

Creation Date 22-Sep-2009

Revision Date 21-Sep-2023

Revision Number 4

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

### 1.1. Product identifier

|                      |   |
|----------------------|---|
| Product Description: | <b>Tetraethylene glycol</b>                       |
| Cat No. :            | <b>149590000; 149590010; 149590025; 149590250</b> |
| Synonyms             | Bisó2-(2-hydroxyethoxy)ethyl ether                |
| CAS No               | 112-60-7  |
| Molecular Formula    | C8 H18 O5   |

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

|                      |                          |
|----------------------|--------------------------|
| Recommended Use      | Laboratory chemicals.    |
| Uses advised against | No Information available |

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

#### Company

**UK entity/business name**  
Fisher Scientific UK  
Bishop Meadow Road,  
Loughborough, Leicestershire LE11 5RG, United Kingdom

**EU entity/business name**  
Thermo Fisher Scientific  
Janssen Pharmaceuticaaan 3a, 2440 Geel, Belgium

E-mail address begel.sdsdesk@thermofisher.com

### 1.4. Emergency telephone number

For information **US** call: 001-800-227-6701 / **Europe** call: +32 14 57 52 11  
Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99  
**CHEMTREC** Tel. No. **US**:001-800-424-9300 / **Europe**:001-703-527-3887

## SECTION 2: HAZARDS IDENTIFICATION

### 2.1. Classification of the substance or mixture

#### CLP Classification - According to GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567

##### Physical hazards

Based on available data, the classification criteria are not met

##### Health hazards

Based on available data, the classification criteria are not met

# SAFETY DATA SHEET

Tetraethylene glycol

Revision Date 21-Sep-2023

## Environmental hazards

Based on available data, the classification criteria are not met

Full text of Hazard Statements: see section 16

## 2.2. Label elements

None required

## 2.3. Other hazards

Substance is not considered persistent, bioaccumulative and toxic (PBT) / very persistent and very bioaccumulative (vPvB)

This product does not contain any known or suspected endocrine disruptors

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1. Substances

| Component            | CAS No   | EC No             | Weight % | CLP Classification - According to GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567 |
|----------------------|----------|-------------------|----------|---|
| Tetraethylene glycol | 112-60-7 | EEC No. 203-989-9 | 99.5     | -   |

Full text of Hazard Statements: see section 16

## SECTION 4: FIRST AID MEASURES

### 4.1. Description of 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>                       | Get medical attention. Wash off immediately with plenty of water for at least 15 minutes.                       |
| <b>Ingestion</b>                          | Do NOT induce vomiting. Get medical attention.  |
| <b>Inhalation</b>                         | Remove to fresh air. Get medical attention.   |
| <b>Self-Protection of the First Aider</b> | No special precautions required.  |

### 4.2. Most important symptoms and effects, both acute and delayed

Difficulty in breathing. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting

# SAFETY DATA SHEET

Tetraethylene glycol

Revision Date 21-Sep-2023

## 4.3. Indication of any immediate medical attention and special treatment needed

### Notes to Physician

Treat symptomatically. Symptoms may be delayed.

## SECTION 5: FIREFIGHTING MEASURES

### 5.1. Extinguishing media

#### Suitable Extinguishing Media

Water spray. Carbon dioxide (CO<sub>2</sub>). Dry chemical. Chemical foam.

#### Extinguishing media which must not be used for safety reasons

No information available.

### 5.2. Special hazards arising from the substance or mixture

Thermal decomposition can lead to release of irritating gases and vapors.

#### Hazardous Combustion Products

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

### 5.3. Advice for firefighters

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

## SECTION 6: ACCIDENTAL RELEASE MEASURES

### 6.1. Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation.

### 6.2. Environmental precautions

See Section 12 for additional Ecological Information.

### 6.3. Methods and material 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. Do not let this chemical enter the environment.

### 6.4. Reference to other sections

Refer to protective measures listed in Sections 8 and 13.

## SECTION 7: HANDLING AND STORAGE

### 7.1. Precautions for safe handling

Ensure adequate ventilation. Wear personal protective equipment/face protection. Avoid contact with skin and eyes. Do not breathe mist/vapors/spray. Do not ingest. If swallowed then seek immediate medical assistance.

#### Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and after work.

# SAFETY DATA SHEET

Tetraethylene glycol

Revision Date 21-Sep-2023

## 7.2. Conditions for safe storage, including any incompatibilities

Keep in a dry, cool and well-ventilated place. Keep container tightly closed. Store under an inert atmosphere.

