

# SAFETY DATA SHEETS

According to the UN GHS revision 10

Version: 1.1  
Creation Date: July 15, 2024  
Revision Date: February 23, 2025

## SECTION 1: Identification

### 1.1 GHS Product identifier

Product name Tetraethylene glycol

### 1.2 Other means of identification

Product number CCHM702225

Other names -

### 1.3 Recommended use of the chemical and restrictions on use

Identified uses For laboratory and Industrial use only.

Uses advised against no data available

### 1.4 Supplier's details

Company CATO Research Chemicals Inc.

Address 3/F,Building B,No.179 BASIGO, Guangpu Rd East,Huangpu Dist,Guangzhou

Telephone +86-20-81960175

### 1.5 Emergency phone number

Emergency phone number +86-20-81960175

Service hours 'Monday to Friday, 9am-5pm (Standard time zone: UTC/GMT +8 hours).

## SECTION 2: Hazard identification

### 2.1 Classification of the substance or mixture

Not classified.

### 2.2 GHS label elements, including precautionary statements

Pictogram(s) No symbol.

Signal word No signal word

Hazard statement(s) none

Precautionary statement(s)

Prevention none

Response none

Storage none

Disposal none

### 2.3 Other hazards which do not result in classification

no data available

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

| Chemical name        | Common names and synonyms      | CAS number | EC number | Concentration |
|----------------------|--------------------------------|------------|-----------|---------------|
| Tetraethylene glycol | 3,6,9-trioxaundecane-1,11-diol | 112-60-7   | 203-989-9 | ≈ 99%         |

## SECTION 4: First-aid measures

### 4.1 Description of necessary first-aid measures

If inhaled

Move the victim into fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration and consult a doctor immediately. Do not use mouth to mouth resuscitation if the victim ingested or inhaled the chemical.

Following skin contact

Take off contaminated clothing immediately. Wash off with soap and plenty of water. Consult a doctor.

Following eye contact

Rinse with pure water for at least 15 minutes. Consult a doctor.

**Following ingestion**

Rinse mouth with water. Do not induce vomiting. Never give anything by mouth to an unconscious person. Call a doctor or Poison Control Center immediately.

**4.2 Most important symptoms/effects, acute and delayed**

Compound is nonirritating. No symptoms observed by any exposure route. (USCG, 1999)

**4.3 Indication of immediate medical attention and special treatment needed, if necessary**

Immediate first aid: Ensure that adequate decontamination has been carried out. If patient is not breathing, start artificial respiration, preferably with a demand-valve resuscitator, bag-valve-mask device, or pocket mask, as trained. Perform CPR as necessary. Immediately flush contaminated eyes with gently flowing water. Do not induce vomiting. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain an open airway and prevent aspiration. Keep patient quiet and maintain normal body temperature. Obtain medical attention. Ethylene glycol, glycols, and related compounds

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**SECTION 5: Fire-fighting measures**

**5.1 Suitable extinguishing media**

Wear self-contained breathing apparatus for firefighting if necessary.

**5.2 Specific hazards arising from the chemical**

no data available

**5.3 Special protective actions for fire-fighters**

Wear self-contained breathing apparatus for firefighting if necessary.

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**SECTION 6: Accidental release measures**

**6.1 Personal precautions, protective equipment and emergency procedures**

Avoid dust formation. Avoid breathing mist, gas or vapours. Avoid contacting with skin and eye. Use personal protective equipment. Wear chemical impermeable gloves. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

**6.2 Environmental precautions**

Prevent further spillage or leakage if it is safe to do so. Do not let the chemical enter drains. Discharge into the environment must be avoided.

**6.3 Methods and materials for containment and cleaning up**

Avoid breathing vapors, mist or gas.

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**SECTION 7: Handling and storage**

**7.1 Precautions for safe handling**

Handling in a well ventilated place. Wear suitable protective clothing. Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Use non-sparking tools. Prevent fire caused by electrostatic discharge steam.

**7.2 Conditions for safe storage, including any incompatibilities**

Stable under recommended storage conditions.

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**SECTION 8: Exposure controls/personal protection**

**8.1 Control parameters**

**Occupational Exposure limit values**

no data available

**Biological limit values**

no data available

**8.2 Appropriate engineering controls**

Ensure adequate ventilation. Handle in accordance with good industrial hygiene and safety practice. Set up emergency exits and the risk-elimination area.

**8.3 Individual protection measures, such as personal protective equipment (PPE)**

**Eye/face protection**

Wear tightly fitting safety goggles with side-shields conforming to EN 166(EU) or NIOSH (US).

**Skin protection**

Wear fire/flammable resistant and impervious clothing. Handle with gloves. Gloves must be inspected prior to use. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

#### Respiratory protection

If the exposure limits are exceeded, irritation or other symptoms are experienced, use a full-face respirator.

