decreased blood pressure, and CNS depression with collapse and coma. Causes rapid damage to red blood cells and subsequent anemia. Repeated exposure may cause liver and kidney damage.





# SILVER FERN CHEMICAL

## Material Safety Data Sheet

### GLYCOL ETHER EB

#### Irritation

**Skin:** Repeated or prolonged contact may cause skin irritation.

**Eye:** Moderate to severe eye irritant.

#### Sensitization

Not expected to cause sensitization by skin contact.

#### Target Organ Effects

Skin. Eye. Respiratory system. Central nervous system effects. Blood. May cause liver and/or kidney damage.

#### Repeated Dose Toxicity

Repeated exposure to EGBE at 125 ppm by inhalation caused injury to red blood cells with subsequent anemia and changes to the spleen, liver, and kidney. Inhalation exposure to EGBE at or above 32 ppm caused degeneration of the nasal epithelium. Repeated oral administration of EGBE at doses of 222 mg/kg bwt, caused injury to red blood cells with subsequent anemia and changes to the spleen, liver, and kidney. Repeated dermal exposure to EGBE at 180 mg/kg bwt caused injury to red blood cells. Moderate risk to health after prolonged exposure.

#### Reproductive Effects

No adverse effect on reproductive performance was observed in male and female mice exposed to EGBE in drinking water at a 700 mg/kg bwt/day over two generations. A slight reduction in pup body weights and decreased maternal water consumption was observed in mice exposed to 700 mg/kg bwt/day EGBE. Dose levels of 1300 mg/kg/day and higher caused significant parental toxicity (including mortality) and a decreased number of litters.

#### Developmental Effects

EGBE is not teratogenic in rats or rabbits exposed by inhalation during organogenesis at concentrations up to 200 ppm. Maternal toxicity and minimal fetotoxicity occurred at or above 100 ppm. No maternal or developmental toxicity was observed in rabbits that received approximately 2100 mg/kg bwt/day EGBE by the dermal route of exposure during organogenesis.

#### Genetic Toxicity

No evidence of mutagenic activity in standard bacterial and mammalian test systems in vitro. No increase in micronuclei in rodents after in vivo exposure.

#### Carcinogenicity

Long-term exposure via inhalation at concentrations up to 125 ppm caused an increase in the incidence of liver tumors in male mice and forestomach tumors in female mice. A slight increase in adrenal tumors was observed in female rats. The NTP has determined that EGBE displays some evidence of carcinogenicity in mice, and equivocal evidence of carcinogenicity in female rats. The International Agency for Research on Cancer (IARC) has evaluated this material as an IARC Group 3 not classifiable as to carcinogenicity in humans. Limited data in animals and inadequate data in humans.



# SILVER FERN CHEMICAL

## Material Safety Data Sheet

### GLYCOL ETHER EB

#### *1,2-Ethandiol 107-21-1*

#### **Acute Toxicity - Lethal Doses**

LD50 (Oral) Rat 5890 - 13,400 MG/KG BWT  
NOAEL Rabbit > 3549 MG/KG BWT (SKIN)

#### **Irritation**

**Skin:** May be irritating to the skin. Not expected to be a sensitizer. No significant signs or symptoms indicative of any health hazard are expected to occur as a result of skin absorption exposure.

**Eye:** May cause minor eye irritation. Effects of eye irritation are reversible.

#### **Sensitization**

Not expected to be a sensitizer.

#### **Target Organ Effects**

Central nervous system effects. Blood (metabolic acidosis). Respiratory system. Cardiovascular system. Kidneys.

#### **Repeated Dose Toxicity**

If exposures are sufficiently high to cause accumulation of calcium oxalate crystals, kidney pathology may occur. In male rats, crystal nephropathy has been seen after dietary administration of 500 mg/kg/day bwt for 16 weeks, whereas no effects were seen in rats that ingested 200 mg/kg/day bwt for 2 years or in several animal species that inhaled 12 mg/m<sup>3</sup> for 3 months. Human exposures at occupational relevant concentrations are unlikely to cause crystal nephropathy.

#### **Reproductive Effects**

No evidence of adverse effects on reproductive organs or fertility in rats and rabbits have occurred from ethylene glycol exposure. Mice exposed to doses considerably higher than those associated with developmental effects or kidney effects in rats exhibited reduced number of litters and smaller litters. No reproductive effects expected from human exposures.