Technical Rules for Hazardous Substances (TRGS) 510 Class 10  
Storage Class (LGK) (Germany)

## 7.3. Specific end use(s)

Use in laboratories

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1. Control parameters

#### Exposure limits

List source(s):

#### Biological limit values

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies

#### Derived No Effect Level (DNEL) / Derived Minimum Effect Level (DMEL)

No information available

#### Predicted No Effect Concentration (PNEC)

No information available.

### 8.2. Exposure controls

#### Engineering Measures

None under normal use conditions.

#### Personal protective equipment

##### Eye Protection

Wear safety glasses with side shields (or goggles) (European standard - EN 166)

##### Hand Protection

Protective gloves

| Glove material | Breakthrough time                 | Glove thickness | EU standard | Glove comments        |
|----------------|-----------------------------------|-----------------|-------------|-----------------------|
| Viton (R)      | See manufacturers recommendations | -               | EN 374      | (minimum requirement) |

##### Skin and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure.

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves.  
(Refer to manufacturer/supplier for information)

# SAFETY DATA SHEET

Tetraethylene glycol

Revision Date 21-Sep-2023

Ensure gloves are suitable for the task: Chemical compatibility, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

## Respiratory Protection

No protective equipment is needed under normal use conditions.

## Large scale/emergency use

Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced

**Recommended Filter type:** Particle filter

## Small scale/Laboratory use

Maintain adequate ventilation

**Recommended half mask:-** Valve filtering: EN405; or; Half mask: EN140; plus filter, EN 141

## Environmental exposure controls

No information available.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### 9.1. Information on basic physical and chemical properties

|   |                               |  |
|---|-------------------------------|--|
| Physical State                          | Liquid                        |  |
| Appearance                              | Light yellow                  |  |
| Odor                                    | Odorless                      |  |
| Odor Threshold                          | No data available             |  |
| Melting Point/Range                     | -4.1 °C / 24.6 °F             |  |
| Softening Point                         | No data available             |  |
| Boiling Point/Range                     | 324 - 330 °C / 615.2 - 626 °F | @ 760 mmHg                               |
| Flammability (liquid)                   | No data available             |  |
| Flammability (solid,gas)                | Not applicable                | Liquid                                   |
| Explosion Limits                        | No data available             |  |
| Flash Point                             | 176 °C / 348.8 °F             | <b>Method -</b> No information available |
| Autoignition Temperature                | 358 °C / 676.4 °F             |  |
| Decomposition Temperature               | No data available             |  |
| pH                                      | No information available      |  |
| Viscosity                               | 44.9 mPa s at 25 °C           |  |
| Water Solubility                        | Soluble                       |  |
| Solubility in other solvents            | No information available      |  |
| Partition Coefficient (n-octanol/water) |                               |  |
| Vapor Pressure                          | 0.01 hPa @ 20 °C              |  |
| Density / Specific Gravity              | 1.120                         |  |
| Bulk Density                            | Not applicable                | Liquid                                   |
| Vapor Density                           | 6.7                           | (Air = 1.0)                              |
| Particle characteristics                | Not applicable (liquid)       |  |

### 9.2. Other information

|                   |           |
|-------------------|-----------|
| Molecular Formula | C8 H18 O5 |
| Molecular Weight  | 194.23    |

## SECTION 10: STABILITY AND REACTIVITY

### 10.1. Reactivity

None known, based on information available

# SAFETY DATA SHEET

Tetraethylene glycol

Revision Date 21-Sep-2023

## 10.2. Chemical stability

Stable under normal conditions.

## 10.3. Possibility of hazardous reactions

### Hazardous Polymerization Hazardous Reactions

Hazardous polymerization does not occur.  
No information available.

## 10.4. Conditions to avoid

Incompatible products. Exposure to moisture.

## 10.5. Incompatible materials

Acids. Strong oxidizing agents. Strong bases.

