

## SAFETY DATA SHEET

Creation Date 02-Jul-2014

Revision Date 24-Dec-2021

Revision Number 4

### 1. Identification

**Product Name** Diethylene Glycol Monoethyl Ether (Laboratory)

**Cat No. :** D51-4

**CAS No** 111-90-0  
**Synonyms** 2(2-Ethoxyethoxy)ethanol

**Recommended Use** Laboratory chemicals.  
**Uses advised against** Food, drug, pesticide or biocidal product use.

#### Details of the supplier of the safety data sheet

##### Company

Fisher Scientific Company  
One Reagent Lane  
Fair Lawn, NJ 07410  
Tel: (201) 796-7100

**Emergency Telephone Number** CHEMTREC®, Inside the USA: 800-424-9300  
CHEMTREC®, Outside the USA: 001-703-527-3887

### 2. Hazard(s) identification

#### Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Serious Eye Damage/Eye Irritation

Category 2

#### Label Elements

**Signal Word**  
Warning

**Hazard Statements**  
Causes serious eye irritation

**Precautionary Statements****Prevention**

Wash face, hands and any exposed skin thoroughly after handling

Wear eye/face protection

**Eyes**

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

If eye irritation persists: Get medical advice/attention

**Hazards not otherwise classified (HNOC)**

None identified

**3. Composition/Information on Ingredients**

| Component                         | CAS No   | Weight % |
|-----------------------------------|----------|----------|
| Diethylene glycol monoethyl ether | 111-90-0 | 98       |

**4. First-aid measures**

|                                            |                                                                                                                 |
|--------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| <b>Eye Contact</b>                         | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention. |
| <b>Skin Contact</b>                        | Wash off immediately with plenty of water for at least 15 minutes. Get medical attention if symptoms occur.     |
| <b>Inhalation</b>                          | Remove to fresh air. Get medical attention if symptoms occur. If not breathing, give artificial respiration.    |
| <b>Ingestion</b>                           | Do NOT induce vomiting. Get medical attention if symptoms occur.                                                |
| <b>Most important symptoms and effects</b> | Difficulty in breathing. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting    |
| <b>Notes to Physician</b>                  | Treat symptomatically                                                                                           |

**5. Fire-fighting measures**

|                                         |                                                                                       |
|-----------------------------------------|---------------------------------------------------------------------------------------|
| <b>Suitable Extinguishing Media</b>     | Water spray, carbon dioxide (CO <sub>2</sub> ), dry chemical, alcohol-resistant foam. |
| <b>Unsuitable Extinguishing Media</b>   | No information available                                                              |
| <b>Flash Point</b>                      | 94 °C / 201.2 °F                                                                      |
| <b>Method -</b>                         | No information available                                                              |
| <b>Autoignition Temperature</b>         | 204 °C / 399.2 °F                                                                     |
| <b>Explosion Limits</b>                 |                                                                                       |
| <b>Upper</b>                            | 23.5 vol %                                                                            |
| <b>Lower</b>                            | 1.20 vol %                                                                            |
| <b>Sensitivity to Mechanical Impact</b> | No information available                                                              |

**Sensitivity to Static Discharge** No information available

#### Specific Hazards Arising from the Chemical

Thermal decomposition can lead to release of irritating gases and vapors. Containers may explode when heated. Keep product and empty container away from heat and sources of ignition.

#### Hazardous Combustion Products

Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>). peroxides.

#### Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

#### NFPA

**Health**  
1

**Flammability**  
1

**Instability**  
1

**Physical hazards**  
N/A

### 6. Accidental release measures

#### Personal Precautions

Use personal protective equipment as required. Ensure adequate ventilation. Avoid contact with skin, eyes or clothing.

#### Environmental Precautions

Avoid release to the environment. See Section 12 for additional Ecological Information.

#### Methods for Containment and Clean Up

Soak up with inert absorbent material. Keep in suitable, closed containers for disposal.

### 7. Handling and storage

#### Handling

Wear personal protective equipment/face protection. Ensure adequate ventilation. Avoid contact with skin, eyes or clothing. Avoid ingestion and inhalation.

#### Storage.

Keep in a dry, cool and well-ventilated place. Keep container tightly closed. Keep under nitrogen. Incompatible Materials. Strong oxidizing agents. Strong acids. Acid anhydrides. Acid chlorides.

### 8. Exposure controls / personal protection

#### Exposure Guidelines

#### Engineering Measures

None under normal use conditions.

