
SECTION 1. IDENTIFICATION

Product name : DIGLYCOLAMINE AGENT
Recommended use : Gas treating

Details of the supplier of the safety data sheet

Distributor

Silver Fern Chemical, Inc.
2226 Queen Anne Avenue North, Suite C
Seattle WA 98109, USA
Phone: 1-866-282-3384

Business Contact

Customer Service: 1-866-282-3384
info@silverfernchemical.com

Emergency phone number

24 Hour Emergency Contact

Infotrac 1-800-535-5053 (USA & Canada)

Outside USA & Canada 1-352-323-3500

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Skin corrosion : Category 1

Serious eye damage : Category 1

Specific target organ systemic toxicity - single exposure : Category 2 (Central nervous system, Kidney)

Specific target organ systemic toxicity - repeated exposure : Category 2 (Central nervous system, Kidney, Liver)

GHS Label element

Hazard pictograms :



Signal Word : Danger

Hazard Statements : H314 Causes severe skin burns and eye damage.
H318 Causes serious eye damage.
H371 May cause damage to organs (Central nervous system, Kidney).
H373 May cause damage to organs (Central nervous system, Kidney, Liver) through prolonged or repeated exposure.

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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.
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:
 P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
 P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
 P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor/ physician.
 P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/ physician.
 P308 + P311 IF exposed or concerned: Call a POISON CENTER or doctor/ physician.
 P363 Wash contaminated clothing before reuse.

Storage:
 P405 Store locked up.

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 ingredients

Chemical Name	CAS-No.	Concentration (%)
2-(2-aminoethoxy)ethanol	929-06-6	95 - 100
N-ethylaminoethoxyethanol	106007-99-2	1 - 3
Glycol	—	1 - 3
morpholine	110-91-8	0.1 - 1

SECTION 4. FIRST AID MEASURES

General advice : Move out of dangerous area.
 Consult a physician.
 Show this material 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.

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- If symptoms persist, call a physician.
- In case of skin contact : Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with difficulty.
If on skin, rinse well with water.
If on clothes, remove clothes.
- In case of eye contact : Small amounts splashed into eyes can cause irreversible tissue damage and blindness.
In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Continue rinsing eyes during transport to hospital.
Remove contact lenses.
Protect unharmed eye.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.
- If swallowed : Clean mouth with water and drink afterwards plenty of water.
Keep respiratory tract clear.
Do NOT induce vomiting.
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.
- Most important symptoms and effects, both acute and delayed : None known.
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SECTION 5. FIRE-FIGHTING MEASURES

- Suitable extinguishing media : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- 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 : No hazardous combustion products are known
- Specific extinguishing methods : No data is available on the product itself.
- Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
- Special protective equipment for fire-fighters : Wear self-contained breathing apparatus for firefighting if necessary.

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SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Use personal protective equipment.
Evacuate personnel to safe areas.
Ensure adequate ventilation.
In case of inadequate ventilation wear respiratory protection.
- 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 : Neutralize with acid.
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 vapors/dust.
Avoid contact with skin and eyes.
For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
To avoid spills during handling keep bottle on a metal tray.
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.
Observe label precautions.
Electrical installations / working materials must comply with the technological safety standards.
- Materials to avoid : Keep away from strong acids.
Keep away from metals.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Ingredients with workplace control parameters**

Contains no substances with occupational exposure limit values.

Personal protective equipment

- Respiratory protection : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.
Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

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Hand protection	
Material	: Nitrile rubber
Break through time	: > 8 h
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. Wear face-shield and protective suit for abnormal processing problems. Ensure that eyewash stations and safety showers are close to the workstation location.
Skin and body protection	: impervious clothing Choose body protection according to the amount and concentration of the dangerous substance at the work place. Complete suit protecting against chemicals
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
Color	: colorless
Odor	: amine-like
Odor Threshold	: No data is available on the product itself.
pH	: 11.8
Freezing point	: -12.5 °C
Melting point	-12.5 °C
Boiling point	: 221 °C No information available. 222.5 - 223.8 °C (1,013 hPa)
Flash point	: 127 °C Method: Pensky-Martens closed cup, closed cup
Evaporation rate	: No data is available on the product itself.
Flammability (solid, gas)	: No data is available on the product itself.
Upper explosion limit	: 11.7 %(V)

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Lower explosion limit	: 2.6 %(V)
Vapor pressure	: 0.002 hPa (25 °C)
Relative vapor density	: 3.6
Relative density	: 1.06 (20 °C)
Density	: No data is available on the product itself.
Solubility(ies)	
Water solubility	: completely miscible
Solubility in other solvents	: Solvent: Methanol Description: soluble
Partition coefficient: n-octanol/water	: log Pow: -1.89 (20 °C)
Autoignition temperature	: 370 °C
Thermal decomposition	: No data is available on the product itself.
Viscosity	
Viscosity, dynamic	: 48.688 mPa.s (25 °C)
Oxidizing properties	: None.
Self-Accelerating decomposition temperature (SADT)	: No data is available on the product itself.
Molecular weight	: 105.16 g/mol

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 decomposition if stored and applied as directed.
Conditions to avoid	: No data available
Hazardous decomposition products	: Carbon dioxide (CO ₂) Carbon monoxide Nitrogen oxides (NO _x)

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure : No data is available on the product itself.