## 10.6. Hazardous decomposition products

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

## SECTION 11: TOXICOLOGICAL INFORMATION

### 11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

#### Product Information

No acute toxicity information is available for this product

#### (a) acute toxicity;

Oral

Based on available data, the classification criteria are not met

Dermal

Based on available data, the classification criteria are not met

Inhalation

Based on available data, the classification criteria are not met

| Component            | LD50 Oral              | LD50 Dermal                | LC50 Inhalation |
|----------------------|------------------------|----------------------------|-----------------|
| Tetraethylene glycol | LD50 = 29 g/kg ( Rat ) | LD50 = 20 mL/kg ( Rabbit ) | -               |

#### (b) skin corrosion/irritation;

No data available

#### (c) serious eye damage/irritation;

No data available

#### (d) respiratory or skin sensitization;

Respiratory

No data available

Skin

No data available

#### (e) germ cell mutagenicity;

No data available

Not mutagenic in AMES Test

#### (f) carcinogenicity;

No data available

There are no known carcinogenic chemicals in this product

#### (g) reproductive toxicity;

No data available

#### (h) STOT-single exposure;

No data available

# SAFETY DATA SHEET

Tetraethylene glycol

Revision Date 21-Sep-2023

|  |  |
|--|--|
| (i) STOT-repeated exposure;                | No data available  |
| Target Organs                              | No information available.  |
| (j) aspiration hazard;                     | No data available  |
| Other Adverse Effects                      | The toxicological properties have not been fully investigated.                       |
| Symptoms / effects, both acute and delayed | Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting. |

## 11.2. Information on other hazards

|                                 |   |
|---------------------------------|---|
| Endocrine Disrupting Properties | Assess endocrine disrupting properties for human health. This product does not contain any known or suspected endocrine disruptors. |
|---------------------------------|---|

## SECTION 12: ECOLOGICAL INFORMATION

### 12.1. Toxicity

|                     |                           |
|---------------------|---------------------------|
| Ecotoxicity effects | Do not empty into drains. |
|---------------------|---------------------------|

| Component            | Freshwater Fish                                     | Water Flea                             | Freshwater Algae   |
|----------------------|---|--|--|
| Tetraethylene glycol | LC50: > 1000 mg/L, 96h static (Oncorhynchus mykiss) | EC50: > 1000 mg/L, 48h (Daphnia magna) | EC50: > 1000 mg/L, 96h (Pseudokirchneriella subcapitata) |

| Component            | Microtox            | M-Factor |
|----------------------|---------------------|----------|
| Tetraethylene glycol | EC50 > 100 mg/L 6 h |          |

|                                     |  |
|-------------------------------------|--|
| 12.2. Persistence and degradability | Not readily biodegradable  |
| Persistence                         | Soluble in water, Persistence is unlikely, based on information available. |

|                                 |                             |
|---------------------------------|-----------------------------|
| 12.3. Bioaccumulative potential | Bioaccumulation is unlikely |
|---------------------------------|-----------------------------|

|                        |   |
|------------------------|---|
| 12.4. Mobility in soil | The product is water soluble, and may spread in water systems. Will likely be mobile in the environment due to its water solubility. Highly mobile in soils |
|------------------------|---|

|  |  |
|--|--|
| 12.5. Results of PBT and vPvB assessment | Substance is not considered persistent, bioaccumulative and toxic (PBT) / very persistent and very bioaccumulative (vPvB). |
|--|--|

### 12.6. Endocrine disrupting properties

|                                 |   |
|---------------------------------|---|
| Endocrine Disruptor Information | This product does not contain any known or suspected endocrine disruptors |
|---------------------------------|---|

### 12.7. Other adverse effects

Persistent Organic Pollutant  
Ozone Depletion Potential

This product does not contain any known or suspected substance  
This product does not contain any known or suspected substance

## SECTION 13: DISPOSAL CONSIDERATIONS

### 13.1. Waste treatment methods

ACR14959

# SAFETY DATA SHEET

Tetraethylene glycol

Revision Date 21-Sep-2023

|  |   |
|--|---|
| <b>Waste from Residues/Unused Products</b> | Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification. |
| <b>Contaminated Packaging</b>              | Empty remaining contents. Dispose of in accordance with local regulations. Do not re-use empty containers.  |
| <b>European Waste Catalogue (EWC)</b>      | According to the European Waste Catalog, Waste Codes are not product specific, but application specific.  |
| <b>Other Information</b>                   | Waste codes should be assigned by the user based on the application for which the product was used.   |