#### **Developmental Effects**

Doses of ethylene glycol that result in high levels of the metabolite glycolic acid induce developmental/teratogenic effects in rats and mice, although at doses greater than those associated with kidney effects in rats. Human exposure is not expected to generate sufficient levels of glycolic acid; therefore, no developmental effects are expected in humans.

#### **Genetic Toxicity**

Negative for genotoxicity both in vitro and in vivo tests.



# SILVER FERN CHEMICAL

## Material Safety Data Sheet

### GLYCOL ETHER EB

#### **Carcinogenicity**

Ethylene glycol was not carcinogenic in two year studies in rats and mice. This material is not classified as a carcinogen. Not listed by IARC, NTP, or OSHA.

#### **Other Information**

Human acute toxicity has three recognized stages: Stage 1. (0.5 to 12 hours post ingestion) may include inebriation, nausea and vomiting, metabolic acidosis, and CNS depression. Stage 2. (12-24 hours) cardiopulmonary effects include tachycardia, hypertension, severe metabolic acidosis with hyperventilation, hypoxia, congestive heart failure and adult respiratory distress syndrome. Stage 3. (24-72 hours) renal failure. Ethylene glycol may also produce a local irritation effect on the digestive system, and cause pain and bleeding.

## **SECTION 12: ECOLOGICAL INFORMATION**

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### **PRODUCT INFORMATION**

#### **Ecotoxicity**

See component summary.

#### **Environmental Fate and Pathway**

See component summary.

### **COMPONENT INFORMATION**

#### ***Ethylene glycol monobutyl ether 111-76-2***

#### **Ecotoxicity**

Acute toxicity to fish

LC50 / 96 HOURS bluegill. 1,490 mg/l

LC50 / 96 HOURS fathead minnow 2,137 mg/l

LC50 / 24 HOURS goldfish 1,650 mg/l

Summary: This material is not classified as harmful or toxic to fish.

Acute toxicity to aquatic invertebrates

LC50 / 48 HOURS Brown shrimp 775 mg/l

LC50 / 48 HOURS waterflea. 835 mg/l

Summary: This material is not classified as harmful or toxic to invertebrates.

Toxicity to aquatic plants

EC0 / 192 HOURS blue green algae. 35 mg/l

LOEC / 168 HOURS green algae. 900 mg/l

LOEC / 168 HOURS green algae (Selenastrum). 250 mg/l

Summary: This material is harmful to algae or higher aquatic plants.

Toxicity to microorganisms



# SILVER FERN CHEMICAL

## Material Safety Data Sheet

### GLYCOL ETHER EB

EC0 / 16 HOURS bacteria. 700 mg/l

Summary: This material is not classified as toxic or harmful to bacteria.

Chronic toxicity to fish

LC50 / 7 d guppy. 983 mg/l

Chronic toxicity to aquatic invertebrates

Summary: No Data Available.

#### Environmental Fate and Pathway

In air, the estimated photodegradation half-life of EGBE ranges from 16 to 27.5 hours. Does not undergo hydrolysis. Mobility Transport between environmental compartments: Highly mobile in soil and likely to volatilize from moist or dry soilsurfaces. Expected to volatilize from surface waters and not likely to adsorb to suspended solids and sediment in water.

#### Persistence and Degradability

Stability in Water: In water, the volatilization half-life of EGBE from a model river and lake is estimated to be 25 days and 185 days, respectively. The estimated half-life in groundwater ranging from 14 days to 8 weeks.

Stability in Soil: In soil, the estimated half-life of EGBE ranges from 7 days to 4 weeks.

Biodegradation: This material is expected to be readily biodegradable.

Bioaccumulation: Low potential for bioaccumulation. BCF = 3.0 (estimated).

#### **1,2-Ethandiol 107-21-1**

#### **Ecotoxicity**

Acute toxicity to fish

LC50 / 96 HOUR rainbow trout. 22,810 mg/l

LC50 / 96 HOUR fathead minnow 49,000 mg/l

Summary: This material is not classified as harmful or toxic to fish.

Acute toxicity to aquatic invertebrates

EC50 / 48 HOUR Daphnia magna. 41,000 mg/l

EC50 / 48 HOUR daphnia 10,000 mg/l

Summary: This material is not classified as harmful or toxic to invertebrates.

Toxicity to aquatic plants

Toxicity Threshold / 7 DAY blue green algae. 2,000 mg/l

Summary: This material is not classified as harmful or toxic to algae or higher aquatic plants.



