



Safety Data Sheet

according to Globally Harmonized System (GHS)

Printing date 02.11.2014

Revision: 02.11.2014

1 Identification of the substance/mixture and of the company/undertaking

- **Product identifier**
- **Trade name:** Polytetramethylene ether glycol (PTG, PTMEG)
- **Applicable Models:** PTG-1000
- **Synonyms:**
Polytetrahydrofuran; poly(tetramethylene ether) glycol; poly(tetramethylene oxide); polytetramethylene ether glycol; Alpha-hydro-omega-hydroxy-poly(oxy 1,4 butanediyl)
- **CAS Number:**
25190-06-1
- **Relevant identified uses of the substance or mixture and uses advised against :**
- **Identified/Recommended uses:**
Chemical for synthesis
Raw Material for:
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Dairen Chemical Corporation
9th Fl., No. 301, SongJiang Rd.
Taipei City, 10483, TAIWAN
Tel: +886-2-7743-1500 Fax: +886-2-2509-9619
www.dcc.com.tw
- **Further information obtainable from:** Respective plant's environmental, health, and safety (EHS) Dept.
- **Emergency telephone number:** +886-2-7743-1500 (08:30-17:30; GMT+8)

2 Hazards identification

- **Classification of the substance or mixture**
H316 Causes mild skin irritation.
Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.
- **Label elements**
- **GHS label elements**
The substance is classified and labelled according to the Globally Harmonised System (GHS).
- **Hazard pictograms** None (Not Regulated)
- **Signal word** Warning
- **Hazard statements**
Causes mild skin irritation.
Harmful to aquatic life with long lasting effects.
- **Precautionary statements**
Avoid release to the environment.
If skin irritation occurs: Get medical advice/attention.
Dispose of contents/container in accordance with local/regional/national/international regulations.

3 Composition/information on ingredients

- **Chemical characterisation:** Substances
- **CAS No. Description**
25190-06-1 Polytetramethylene ether glycol $\geq 99.9\%$
- **Identification number(s)**
- **EC number:** Polymer

4 First aid measures

- **Description of first aid measures**
- **General information:** No special measures required.

(Contd. on page 2)

— GHS —



Safety Data Sheet

according to Globally Harmonized System (GHS)

Printing date 02.11.2014

Revision: 02.11.2014

Trade name: Polytetramethylene ether glycol (PTG, PTMEG)

(Contd. of page 1)

- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
 - **After skin contact:** Immediately rinse with water.
 - **After eye contact:** Rinse opened eye for several minutes under running water.
 - **After swallowing:**
Rinse out mouth and then drink plenty of water.
If symptoms persist consult doctor.
 - **Most important symptoms and effects, both acute and delayed** Irritation
 - **Indication of any immediate medical attention and special treatment needed**
Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.
-

5 Firefighting measures

- **Extinguishing media**
 - **Suitable extinguishing agents:**
CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
Use fire extinguishing methods suitable to surrounding conditions.
 - **Special hazards arising from the substance or mixture**
Under certain fire conditions, traces of other toxic gases cannot be excluded, e.g.:
Nitrogen oxides (NO_x)
Carbon monoxide (CO)
Carbon dioxide (CO₂)
 - **Advice for firefighters**
 - **Protective equipment:**
Wear fully protective suit.
Wear self-contained respiratory protective device.
-

6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**
Ensure adequate ventilation
Wear protective equipment. Keep unprotected persons away.
 - **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
 - **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Allow to solidify. Pick up mechanically.
 - **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.
-

7 Handling and storage

- **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Keep receptacles tightly sealed.
Prevent formation of aerosols.
 - **Information about fire - and explosion protection:** No special measures required.
 - **Storage:**
 - **Requirements to be met by storerooms and receptacles:** No special requirements.
 - **Further information about storage conditions:**
Store in nitrogen.
Store in dry conditions.
-

(Contd. on page 3)

— GHS —

Safety Data Sheet

according to Globally Harmonized System (GHS)

Printing date 02.11.2014

Revision: 02.11.2014

Trade name: Polytetramethylene ether glycol (PTG, PTMEG)

(Contd. of page 2)

Store receptacle in a well ventilated area.
Keep container tightly sealed.

8 Exposure controls/personal protection

- **Control parameters**
- **Ingredients with limit values that require monitoring at the workplace:** Not required.

