SILVER FERN CHEMICAL, INC.
SAFETY DATA SHEET
Glycol Ether DE

SECTION 1. IDENTIFICATION

Product name	:	Glycol Ether DE
Synonyms:	:	Diethylene Glycol Monoethyl Ether, DE Solvent

Details of the supplier of the safety data sheet

Company name of supplier	:	Silver Fern Chemical, Inc.
Address	:	121 W. De LA Guerra Street, Suite B Santa Barbara, CA 93101 USA
Customer Service	:	Phone: 1-866-282-3384 Email: info@silverfernchemical.com Website: www.silverfernchemical.com
24 Hour Emergency Contacts	:	**1-800-535-5053 (USA & Canada)** **1-352-323-3500 (Outside USA & Canada)**

Recommended use of the chemical and restrictions on use

Recommended use	:	Solvent
Restrictions on use	:	None known.

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Flammable liquids	:	Category 4

GHS label elements

Signal Word	:	Warning
Hazard Statements	:	H227 Combustible liquid.
Precautionary Statements	:	**Prevention:** P210 Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking. P280 Wear protective gloves/ eye protection/ face protection. **Response:** P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish. **Storage:** P403 + P235 Store in a well-ventilated place. Keep cool. **Disposal:** P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards
None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Components

Chemical name	CAS-No.	Concentration (% w/w)
diethylene glycol monoethyl ether	111-90-0	>= 90 - <= 100

SECTION 4. FIRST AID MEASURES

If inhaled	:	Move to fresh air. Treat symptomatically. Get medical attention if symptoms occur.
In case of skin contact	:	Wash off with soap and water. Get medical attention if symptoms occur.
In case of eye contact	:	Rinse with plenty of water. Get medical attention if symptoms occur.
If swallowed	:	Seek medical advice.
Most important symptoms and effects, both acute and delayed	:	None known.
Notes to physician	:	Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	:	Use water spray to extinguish. Dry chemical Carbon dioxide (CO2) Foam
Unsuitable extinguishing media	:	None known.
Specific hazards during fire fighting	:	Forms peroxides of unknown stability.
Hazardous combustion products	:	No hazardous combustion products are known
Further information	:	Combustible liquid and vapor.
Special protective equipment for fire-fighters	:	Wear an approved positive pressure self-contained breathing apparatus in addition to standard fire fighting gear.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emer-gency procedures	:	Wear appropriate personal protective equipment. Local authorities should be advised if significant spillages cannot be contained.
Environmental precautions	:	Avoid release to the environment.
Methods and materials for containment and cleaning up	:	Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).

SECTION 7. HANDLING AND STORAGE

Advice on safe handling	:	Minimize exposure to air. After opening, purge container with nitrogen before reclosing. Periodically test for peroxide formation on long-term storage.
Conditions for safe storage	:	Keep container tightly closed.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parame-ters / Permissible concentration	Basis
diethylene glycol monoethyl ether	111-90-0	TWA	25 ppm	US WEEL

Engineering measures : 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 maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Personal protective equipment

Respiratory protection	:	Wear respiratory protection.
Hand protection		
Remarks	:	Wear suitable gloves.
Eye protection	:	Safety glasses
Hygiene measures	:	Handle in accordance with good industrial hygiene and safety practice.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	liquid
Color	:	colorless
Odor	:	mild
Odor Threshold	:	1.1 ppm
pH	:	not determined
Melting point/freezing point	:	-130 °F / -90 °C
Boiling point/boiling range	:	388 °F / 198 °C
Flash point	:	196 °F / 91 °C Method: Tag closed cup
Evaporation rate	:	not determined
Vapor pressure	:	0.095 mmHg (20°C)
Relative vapor density	:	4.6
Relative density	:	0.99 (68 °F / 20 °C)
Solubility(ies)		
Water solubility	:	completely soluble
Partition coefficient: n-octanol/water	:	No data available
Autoignition temperature	:	399 °F / 204 °C Method: ASTM D2155
Decomposition temperature	:	Method: HPDTA No exotherm to 500°C
Viscosity		
Viscosity, dynamic	:	not determined
Viscosity, kinematic	:	4.54 mm2/s (68 °F / 20 °C)
Explosive properties	:	No data available
Oxidizing properties	:	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	Stable
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	Forms peroxides of unknown stability.
Conditions to avoid	:	Heat, flames and sparks.
Incompatible materials	:	Strong oxidizing agents
Hazardous decomposition products	:	Carbon dioxide (CO2) Carbon monoxide

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Not classified based on available information.

Product:

Acute oral toxicity	:	Remarks: No data available
Acute inhalation toxicity	:	Remarks: No data available
Acute dermal toxicity	:	Remarks: No data available

Components:

diethylene glycol monoethyl ether:

Acute oral toxicity	:	LD50 Oral (Rat): 6,031 mg/kg
Acute inhalation toxicity	:	LC50 (Rat): > 5.24 mg/l Exposure time: 8 h
Acute dermal toxicity	:	LD50 Dermal (Rabbit): 9,143 mg/kg

Skin corrosion/irritation

Not classified based on available information.

Product:

Remarks	:	No data available

Components:

diethylene glycol monoethyl ether:

Species	:	Rabbit
Exposure time	:	24 h
Result	:	none

Serious eye damage/eye irritation

Not classified based on available information.

Product:

Remarks : No data available

Components:

diethylene glycol monoethyl ether:

Species : Rabbit
Result : none
Exposure time : 24 h

Respiratory or skin sensitization

Skin sensitization

Not classified based on available information.

Respiratory sensitization

Not classified based on available information.

Product:

Remarks : No data available

Germ cell mutagenicity

Not classified based on available information.