# SILVER FERN CHEMICAL

## Material Safety Data Sheet

### GLYCOL ETHER EB

Toxicity to microorganisms  
Toxicity Threshold / 16 HOUR bacteria.> 10,000 mg/l  
Chronic toxicity to fish  
LC50 / 12 DAY rainbow trout. 20,403 mg/l

Chronic toxicity to aquatic invertebrates  
LC50 / 7 DAY daphnia 30,461 mg/l

#### Environmental Fate and Pathway

Mobile in soil. Not expected to volatilize from surface waters or soils. Not likely to adsorb to suspended solids and sediment in water. Environmental half-life of 0.35 to 24 days in soil, air, surface and ground water. Not expected to undergo hydrolysis. Undergoes photooxidation with hydroxyl radicals in air with a half-life of 8.3 to 83 hours.

#### Persistence and Degradability

Biodegradation: Reported biodegradation studies show ethylene glycol with 97% biodegradation after 20 days, and 96% biodegradation after 28 days. Biodegradable under aerobic conditions.

Bioaccumulation: BCF = 0.21 - 0.61 (crawfish) BCF = 10.0 (fish) This material is not expected to bioaccumulate.

## SECTION 13: DISPOSAL CONSIDERATIONS

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Dispose of all waste and contaminated equipment in accordance with all applicable federal, state and local health and environmental regulations. Recovery and reuse, rather than disposal, should be the ultimate goal of handling efforts. The materials resulting from clean-up operations may be hazardous wastes and therefore, subject to specific regulations. Use only licensed transporters and permitted facilities for waste disposal.

## SECTION 14: TRANSPORT INFORMATION

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#### Special Requirements

Not regulated by U.S. Department of Transportation (USDOT) when shipped in packages of 119 gallons or less. If you reformulate or further process this material, you should consider re-evaluation of the regulatory status of the components listed in the composition section of this sheet, based on final composition of your product.

**Proper Shipping Name** Combustible liquid, n.o.s. (ETHYLENE GLYCOL MONOBUTYL ETHER)

**ID No.** NA1993

**Hazard Class** Combustible Liquid

**PG** III

*This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.*



# SILVER FERN CHEMICAL

## Material Safety Data Sheet

### GLYCOL ETHER EB

#### SECTION 15: REGULATORY INFORMATION

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<u>Country</u>	<u>Inventory</u>
Australia	AICS X
Canada	DSL X
Canada	NDSL
China	IECS X
European Union	EINECS X
European Union	ELINCS
European Union	NLP
Japan	ENCS X
Korea	ECL X
Philippines	PICCS X
United States	TSCA X

**X = All components are included or are otherwise exempt from inclusion on this inventory.**

If identified components of this product are listed under the TSCA 12(b) Export Notification rule, they will be listed below.

#### **SARA 302/304**

This material contains a component(s) with known CAS numbers classified as hazardous substances subject to the reporting of CERCLA (40 CFR 302) and/or to the release reporting requirements of SARA (Section 302) based on reportable quantities (RQs).

<u>Component</u>	<u>RQ</u>
Ethylene glycol / CAS# 107-21-1	5,000 lbs

#### **SARA 311/312**

Based upon available information, this material is classified as the following health and/or physical hazards according to Section 311 & 312:



# SILVER FERN CHEMICAL

## Material Safety Data Sheet

### GLYCOL ETHER EB

Immediate (Acute) Health Hazard.  
Delayed (Chronic) Health Hazard.  
Fire Hazard.

#### SARA 313

This material contains the following chemicals with known CAS numbers subject to the reporting requirements of SARA Title III, Section 313 and 40 CFR 372:

<u>Component</u>	<u>Reporting Threshold</u>
Ethylene Glycol Monobutyl Ether / CAS# 111-76-2	1.0%
Ethylene glycol / CAS# 107-21-1	1.0%

#### State Reporting

This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins under California Proposition 65 at levels which would be subject to the proposition.

## SECTION 16: OTHER INFORMATION

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**HMIS Classification:** Health Hazard:2  
Chronic Health Hazard  
Flammability: 2  
Reactivity:0

**Created:** 5/04/2004

**Last Updated:** 9/01/12

#### DISCLAIMER OF RESPONSIBILITY

The information on this MSDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, expressed or implied, regarding its correctness. Some information presented and conclusions drawn herein are from sources other than direct test data on the substance itself. The conditions or methods of handling, storage, use and disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage, or expense arising out of or in any way connected with handling, storage, use, or disposal of this product. If the product is used as a component in another product, this MSDS information may not be applicable.

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