Acute toxicity

Acute oral toxicity - Product : Acute toxicity estimate : 3,198 mg/kg

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Method: Calculation method

Acute inhalation toxicity - Product : Acute toxicity estimate: > 40 mg/l
Exposure time: 4 h
Test atmosphere: vapor
Method: Calculation method

Acute dermal toxicity - Product : Acute toxicity estimate : > 5,000 mg/kg
Method: Calculation method

Acute toxicity (other routes of administration) : No data available

Skin corrosion/irritation**Product:**

Remarks: Extremely corrosive and destructive to tissue.

Serious eye damage/eye irritation**Product:**

Remarks: May cause irreversible eye damage.

Respiratory or skin sensitization**Product:**

Routes of exposure: Skin
Species: Guinea pig
Method: OECD Test Guideline 406
Result: Does not cause skin sensitization.

Assessment: No data available

Germ cell mutagenicity**Product:**

Genotoxicity in vitro : Concentration: 100 - 10000 ug/plate
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative

Concentration: 62.5 - 250 mg/kg
Method: Directive 67/548/EEC, Annex V, B.21.
Result: negative

Method: OECD Test Guideline 482
Result: negative

Product:

Genotoxicity in vivo : Application Route: Intraperitoneal injection
Dose: 62.5 - 250 mg/kg

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Result: negative

Carcinogenicity**Ingredients:**

Glycol:

Species: Rat, (male and female)

Application Route: Oral

Exposure time: 108 weeks

Dose: 1160 - 1210 mg/kg

Frequency of Treatment: 7 daily

Result: negative

morpholine:

Species: Rat, (male and female)

Application Route: Inhalation

Exposure time: 24 month(s)

Dose: 543 mg/m³

Frequency of Treatment: 5 daily

Method: OECD Test Guideline 453

Result: negative

Species: Rat, (male)

Application Route: Oral

Exposure time: 23 weeks

Dose: 220 - 880 mg/kg

Frequency of Treatment: 24 hour

Result: negative

Carcinogenicity - Assessment : No data 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 ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

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**Product:**

Effects on fertility

: Species: Rat, male and female
Application Route: Inhalation
Method: OECD Test Guideline 422Species: Rat, male and female
Application Route: Dermal
Method: OECD Test Guideline 411

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Product:

Effects on fetal development : Species: Rat, male and female
Application Route: Inhalation
General Toxicity Maternal: NOAEL (No observed adverse effect level): 40 mg/m³
Method: OECD Test Guideline 422
Result: No teratogenic effects.

Reproductive toxicity - Assessment : No data available

STOT-single exposure

Ingredients:

Glycol:
Target Organs: Central nervous system, Kidney
Assessment: May cause damage to organs.

STOT-repeated exposure

Ingredients:

Glycol:
Target Organs: Kidney, Liver, Central nervous system
Assessment: May cause damage to organs through prolonged or repeated exposure.

Repeated dose toxicity

Product:

Species: Rat, male and female
NOAEL (No observed adverse effect level): ≥ 175 mg/kg/d
Application Route: Skin contact
Exposure time: 13 Weeks
Number of exposures: 6 h
Method: Subchronic toxicity

Repeated dose toxicity - Assessment : No data available

Aspiration toxicity

No data available

Experience with human exposure

General Information: No data available

Inhalation: No data available

Skin contact: No data available

Eye contact: No data available

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Ingestion: No data available

Toxicology, Metabolism, Distribution

No data available

Neurological effects

No data available

Further information**Product:**

Remarks: No data available

SECTION 12. ECOLOGICAL INFORMATION**Ecotoxicity**

- Toxicity to fish - Product : LC50 (Leuciscus idus (Golden orfe)): > 681 mg/l
Exposure time: 96 h
Test Type: static test
Test substance: Fresh water
Method: DIN 38412
- Toxicity to daphnia and other aquatic invertebrates - Product : EC50 (Daphnia magna (Water flea)): 189 mg/l
Exposure time: 48 h
Test Type: static test
Test substance: Fresh water
Method: Directive 67/548/EEC, Annex V, C.2.
- Toxicity to algae - Product : ErC50 (Desmodesmus subspicatus (Scenedesmus subspicatus)): 202 mg/l
Exposure time: 72 h
Test Type: static test
Test substance: Fresh water
Method: DIN 38412
- M-Factor (Acute aquatic toxicity) : No data available

Ingredients:

Glycol:

- Toxicity to fish (Chronic toxicity) : NOEC (Pimephales promelas (fathead minnow)): 15,380 mg/l
Exposure time: 17 d
Test substance: Fresh water

Ingredients:

Glycol:

- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Ceriodaphnia (water flea)): 8,590 mg/l
Exposure time: 7 d
Test Type: static test