Components:

diethylene glycol monoethyl ether:

Genotoxicity in vitro : Test Type: Salmonella typhimurium assay (Ames test)
Metabolic activation: +/- activation
Method: Bacterial Reverse Mutation Assay
Result: negative

Genotoxicity in vivo : Species: Mouse
Application Route: intraperitoneal injection
Method: Mammalian Erythrocyte Micronucleus Test
Result: negative

Carcinogenicity

Not classified based on available information.

Product:

Remarks : This information is not available.

IARC No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP No ingredient of this product present at levels greater than or equal to 0.1% is

identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

Not classified based on available information.

Product:

Effects on fertility : Remarks: No data available

STOT-single exposure

Not classified based on available information.

Product:

Remarks : No data available

STOT-repeated exposure

Not classified based on available information.

Product:

Remarks : No data available

Repeated dose toxicity

Components:

diethylene glycol monoethyl ether:

Species	:	Dog
NOAEL	:	1,000 mg/kg
Application Route	:	Oral Study
Exposure time	:	90 days

Species	:	Rabbit
NOAEL	:	1,000 mg/kg
Application Route	:	Dermal Study
Exposure time	:	28 days

Aspiration toxicity

Not classified based on available information.

Product:

No data available

Routes of exposure

Product:

Inhalation : Remarks: None known.

Skin contact : Remarks: None known.

Eye contact : Remarks: None known.

Ingestion : Remarks: None known.

Further information

Product:

Remarks : None known.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

diethylene glycol monoethyl ether:

Toxicity to fish	:	LC50 (Fish): 6,010 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (daphnid): 1,982 mg/l Exposure time: 48 h NOEC: (Ceriodaphnia dubia (water flea)): 7.4 mg/l Exposure time: 7 d
Toxicity to algae/aquatic plants	:	EC50 (Scenedesmus subspicatus): > 100 mg/l Exposure time: 96 h Remarks: Read-across from a similar material

Persistence and degradability

Components:

diethylene glycol monoethyl ether:

Biochemical Oxygen Demand (BOD)	:	BOD-5: 140 mg/g BOD-20: 1,900 mg/g
Chemical Oxygen Demand (COD)	:	1,910 mg/g
ThOD	:	1,900 mg/g

Bioaccumulative potential

No data available

Mobility in soil

No data available

Other adverse effects

No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Dispose of in accordance with local regulations.

SECTION 14. TRANSPORT INFORMATION

International Regulations

IATA-DGR
Not regulated as a dangerous good

IMDG-Code
Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Product name	:	POLY(2-8)ALKYLENE GLYCOL MONOALKYL(C1-C6)ETHER
Pollution category	:	Z
Ship type	:	3

Domestic regulation

49 CFR

UN/ID/NA number	:	NA 1993
Proper shipping name	:	Combustible liquid, n.o.s. (diethylene glycol monoethyl ether)
Class	:	CBL
Packing group	:	III
Labels	:	NONE
ERG Code	:	128
Marine pollutant	:	no
Remarks	:	Above applies only to containers over 119 gallons or 450 liters. Not regulated if shipped in packages less than or equal to 119 gallons (450 liters).

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

SECTION 15. REGULATORY INFORMATION

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards	:	Flammable (gases, aerosols, liquids, or solids)
SARA 313	:	The following components are subject to reporting levels established by SARA Title III, Section 313: diethylene glycol monoethyl ether 111-90-0

California Prop. 65

This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

The ingredients of this product are reported in the following inventories:

TCSI	:	On the inventory, or in compliance with the inventory
TSCA	:	All substances listed as active on the TSCA inventory
AIIC	:	On the inventory, or in compliance with the inventory
DSL	:	All components of this product are on the Canadian DSL
ENCS	:	On the inventory, or in compliance with the inventory
ISHL	:	On the inventory, or in compliance with the inventory
KECI	:	On the inventory, or in compliance with the inventory
PICCS	:	On the inventory, or in compliance with the inventory
IECSC	:	On the inventory, or in compliance with the inventory
NZIoC	:	On the inventory, or in compliance with the inventory
TECI	:	On the inventory, or in compliance with the inventory

TSCA list

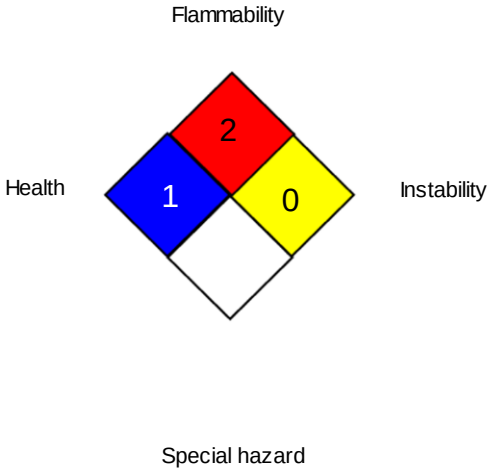
No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

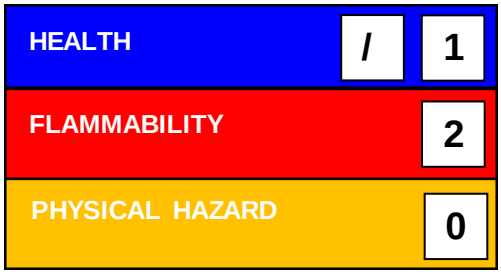
SECTION 16. OTHER INFORMATION

Further information

NFPA 704:



HMIS® IV:



HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

Full text of other abbreviations

US WEEL	:	USA. Workplace Environmental Exposure Levels (WEEL)
US WEEL / TWA	:	8-hr TWA

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance

Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Revision Date : 10/01/2021

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