#### Thermal hazards

no data available

## SECTION 9: Physical and chemical properties and safety characteristics

|                                                          |                                                                                                                                                                                             |
|----------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Physical state                                           | Liquid.                                                                                                                                                                                     |
| Colour                                                   | Colourless.                                                                                                                                                                                 |
| Odour                                                    | Mild odor                                                                                                                                                                                   |
| Melting point/freezing point                             | -9.4 °C. Atm. press.:760 mm Hg.                                                                                                                                                             |
| Boiling point or initial boiling point and boiling range | 327.3 °C. Atm. press.:760 mm Hg.                                                                                                                                                            |
| Flammability                                             | no data available                                                                                                                                                                           |
| Lower and upper explosion limit/flammability limit       | no data available                                                                                                                                                                           |
| Flash point                                              | 182 °C. Atm. press.:101.3 kPa.                                                                                                                                                              |
| Auto-ignition temperature                                | 349 °C. Atm. press.:101.3 kPa.                                                                                                                                                              |
| Decomposition temperature                                | no data available                                                                                                                                                                           |
| pH                                                       | no data available                                                                                                                                                                           |
| Kinematic viscosity                                      | centiStokes = 50.13. Temperature:20.65°C. Remarks:Measured kinematic viscosity was converted to the reported dynamic viscosity on the basis of density of 1.127 kg/m <sup>3</sup> at 20 °C. |
| Solubility                                               | Miscible with water /1.0X10+6 mg/L/ at 20 deg C                                                                                                                                             |
| Partition coefficient n-octanol/water                    | log Pow = -2. Remarks:No additional information available.                                                                                                                                  |
| Vapour pressure                                          | 0 mm Hg. Temperature:26 °C.                                                                                                                                                                 |
| Density and/or relative density                          | 1.12 g/cm <sup>3</sup> . Temperature:25°C.                                                                                                                                                  |
| Relative vapour density                                  | 6.7 (vs air)                                                                                                                                                                                |
| Particle characteristics                                 | no data available                                                                                                                                                                           |

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

no data available

### 10.2 Chemical stability

no data available

### 10.3 Possibility of hazardous reactions

CombustibleTETRAETHYLENE GLYCOL is a ether-alcohol derivative. The ether being relatively unreactive. Flammable and/or toxic gases are generated by the combination of alcohols with alkali metals, nitrides, and strong reducing agents. They react with oxoacids and carboxylic acids to form esters plus water. Oxidizing agents convert alcohols to aldehydes or ketones. Alcohols exhibit both weak acid and weak base behavior. They may initiate the polymerization of isocyanates and epoxides. May attack some forms of plastics (USCG, 1999).

### 10.4 Conditions to avoid

no data available

### 10.5 Incompatible materials

May attack some forms of plastics.

### 10.6 Hazardous decomposition products

When heated to decomposition it emits acrid smoke and irritating fumes.

## SECTION 11: Toxicological information

#### Acute toxicity

- Oral: LD50 - rat (male/female) - > 16 mL/kg bw.
- Inhalation: LC0 - rat (male/female) - 0.06 ppm.
- Dermal: LD50 - rabbit (male/female) - > 16 mL/kg bw.

#### Skin corrosion/irritation

no data available

#### Serious eye damage/irritation

no data available

#### Respiratory or skin sensitization

no data available

**Germ cell mutagenicity**

no data available

**Carcinogenicity**

no data available

**Reproductive toxicity**

no data available

**STOT-single exposure**

no data available

**STOT-repeated exposure**

no data available

**Aspiration hazard**

no data available

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## SECTION 12: Ecological information

### 12.1 Toxicity

- Toxicity to fish: LC50 - Pimephales promelas - > 10 g/L - 96 h.
- Toxicity to daphnia and other aquatic invertebrates: LC50 - Daphnia magna - 7 746 mg/L - 48 h.
- Toxicity to algae: NOEC - Phaeodactylum tricornutum - 5 000 mg/L - 72 h.
- Toxicity to microorganisms: EC20 - activated sludge - > 100 mg/L - 30 min.

### 12.2 Persistence and degradability

AEROBIC: Based on aerobic biological screening study data, utilizing settled waste water, sewage, or activated sludge for inocula, tetraethylene glycol should biodegrade in the environment(1-6). In one study, tetraethylene glycol biodegraded 23% in 20 days without an acclimation period, using a wastewater inoculum(4). Following an acclimation period of 45-60 days 12, 54, 71 and 88% of the added tetraethylene glycol was biodegraded in 5, 10, 15 and 20 days, respectively, under the same test conditions(4). A semi-continuous biological treatment simulator showed a 29% loss of tetraethylene glycol in < 24 hrs(5). Tetraethylene glycol showed losses of 4, 10, and 22% when incubated at 20 deg C for 5, 10, and 20 days, respectively(6). Using the OECD 301D screening test, tetraethylene glycol showed losses of 6, 20, and 40% when incubated at 20 deg C for 5, 15, and 28 days, respectively(6).