## SECTION 14: TRANSPORT INFORMATION

**IMDG/IMO** Not regulated

14.1. UN number  
14.2. UN proper shipping name  
14.3. Transport hazard class(es)  
14.4. Packing group

**ADR** Not regulated

14.1. UN number  
14.2. UN proper shipping name  
14.3. Transport hazard class(es)  
14.4. Packing group

**IATA** Not regulated

14.1. UN number  
14.2. UN proper shipping name  
14.3. Transport hazard class(es)  
14.4. Packing group

**14.5. Environmental hazards** No hazards identified

**14.6. Special precautions for user** No special precautions required.

**14.7. Maritime transport in bulk according to IMO instruments** Not applicable, packaged goods

## SECTION 15: REGULATORY INFORMATION

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

#### **International Inventories**

Europe (EINECS/ELINCS/NLP), China (IECSC), Taiwan (TCSI), Korea (KECL), Japan (ENCS), Japan (ISHL), Canada (DSL/NDSL), Australia (AICS), New Zealand (NZIoC), Philippines (PICCS). US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

| Component            | CAS No   | EINECS    | ELINCS | NLP | IECSC | TCSI | KECL     | ENCS | ISHL |
|----------------------|----------|-----------|--------|-----|-------|------|----------|------|------|
| Tetraethylene glycol | 112-60-7 | 203-989-9 | -      | -   | X     | X    | KE-27692 | X    | X    |



# SAFETY DATA SHEET

Tetraethylene glycol

Revision Date 21-Sep-2023

| Component            | CAS No   | TSCA | TSCA Inventory notification - Active-Inactive | DSL | NDSL | AICS | NZIoC | PICCS |
|----------------------|----------|------|---|-----|------|------|-------|-------|
| Tetraethylene glycol | 112-60-7 | X    | ACTIVE  | X   | -    | X    | X     | X     |

Legend: X - Listed '-' - Not Listed

KECL - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

Authorisation/Restrictions according to EU REACH

Not applicable

| Component            | CAS No   | REACH (1907/2006) - Annex XIV - Substances Subject to Authorization | REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances | REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC) |
|----------------------|----------|---|---|---|
| Tetraethylene glycol | 112-60-7 | -   | -   | -   |

Seveso III Directive (2012/18/EC)

| 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 |
|----------------------|----------|---|--|
| Tetraethylene glycol | 112-60-7 | Not applicable  | Not applicable   |

Regulation (EC) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of dangerous chemicals

Not applicable

Contains component(s) that meet a 'definition' of per & poly fluoroalkyl substance (PFAS)?

Not applicable

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work .

## National Regulations

UK - Take note of Control of Substances Hazardous to Health Regulations (COSHH) 2002 and 2005 Amendment

WGK Classification

Water endangering class = 2 (self classification)

## 15.2. Chemical safety assessment

A Chemical Safety Assessment/Report (CSA/CSR) has not been conducted

## SECTION 16: OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3

Legend

# SAFETY DATA SHEET

Tetraethylene glycol

Revision Date 21-Sep-2023

**CAS** - Chemical Abstracts Service

**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

**IECSC** - Chinese Inventory of Existing Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

**ENCS** - Japanese Existing and New Chemical Substances

**AICS** - Australian Inventory of Chemical Substances

**NZIoC** - New Zealand Inventory of Chemicals

**WEL** - Workplace Exposure Limit

**ACGIH** - American Conference of Governmental Industrial Hygienists

**DNEL** - Derived No Effect Level

**RPE** - Respiratory Protective Equipment

**LC50** - Lethal Concentration 50%

**NOEC** - No Observed Effect Concentration

**PBT** - Persistent, Bioaccumulative, Toxic

**TWA** - Time Weighted Average

**IARC** - International Agency for Research on Cancer  
Predicted No Effect Concentration (PNEC)

**LD50** - Lethal Dose 50%

**EC50** - Effective Concentration 50%

**POW** - Partition coefficient Octanol:Water

**vPvB** - very Persistent, very Bioaccumulative

**ADR** - European Agreement Concerning the International Carriage of Dangerous Goods by Road

**IMO/IMDG** - International Maritime Organization/International Maritime Dangerous Goods Code

**OECD** - Organisation for Economic Co-operation and Development

**BCF** - Bioconcentration factor

**Key literature references and sources for data**

<https://echa.europa.eu/information-on-chemicals>

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

**ICAO/IATA** - International Civil Aviation Organization/International Air Transport Association

**MARPOL** - International Convention for the Prevention of Pollution from Ships

**ATE** - Acute Toxicity Estimate

**VOC** - (Volatile Organic Compound)

## Training Advice

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

|                         |                 |
|-------------------------|-----------------|
| <b>Creation Date</b>    | 22-Sep-2009     |
| <b>Revision Date</b>    | 21-Sep-2023     |
| <b>Revision Summary</b> | Not applicable. |

**This safety data sheet complies with Regulation UK SI 2019/758 and UK SI 2020/1577 as amended.**

## 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 Safety Data Sheet**