

**Silver Fern Chemical, Inc.**  
**Safety Data Sheet**  
**Diethylene Glycol (DEG)**

Revision Date: 09/01/2019

**SECTION 1. PRODUCT AND COMPANY IDENTIFICATION**

**Product name** : Diethylene Glycol (DEG)

**Recommended use of the chemical and restrictions on use**

**Recommended use** : Solvent.  
Chemical intermediate  
in industrial applications

**Manufacturer or supplier's details**

**Company** : Silver Fern Chemical, Inc.  
**Address** : 2226 Queen Anne Ave N  
Seattle WA 98109  
Customer Service: 1-866-282-3384 / info@silverfernchemical.com

**Emergency telephone number:**  
**Infotrac 1-800-535-5053**  
**Outside USA & Canada 1-352-323-3500**

**SECTION 2. HAZARDS IDENTIFICATION**

**GHS Classification**

**Acute toxicity (Oral)** : Category 4  
**Specific target organ toxicity - repeated exposure** : Category 2 (Kidney)

**GHS label elements**

**Hazard pictograms** : 

**Signal word** : Warning

**Hazard statements** : H302 Harmful if swallowed.  
H373 May cause damage to organs through prolonged or repeated exposure.

**Precautionary statements** : **Prevention:**  
P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.  
P264 Wash skin thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
**Response:**  
P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth.  
P314 Get medical advice/ attention if you feel unwell.



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### Disposal:

P501 Dispose of contents/ container to an approved waste disposal plant.

### Other hazards

None known.

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Substance

### Hazardous components

| CAS-No.  | Chemical name     | Weight percent |
|----------|-------------------|----------------|
| 111-46-6 | Diethylene glycol | 90 - 100       |

Any Concentration shown as a range is due to batch variation.

## SECTION 4. FIRST AID MEASURES

- General advice : Move out of dangerous area.  
Show this safety data sheet to the doctor in attendance.  
Do not leave the victim unattended.
- If inhaled : If unconscious, place in recovery position and seek medical advice.  
If symptoms persist, call a physician.
- In case of skin contact : Wash off with soap and water.  
Wash clothing before reuse.  
If symptoms persist, call a physician.
- In case of eye contact : Flush eyes with water as a precaution.  
Remove contact lenses.  
Protect unharmed eye.  
Keep eye wide open while rinsing.  
If eye irritation persists, consult a specialist.
- If swallowed : Do not induce vomiting without medical advice.  
Keep respiratory tract clear.  
Do not give milk or alcoholic beverages.  
Never give anything by mouth to an unconscious person.  
If symptoms persist, call a physician.  
Take victim immediately to hospital.

## SECTION 5. FIREFIGHTING MEASURES

- Suitable extinguishing media : Carbon dioxide (CO2)  
Dry chemical  
Foam



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- Unsuitable extinguishing media : High volume water jet
- Specific hazards during fire-fighting : Do not allow run-off from fire fighting to enter drains or water courses.
- Hazardous combustion products : Carbon monoxide, carbon dioxide and unburned hydrocarbons (smoke).  
toxic fumes
- Further information : Standard procedure for chemical fires.  
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary.  
Use personal protective equipment.

### SECTION 6. ACCIDENTAL RELEASE MEASURES

- Environmental precautions : Prevent product from entering drains.  
Prevent further leakage or spillage if safe to do so.  
If the product contaminates rivers and lakes or drains inform respective authorities.
- Methods and materials for containment and cleaning up : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).  
Keep in suitable, closed containers for disposal.

### SECTION 7. HANDLING AND STORAGE

- Advice on protection against fire and explosion : Normal measures for preventive fire protection.
- Advice on safe handling : Do not breathe vapours/dust.  
For personal protection see section 8.  
Smoking, eating and drinking should be prohibited in the application area.  
Dispose of rinse water in accordance with local and national regulations.
- Conditions for safe storage : Keep container tightly closed in a dry and well-ventilated place.  
Electrical installations / working materials must comply with the technological safety standards.

### SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

#### Components with workplace control parameters

| CAS-No. | Components | Value type | Control parame- | Basis |
|---------|------------|------------|-----------------|-------|
|---------|------------|------------|-----------------|-------|



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|          |                   | (Form of exposure) | ters / Permissible concentration |         |
|----------|-------------------|--------------------|----------------------------------|---------|
| 111-46-6 | Diethylene glycol | TWA                | 10 mg/m <sup>3</sup>             | US WEEL |

### Personal protective equipment

Respiratory protection : General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.

### Hand protection

Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection : Eye wash bottle with pure water  
Tightly fitting safety goggles

Skin and body protection : Impervious clothing  
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures : When using do not eat or drink.  
When using do not smoke.  
Wash hands before breaks and at the end of workday.

### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

Colour : Clear, Colorless

Odour : odourless, slight, sweet

Odour Threshold : No data available

pH : 7 @ 20 - 25 °C (68 - 77 °F)

Freezing Point (Freezing Point) : -8 - -6.5 °C (18 - 20.3 °F)

Boiling Point (Boiling point/boiling range) : 244 - 245 °C (471 - 473 °F)

Flash point : 138 °C (280 °F)



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|  |   |
|--|---|
| Evaporation rate                       | : < 0.01<br>(Butyl Acetate = 1)                                       |
| Flammability (solid, gas)              | : No data available   |
| Upper explosion limit                  | : 12.3 %(V)   |
| Lower explosion limit                  | : 1.6 %(V)  |
| Vapour pressure                        | : 0.002 - 0.006 mmHg @ 20 - 25 °C (68 - 77 °F)                        |
| Relative vapour density                | : < 3.66 @ 20 - 25 °C (68 - 77 °F)<br>(Air = 1.0)                     |
| Relative density                       | : 1.118 @ 20 - 25 °C (68 - 77 °F)<br>Reference substance: (water = 1) |
| Density                                | : 1.18 g/cm <sup>3</sup> @ 20 °C (68 °F)                              |
| Solubility(ies)<br>Water solubility    | : soluble   |
| Solubility in other solvents           | : No data available   |
| Partition coefficient: n-octanol/water | : log Pow: 1.47 - 1.98  |
| Auto-ignition temperature              | : 229 - 372 °C  |
| Thermal decomposition                  | : No data available   |
| Viscosity<br>Viscosity, dynamic        | : 35.7 - 42 mPa.s @ 20 °C (68 °F)                                     |
| Viscosity, kinematic                   | : 30 - 32 mm <sup>2</sup> /s @ 20 °C (68 °F)                          |

### SECTION 10. STABILITY AND REACTIVITY

|                                    |  |
|------------------------------------|--|
| Reactivity                         | : No dangerous reaction known under conditions of normal use.    |
| Chemical stability                 | : Stable under normal conditions.                                |
| Possibility of hazardous reactions | : No hazards to be specially mentioned.                          |
| Conditions to avoid                | : Keep away from heat, flame, sparks and other ignition sources. |
| Incompatible materials             | : Aldehydes<br>Reducing agents<br>Strong acids<br>Strong bases   |



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Hazardous decomposition products : Strong oxidizing agents  
Aluminium  
: Aldehydes  
Alcohols  
ethers  
Carbon oxides

### SECTION 11. TOXICOLOGICAL INFORMATION

#### Acute toxicity

##### Product:

Acute oral toxicity : Acute toxicity estimate: 1,131 mg/kg

##### Components:

##### **111-46-6:**

Acute oral toxicity : LD50 (Human): Calculated 1,120 mg/kg  
Assessment: The component/mixture is moderately toxic after single ingestion.

#### Carcinogenicity

##### **IARC**

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.

##### **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 component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

#### Further information

##### Product:

Remarks: No data available

### SECTION 12. ECOLOGICAL INFORMATION

#### Ecotoxicity

No data available

#### Persistence and degradability

No data available



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### Bioaccumulative potential

No data available

### Mobility in soil

No data available

### Other adverse effects

#### Product:

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances

Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information : No data available

## SECTION 13. DISPOSAL CONSIDERATIONS

### Disposal methods

Contaminated packaging : Empty remaining contents.  
Dispose of as unused product.  
Do not re-use empty containers.

## SECTION 14. TRANSPORT INFORMATION

DOT (Department of Transportation): Not regulated as a dangerous good

### UNRTDG

Not regulated as a dangerous good

IATA (International Air Transport Association): Not regulated as a dangerous good

IMDG-Code: Not regulated as a dangerous good

## SECTION 15. REGULATORY INFORMATION

WHMIS Classification : : Not controlled.

### EPCRA - Emergency Planning and Community Right-to-Know Act

#### CERCLA Reportable Quantity

| Components | CAS-No. | Component RQ | Calculated product RQ |
|------------|---------|--------------|-----------------------|
|            |         |              |                       |



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|                 |          | (lbs) | (lbs) |
|-----------------|----------|-------|-------|
| 1,4-Dioxane     | 123-91-1 | 100   | *     |
| Ethylene glycol | 107-21-1 | 5000  | *     |

\*: Calculated RQ exceeds reasonably attainable upper limit.