#### Personal Protective Equipment

##### Eye/face Protection

Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

##### Skin and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

##### Respiratory Protection

No protective equipment is needed under normal use conditions.

##### Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice.

### 9. Physical and chemical properties

#### Physical State

Liquid

#### Appearance

Colorless

#### Odor

sweet

#### Odor Threshold

No information available

#### pH

No information available

|                                        |                              |
|----------------------------------------|------------------------------|
| Melting Point/Range                    | -80 °C / -112 °F             |
| Boiling Point/Range                    | 197 °C / 386.6 °F @ 760 mmHg |
| Flash Point                            | 94 °C / 201.2 °F             |
| Evaporation Rate                       | No information available     |
| Flammability (solid,gas)               | Not applicable               |
| Flammability or explosive limits       |                              |
| Upper                                  | 23.5 vol %                   |
| Lower                                  | 1.20 vol %                   |
| Vapor Pressure                         | No information available     |
| Vapor Density                          | No information available     |
| Specific Gravity                       | 0.990                        |
| Solubility                             | No information available     |
| Partition coefficient; n-octanol/water | No data available            |
| Autoignition Temperature               | 204 °C / 399.2 °F            |
| Decomposition Temperature              | No information available     |
| Viscosity                              | No information available     |
| Molecular Formula                      | C6 H14 O3                    |
| Molecular Weight                       | 134.17                       |

## 10. Stability and reactivity

|                                  |                                                                        |
|----------------------------------|------------------------------------------------------------------------|
| Reactive Hazard                  | None known, based on information available                             |
| Stability                        | Stable under normal conditions. Hygroscopic.                           |
| Conditions to Avoid              | Incompatible products. Excess heat. Exposure to moisture.              |
| Incompatible Materials           | Strong oxidizing agents, Strong acids, Acid anhydrides, Acid chlorides |
| Hazardous Decomposition Products | Carbon monoxide (CO), Carbon dioxide (CO <sub>2</sub> ), peroxides     |
| Hazardous Polymerization         | Hazardous polymerization does not occur.                               |
| Hazardous Reactions              | None under normal processing.                                          |

## 11. Toxicological information

### Acute Toxicity

#### Product Information Component Information

| Component                         | LD50 Oral          | LD50 Dermal                                                     | LC50 Inhalation                           |
|-----------------------------------|--------------------|-----------------------------------------------------------------|-------------------------------------------|
| Diethylene glycol monoethyl ether | 6031 mg/kg ( Rat ) | 9143 mg/kg (Rabbit)<br>4200 µL/kg ( Rabbit )<br>6 mL/kg ( Rat ) | LC50 > 5240 mg/m <sup>3</sup> ( Rat ) 4 h |

**Toxicologically Synergistic Products** No information available

### Delayed and immediate effects as well as chronic effects from short and long-term exposure

|                 |                                                                                          |
|-----------------|------------------------------------------------------------------------------------------|
| Irritation      | Irritating to eyes                                                                       |
| Sensitization   | No information available                                                                 |
| Carcinogenicity | The table below indicates whether each agency has listed any ingredient as a carcinogen. |

| Component                         | CAS No   | IARC       | NTP        | ACGIH      | OSHA       | Mexico     |
|-----------------------------------|----------|------------|------------|------------|------------|------------|
| Diethylene glycol monoethyl ether | 111-90-0 | Not listed | Not listed | Not listed | Not listed | Not listed |

**Mutagenic Effects** No information available

**Reproductive Effects** No information available.

**Developmental Effects** No information available.

**Teratogenicity** No information available.

**STOT - single exposure** None known

**STOT - repeated exposure** None known

**Aspiration hazard** No information available

**Symptoms / effects, both acute and delayed** Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting

**Endocrine Disruptor Information** No information available

**Other Adverse Effects** The toxicological properties have not been fully investigated.

## 12. Ecological information

### Ecotoxicity

| Component                         | Freshwater Algae | Freshwater Fish                                                                                                                                                                                                                                                  | Microtox   | Water Flea                                  |
|-----------------------------------|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|---------------------------------------------|
| Diethylene glycol monoethyl ether | Not listed       | LC50: 11600 - 16700 mg/L, 96h flow-through (Pimephales promelas)<br>LC50: 11400 - 15700 mg/L, 96h flow-through (Oncorhynchus mykiss)<br>LC50: 19100 - 23900 mg/L, 96h flow-through (Lepomis macrochirus)<br>LC50: = 10000 mg/L, 96h static (Lepomis macrochirus) | Not listed | EC50: 3940 - 4670 mg/L, 48h (Daphnia magna) |