### 12.3 Bioaccumulative potential

An estimated BCF of 3 was calculated in fish for tetraethylene glycol(SRC), using an estimated log Kow of -2.02(1) and a regression-derived equation(1). According to a classification scheme(2), this BCF suggests the potential for bioconcentration in aquatic organisms is low(SRC).

### 12.4 Mobility in soil

Using a structure estimation method based on molecular connectivity indices(1), the Koc of tetraethylene glycol can be estimated to be 10(SRC). According to a classification scheme(2), this estimated Koc value suggests that tetraethylene glycol is expected to have very high mobility in soil.

### 12.5 Other adverse effects

no data available

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## SECTION 13: Disposal considerations

### 13.1 Disposal methods

**Product**

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

**Contaminated packaging**

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

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## SECTION 14: Transport information

### 14.1 UN Number

ADR/RID: Not dangerous goods. (For reference only, please check.)

IMDG: Not dangerous goods. (For reference only, please check.)

IATA: Not dangerous goods. (For reference only, please check.)

### 14.2 UN Proper Shipping Name

ADR/RID: Not dangerous goods. (For reference only, please check.)

IMDG: Not dangerous goods. (For reference only, please check.)

IATA: Not dangerous goods. (For reference only, please check.)

### 14.3 Transport hazard class(es)

ADR/RID: Not dangerous goods. (For reference only, please check.)

IMDG: Not dangerous goods. (For reference only, please check.)

IATA: Not dangerous goods. (For reference only, please check.)

### 14.4 Packing group, if applicable

ADR/RID: Not dangerous goods. (For reference only, please check.)

IMDG: Not dangerous goods. (For reference only, please check.)

IATA: Not dangerous goods. (For reference only, please check.)

### 14.5 Environmental hazards

ADR/RID: No

IMDG: No

IATA: No

### 14.6 Special precautions for user

no data available

### 14.7 Transport in bulk according to IMO instruments

no data available

## SECTION 15: Regulatory information

### 15.1 Safety, health and environmental regulations specific for the product in question

| Chemical name                                                            | Common names and synonyms      | CAS number | EC number   |
|--------------------------------------------------------------------------|--------------------------------|------------|-------------|
| 3,6,9-trioxaundecane-1,11-diol                                           | 3,6,9-trioxaundecane-1,11-diol | 112-60-7   | 203-989-9   |
| European Inventory of Existing Commercial Chemical Substances (EINECS)   |                                |            | Listed.     |
| EC Inventory                                                             |                                |            | Listed.     |
| United States Toxic Substances Control Act (TSCA) Inventory              |                                |            | Listed.     |
| China Catalog of Hazardous chemicals 2015                                |                                |            | Not Listed. |
| New Zealand Inventory of Chemicals (NZIoC)                               |                                |            | Listed.     |
| Philippines Inventory of Chemicals and Chemical Substances (PICCS)       |                                |            | Listed.     |
| Vietnam National Chemical Inventory                                      |                                |            | Listed.     |
| Chinese Chemical Inventory of Existing Chemical Substances (China IECSC) |                                |            | Listed.     |
| Korea Existing Chemicals List (KECL)                                     |                                |            | Listed.     |

## SECTION 16: Other information

#### Information on revision

Creation Date July 15, 2024  
Revision Date February 23, 2025

#### Abbreviations and acronyms

- CAS: Chemical Abstracts Service
- ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
- RID: Regulation concerning the International Carriage of Dangerous Goods by Rail
- IMDG: International Maritime Dangerous Goods
- IATA: International Air Transportation Association
- TWA: Time Weighted Average
- STEL: Short term exposure limit
- LC50: Lethal Concentration 50%
- LD50: Lethal Dose 50%
- EC50: Effective Concentration 50%

#### References

- IPCS - The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>
- HSDB - Hazardous Substances Data Bank, website: <https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm>
- IARC - International Agency for Research on Cancer, website: <http://www.iarc.fr/>
- eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: [http://www.echemportal.org/echemportal/index?pageID=0&request\\_locale=en](http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en)
- CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>
- ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>
- ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: <http://www.phmsa.dot.gov/hazmat/library/erg>
- Germany GESTIS-database on hazard substance, website: <http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp>
- ECHA - European Chemicals Agency, website: <https://echa.europa.eu/>

Any questions regarding this SDS, Please send your inquiry to [info@cato-chem.com](mailto:info@cato-chem.com)

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