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	Test substance: Fresh water
M-Factor (Chronic aquatic toxicity)	: No data available
Toxicity to bacteria - Product	: EC50 (Pseudomonas putida): 110 mg/l Exposure time: 17 h Test Type: static test Test substance: Fresh water Method: DIN 38 412 Part 8
Toxicity to soil dwelling organisms	: No data available
Plant toxicity	: No data available
Sediment toxicity	: No data available
Toxicity to terrestrial organisms	: No data available
Ecotoxicology Assessment Acute aquatic toxicity	: No data available
Chronic aquatic toxicity	: No data available
Toxicity Data on Soil	: No data available
Other organisms relevant to the environment	: No data available
Further information:	No data available

Persistence and degradability

Biodegradability - Product	: Inoculum: activated sludge Biodegradation: 84 % Exposure time: 28 d Method: OECD Test Guideline 302B
	Inoculum: activated sludge Result: Readily biodegradable. Biodegradation: 90 - 100 % Exposure time: 17 d Method: OECD Test Guideline 301A
Biochemical Oxygen Demand (BOD)	: No data available
Chemical Oxygen Demand (COD)	: No data available
BOD/COD	: No data available
ThOD	: No data available

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BOD/ThOD : No data available

Dissolved organic carbon
(DOC) : No data availablePhysico-chemical
removability : No data available

Stability in water : No data available

Ingredients:

morpholine:

Photodegradation : Test Type: Air
Degradation (direct photolysis): 50 %Impact on Sewage
Treatment : No data available**Bioaccumulative potential****Ingredients:**

Glycol:

Bioaccumulation : Species: Leuciscus idus (Golden orfe)
Bioconcentration factor (BCF): 100
Exposure time: 3 d
Test substance: Fresh water
Method: OECD Test Guideline 305

morpholine:

Bioaccumulation : Species: Cyprinus carpio (Carp)
Bioconcentration factor (BCF): < 2.8
Exposure time: 42 d
Test substance: Fresh water
Method: flow-through test
Remarks: Bioaccumulation is unlikely.Partition coefficient: n-
octanol/water - Product : log Pow: -1.89 (20 °C)**Mobility in soil**

Mobility : No data available

Distribution among
environmental compartments
- Product : Koc: 1 - 1.061.

Stability in soil : No data available

Other adverse effectsEnvironmental fate and
pathways : No data availableResults of PBT and vPvB
assessment : No data available

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Endocrine disrupting potential : No data available

Adsorbed organic bound halogens (AOX) : No data available

Hazardous to the ozone layer

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 - Product : No data available
Global warming potential (GWP) : No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Do not dispose of waste into sewer.
Do not contaminate ponds, waterways or ditches with chemical or used container.
Send to a licensed waste management company.

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

SECTION 14. TRANSPORT INFORMATION

International Regulation

IATA

UN/ID No. : UN 3055
Proper shipping name : 2-(2-Aminoethoxy)ethanol
Class : 8
Packing group : III
Labels : Corrosive
Packing instruction (cargo aircraft) : 856
Packing instruction (passenger aircraft) : 852

IMDG

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UN number : UN 3055
Proper shipping name : 2-(2-AMINOETHOXY)ETHANOL
Class : 8
Packing group : III
Labels : 8
EmS Code : F-A, S-B
Marine pollutant : no

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

Not applicable for product as supplied.

Domestic regulation

DOT Classification

UN/ID/NA number : UN 3055
Proper shipping name : 2-(2-AMINOETHOXY) ETHANOL
Class : 8
Packing group : III
Labels : CORROSIVE
ERG Code : 154
Marine pollutant : no

SECTION 15. REGULATORY INFORMATION

TSCA - 5(a) Significant New Use Rule List of Chemicals : Not relevant

EPCRA - Emergency Planning and Community Right-to-Know

CERCLA Reportable Quantity

Ingredients	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
MONOETHYLENE GLYCOL (MEG)	107-21-1	5000	*

*: Calculated RQ exceeds reasonably attainable upper limit.

SARA 311/312 Hazards : Chronic Health Hazard
Acute Health Hazard

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 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).

The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 12 (40 CFR 61):

Diethylene glycol 111-46-6 1 %

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This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCOMI Intermediate or Final VOC's (40 CFR 60.489).

California Prop 65

WARNING: This product contains a chemical known in the State of California to cause birth defects or other reproductive harm.

Ethylene glycol

107-21-1

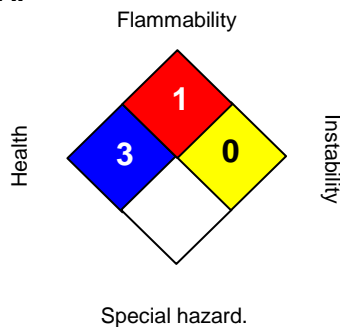
The ingredients of this product are reported in the following inventories:

CH INV	: The mixture contains substances listed on the Swiss Inventory
TSCA	: On TSCA Inventory
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
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

SECTION 16. OTHER INFORMATION

Further information

NFPA:



HMIS III:

HEALTH	3*
FLAMMABILITY	1
PHYSICAL HAZARD	0

0 = not significant, 1 =Slight,

2 = Moderate, 3 = High

4 = Extreme, * = Chronic

DISCLAIMER OF RESPONSIBILITY

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 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 SDS information may not be applicable.

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