- **Exposure controls**

- **Personal protective equipment:**

- **General protective and hygienic measures:**

The usual precautionary measures are to be adhered to when handling chemicals.

Keep away from foodstuffs, beverages and feed.

Do not inhale dust / smoke / mist.

Wash hands before breaks and at the end of work.

- **Respiratory protection:**

Use suitable respiratory protective device in case of insufficient ventilation.

Short term filter device:

Fresh air mask

Filter P1

- **Protection of hands:**



Protective gloves

The selected protective gloves have to satisfy the specifications of standard EN 374 or its equivalent.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**

Butyl rubber, BR

Fluorocarbon rubber (Viton)

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

- **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **Eye protection:**



Safety glasses with side shields conforming to EN166, ANSI 87.1-2010, or equivalent.

- **Body protection:**

Protective work clothing

The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.



Safety Data Sheet

according to Globally Harmonized System (GHS)

Printing date 02.11.2014

Revision: 02.11.2014

Trade name: Polytetramethylene ether glycol (PTG, PTMEG)

(Contd. of page 3)

9 Physical and chemical properties

· Information on basic physical and chemical properties

· General Information

· Appearance:

Form: Liquid, Waxy-like
Colour: Colourless
Whitish

· Odour:

Odourless

· Odour threshold:

Not determined.

· pH-value:

~7

· Change in condition

Melting point/Melting range: 19-35 °C

Boiling point/Boiling range: > 204 °C

· Flash point:

>260 °C (offener Tiegel)

· Flammability (solid, gaseous):

Not determined.

· Ignition temperature:

Decomposition temperature: >240 °C

· Self-igniting:

Not determined.

· Danger of explosion:

Product does not present an explosion hazard.

· Explosion limits:

Lower: Not determined.

Upper: Not determined.

· Vapour pressure at 20 °C:

<0,1 mbar

· Density at 40 °C:

0,97~0,978 g/cm³

· Relative density

Not determined.

· Vapour density

Not applicable.

· Evaporation rate

Not applicable.

· Solubility in / Miscibility with water:

0-2 %
sparingly soluble

· Partition coefficient (n-octanol/water) at 25 °C: ~ 19 log POW (External SDS)

· Viscosity:

Dynamic: Not applicable.

Kinematic: Not applicable.

· Solvent content:

Organic solvents: 0,0 %

VOC (EC) 0,00 %

Solids content: 100,0 %

· Other information

No further relevant information available.

10 Stability and reactivity

· Reactivity When properly handled and stored, no dangerous reaction is known.

· Chemical stability This product is stable under prescribed use and storage.

(Contd. on page 5)

— GHS —



Safety Data Sheet

according to Globally Harmonized System (GHS)

Printing date 02.11.2014

Revision: 02.11.2014

Trade name: Polytetramethylene ether glycol (PTG, PTMEG)

(Contd. of page 4)

- **Thermal decomposition / conditions to be avoided:**
No decomposition if used and stored according to specifications.
To avoid thermal decomposition do not overheat.
 - **Possibility of hazardous reactions** No dangerous reactions known.
 - **Conditions to avoid** Temperatures above 100 °C.
 - **Incompatible materials:**
Strong acids
Strong oxidizing agents
 - **Hazardous decomposition products:**
Carbon monoxide (CO)
Tetrahydrofuran (THF)
-

11 Toxicological information

- **Information on toxicological effects**
 - **Acute toxicity:**
Not classified based on available data.
LD50 (oral): >18830 mg/kg BW (rat, 14d)
Source: External (M)SDS
 - **Skin corrosion/irritation:**
Causes mild skin irritation.
Source: External (M)SDS
 - **Serious eye damage/eye irritation:**
Not classified based on available data.
Rabbit: not irritating (OECD Test Guideline 405)
Source: External (M)SDS
 - **Respiratory or skin sensitization:** Not classified based on available data.
 - **Germ Cell Mutagenicity:**
Not classified based on available data.
In-vitro genotoxicity (non-mammalian cells): negative (N/A)
Source: External (M)SDS
 - **Carcinogenicity:** Not classified due to lack of data.
 - **Reproductive Toxicity:** Not classified due to lack of data.
 - **Specific Target Organ Toxicity - Single Exposure (STOT SE):** Not classified due to lack of data.
 - **Specific Target Organ Toxicity - Repeated Exposure (STOT RE):** Not classified due to lack of data.
 - **Aspiration Hazard:** Not classified due to lack of data.
 - **Primary irritant effect:**
 - **on the skin:** Causes mild skin irritation.
 - **on the eye:** No irritating effect.
 - **Sensitisation:** No sensitising effects known.
 - **Additional toxicological information:**
When used and handled according to specifications, the product does not have any harmful effects to our experience and the information provided to us.
The substance is not subject to classification according to the latest version of the EU lists.
-