### SARA 304 Extremely Hazardous Substances Reportable Quantity

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

**SARA 311/312 Hazards** : Acute toxicity (any route of exposure)  
Specific target organ toxicity (single or repeated exposure)

**SARA 302** : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

**SARA 313** : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

### Clean Air Act

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCM I Intermediate or Final VOC's (40 CFR 60.489):

111-46-6 Diethylene glycol

### Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

### Massachusetts Right To Know

123-91-1 1,4-Dioxane

### Pennsylvania Right To Know

111-46-6 Diethylene glycol  
107-21-1 Ethylene glycol  
123-91-1 1,4-Dioxane  
109-86-4 Ethanol, 2-methoxy-

### California Prop 65

**⚠ WARNING:** This product can expose you to chemicals including 1,4-Dioxane, which is/are known to the State of California to cause cancer, and Ethylene glycol, Ethanol, 2-methoxy-, which is/are known to the State of California to cause birth defects or other reproductive harm. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

### The components of this product are reported in the following inventories:

TSCA : On TSCA Inventory



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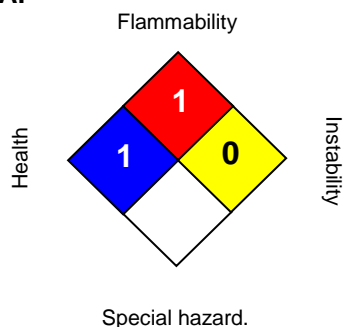
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|       |  |
|-------|--|
| DSL   | : All components of this product are on the Canadian DSL |
| AICS  | : On the inventory, or in compliance with the inventory  |
| NZIoC | : On the inventory, or in compliance with the inventory  |
| ENCS  | : On the inventory, or in compliance with the inventory  |
| KECI  | : On the inventory, or in compliance with the inventory  |
| PHIL  | : On the inventory, or in compliance with the inventory  |
| IECSC | : On the inventory, or in compliance with the inventory  |

### SECTION 16. OTHER INFORMATION

#### NFPA:



#### HMIS III:

|                        |           |
|------------------------|-----------|
| <b>HEALTH</b>          | <b>1*</b> |
| <b>FLAMMABILITY</b>    | <b>1</b>  |
| <b>PHYSICAL HAZARD</b> | <b>0</b>  |

0 = not significant, 1 = Slight,  
2 = Moderate, 3 = High  
4 = Extreme, \* = Chronic

#### Disclaimer

The information on this SDS 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 damage or expense arising out of or in any way responsibility and expressly disclaim liability for loss, connected with handling, storage, use, or disposal of this product. If the product is used as a component in another product, this SDS information may not be applicable.

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| <b>Key or legend to abbreviations and acronyms used in the safety data sheet</b> |  |       |  |
|--|--|-------|--|
| ACGIH  | American Conference of Government Industrial Hygienists  | LD50  | Lethal Dose 50%  |
| AICS   | Australia, Inventory of Chemical Substances              | LOAEL | Lowest Observed Adverse Effect Level   |
| DSL  | Canada, Domestic Substances List                         | NFPA  | National Fire Protection Agency  |
| NDSL   | Canada, Non-Domestic Substances List                     | NIOSH | National Institute for Occupational Safety & Health                                  |
| CNS  | Central Nervous System                                   | NTP   | National Toxicology Program  |
| CAS  | Chemical Abstract Service                                | NZIoC | New Zealand Inventory of Chemicals   |
| EC50   | Effective Concentration                                  | NOAEL | No Observable Adverse Effect Level   |
| EC50   | Effective Concentration 50%                              | NOEC  | No Observed Effect Concentration   |
| EGEST  | EOSCA Generic Exposure Scenario Tool                     | OSHA  | Occupational Safety & Health Administration  |
| EOSCA  | European Oilfield Specialty Chemicals Association        | PEL   | Permissible Exposure Limit   |
| EINECS   | European Inventory of Existing Chemical Substances       | PICCS | Philippines Inventory of Commercial Chemical Substances                              |
| MAK  | Germany Maximum Concentration Values                     | PRNT  | Presumed Not Toxic   |
| GHS  | Globally Harmonized System                               | RCRA  | Resource Conservation Recovery Act   |
| >=   | Greater Than or Equal To                                 | STEL  | Short-term Exposure Limit  |
| IC50   | Inhibition Concentration 50%                             | SARA  | Superfund Amendments and Reauthorization Act.  |
| IARC   | International Agency for Research on Cancer              | TLV   | Threshold Limit Value  |
| IECSC  | Inventory of Existing Chemical Substances in China       | TWA   | Time Weighted Average  |
| ENCS   | Japan, Inventory of Existing and New Chemical Substances | TSCA  | Toxic Substance Control Act  |
| KECI   | Korea, Existing Chemical Inventory                       | UVCB  | Unknown or Variable Composition, Complex Reaction Products, and Biological Materials |
| <=   | Less Than or Equal To                                    | WHMIS | Workplace Hazardous Materials Information System                                     |
| LC50   | Lethal Concentration 50%                                 |       |  |