**Persistence and Degradability** Persistence is unlikely

**Bioaccumulation/ Accumulation** No information available.

**Mobility** . Will likely be mobile in the environment due to its water solubility.

| Component                         | log Pow |
|-----------------------------------|---------|
| Diethylene glycol monoethyl ether | -0.8    |

## 13. Disposal considerations

**Waste Disposal Methods** Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

## 14. Transport information

**DOT** Not regulated

**TDG** Not regulated

**IATA** Not regulated

**IMDG/IMO** Not regulated

## 15. Regulatory information

### United States of America Inventory

| Component | CAS No | TSCA | TSCA Inventory notification - Active-Inactive | TSCA - EPA Regulatory Flags |
|-----------|--------|------|-----------------------------------------------|-----------------------------|
|-----------|--------|------|-----------------------------------------------|-----------------------------|

|                                   |          |   |        |   |
|-----------------------------------|----------|---|--------|---|
| Diethylene glycol monoethyl ether | 111-90-0 | X | ACTIVE | - |
|-----------------------------------|----------|---|--------|---|

**Legend:**

TSCA US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

X - Listed

- - Not Listed

TSCA 12(b) - Notices of Export Not applicable

**International Inventories**

Canada (DSL/NDL), Europe (EINECS/ELINCS/NLP), Philippines (PICCS), Japan (ENCS), Japan (ISHL), Australia (AICS), China (IECSC), Korea (KECL).

| Component                         | CAS No   | DSL | NDL | EINECS    | PICCS | ENCS | ISHL | AICS | IECSC | KECL     |
|-----------------------------------|----------|-----|-----|-----------|-------|------|------|------|-------|----------|
| Diethylene glycol monoethyl ether | 111-90-0 | X   | -   | 203-919-7 | X     | X    | X    | X    | X     | KE-10467 |

KECL - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)**U.S. Federal Regulations****SARA 313**

| Component                         | CAS No   | Weight % | SARA 313 - Threshold Values % |
|-----------------------------------|----------|----------|-------------------------------|
| Diethylene glycol monoethyl ether | 111-90-0 | 98       | 1.0                           |

SARA 311/312 Hazard Categories See section 2 for more information

CWA (Clean Water Act) Not applicable

**Clean Air Act**

| Component                         | HAPS Data | Class 1 Ozone Depletors | Class 2 Ozone Depletors |
|-----------------------------------|-----------|-------------------------|-------------------------|
| Diethylene glycol monoethyl ether | X         |                         | -                       |

OSHA - Occupational Safety and Health Administration Not applicable

CERCLA Not applicable

California Proposition 65 This product does not contain any Proposition 65 chemicals.

**U.S. State Right-to-Know Regulations**

| Component                         | Massachusetts | New Jersey | Pennsylvania | Illinois | Rhode Island |
|-----------------------------------|---------------|------------|--------------|----------|--------------|
| Diethylene glycol monoethyl ether | -             | X          | X            | X        | -            |

**U.S. Department of Transportation**

Reportable Quantity (RQ): N

DOT Marine Pollutant N

DOT Severe Marine Pollutant N

U.S. Department of Homeland Security This product does not contain any DHS chemicals.

**Other International Regulations**

Mexico - Grade No information available

## Authorisation/Restrictions according to EU REACH

## Safety, health and environmental regulations/legislation specific for the substance or mixture

| Component                         | CAS No   | OECD HPV | Persistent Organic Pollutant | Ozone Depletion Potential | Restriction of Hazardous Substances (RoHS) |
|-----------------------------------|----------|----------|------------------------------|---------------------------|--------------------------------------------|
| Diethylene glycol monoethyl ether | 111-90-0 | Listed   | Not applicable               | Not applicable            | Not applicable                             |

| Component                         | CAS No   | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification | Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements | Rotterdam Convention (PIC) | Basel Convention (Hazardous Waste) |
|-----------------------------------|----------|-------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|----------------------------|------------------------------------|
| Diethylene glycol monoethyl ether | 111-90-0 | Not applicable                                                                            | Not applicable                                                                           | Not applicable             | Not applicable                     |

**16. Other information**

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**Revision Summary** This document has been updated to comply with the US OSHA HazCom 2012 Standard replacing the current legislation under 29 CFR 1910.1200 to align with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).

**Disclaimer**

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

**End of SDS**