12 Ecological information

- **Toxicity**
- **Aquatic toxicity:**
Harmful to aquatic life with long lasting effects.
LC50 (96hr, rainbow trout): 68 mg/l (OECD OECD 203)
Source: External (M)SDS

(Contd. on page 6)

— GHS —



Safety Data Sheet

according to Globally Harmonized System (GHS)

Printing date 02.11.2014

Revision: 02.11.2014

Trade name: Polytetramethylene ether glycol (PTG, PTMEG)

(Contd. of page 5)

· Persistence and degradability

Not easily biodegradable
Degradation : ~15% (32d, OECD 301F)
Source: External (M)SDS

· Bioaccumulative potential

Due to the distribution coefficient n-octanol/water an accumulation in organisms is possible.

· Mobility in soil No further relevant information available.**· Ecotoxicological effects:****· Remark:** Harmful to fish**· Additional ecological information:****· General notes:**

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
Harmful to aquatic organisms

· Other adverse effects No further relevant information available.

13 Disposal considerations

· Waste treatment methods**· Recommendation**

After prior treatment product has to be landfilled or incinerated adhering to the regulations pertaining to the disposal of especially hazardous waste.
Any disposal method should also comply with national, regional, provincial, and local laws.

· Uncleaned packaging:**· Recommendation:**

Empty contaminated packagings thoroughly. They may be recycled after thorough and proper cleaning.
Disposal must be made according to official regulations.

14 Transport information

· UN-Number

· ADR, ADN, IMDG, IATA Not classified as dangerous in the meaning of transport regulation.

· UN proper shipping name

· ADR None (Not Regulated)

· ADN, IMDG, IATA None (Not Regulated)

· Transport hazard class(es)

· ADR, ADN, IMDG, IATA

· Class None (Not Regulated)

· Packing group

· ADR, IMDG, IATA None (Not Regulated)

· Environmental hazards:

· Marine pollutant: No

· Special precautions for user Not applicable.

· UN "Model Regulation": -

— GHS —

(Contd. on page 7)



Safety Data Sheet according to Globally Harmonized System (GHS)

Printing date 02.11.2014

Revision: 02.11.2014

Trade name: Polytetramethylene ether glycol (PTG, PTMEG)

(Contd. of page 6)

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Status of global inventories:**
All component(s) within this product is listed or exempted from the following country's chemical inventory:
EU - EINECS/NLP
USA - TSCA
Australia - AICS
Canada - DSL
China - IECSC
Japan - ENCS
Korea - KECI
New Zealand - NZIoC
Philippine - PICCS
Taiwan - ECSI
Mexico - INSQ
- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

- **Abbreviations and acronyms:**
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
VOC: Volatile Organic Compounds (USA, EU)
: Skin corrosion/irritation, Hazard Category 3
Aquatic Chronic 3: Hazardous to the aquatic environment - Chronic Hazard, Category 3
- **Sources** External MSDS
- **General Disclaimers:**
DCC Group recommends that all the users/customers/recipients to study this Safety Data Sheet (SDS) carefully and understand all the data or any potential hazards associated with this product. Please consult with appropriate expert if necessary. The information herein is provided in good faith and is believed to be accurate on the date of issue. No warranty, expressed or implied, is given. It is the customer's/user's responsibility to ensure that they are complying with local, regional, state, provincial, and/or national laws in using this product, as regulatory requirement may differ at each level. It is also the customer's/user's responsibility to determine the necessary condition required for using this product safely, as actual operating or usage conditions are beyond DCC Group's control. DCC Group will not be responsible for any SDS obtained from elsewhere other than from DCC Group. If you are unsure whether the SDS you have is current or have obtained the SDS from another source; please contact us to obtain the latest version.

GHS —