1. Identification of the substance/mixture and of the company:

1.1 Substance Name
Polytetramethylene Ether Glycol (PTMEG)

1.2 Intended Use and Use Limitations
Recommended Use
Raw Material for: spandex, elastomers, synthetic leathers, paints and coating materials.

Use Limitations
No Data Available

1.3 Company identification
Company: Korea PTG Co., Ltd.
Address: 15, Yongyeon-ro 179beon-gil, Nam-gu, Ulsan Korea
Tel, Number: Tel 82-52-257-5240, Fax 82-52-257-5246
Emergency number: 82-52-257-5240
Team: Safety & Environment Team

2. Hazard Identification:

2.1 Hazard-Risk
Not classified. However, may be a slight irritation to the skin or eye depending on the experience of the person in manufacturing.

2.2 Label element, including and precautionary statements
Hazard symbol
The product does not require a hazard warning label in accordance with GHS criteria.
Signal word
None
Hazard statement
Not assigned
Precautionary statement
Not assigned

2.3 Other hazard-Risk which are not included in the classification (NFPA)
Health 0
Fire 1
Reactivity 0

3. Composition/Information on Ingredients:

<table>
<thead>
<tr>
<th>Substance Name</th>
<th>Trivial name</th>
<th>CAS No.</th>
<th>Content(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Polytetramethylene Ether</td>
<td>Poly(oxytetramethylene) Glycol</td>
<td>25190-06-1</td>
<td>&gt; 99.5</td>
</tr>
</tbody>
</table>

4. First aid measures:

4.1 In case of intrusion into eye
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

4.2 In case of skin contamination
Wash off with soap and plenty of water. Consult a physician.
Launder contaminated clothing and shoes, before reuse.
4.3 In case of respiratory
Remove victim to fresh area immediately.
Give artificial respiration as needed.
Consult with a doctor immediately.

4.4 In case of ingestion
Never give anything by mouth to an unconscious person.
Rinse mouth with water. Consult a physician.

4.5 Other notice of doctor
Follow your doctor to show safety health data.

5. Explosion, fire measures:
5.1 Suitable extinguishing media
Suitable extinguishing media
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Inappropriate extinguishing media
- General fire extinguishing agent and use mist sprinkler

5.2 Specific hazards arising from the chemical
Heat decomposition product
Carbon oxides
Fire/Explosion hazard
There is a slight risk of fire. Dust/Air mixtures can ignite or explode.

5.3 Protective equipment and precaution for fire-fighters
Wear self contained breathing apparatus for fire fighting if necessary.
If safe to do so, remove containers from area of fire.
Prevent shatter using high-pressure water spray.
Dike for later disposal.
Avoid inhalation of Substance or combustion products.
Stay up wind and keep out of low areas.

6. Accidental release measures:
6.1 Personal precautions, protective equipment
Avoid inhalation of Substance or combustion products.
Wear personal protective equipment.
Do not touch the chemicals. Do not go across the chemicals.
Stop leak if possible without personal risk.
Do not contact/touch the Leakage Substance.
Do not pour water inside containers.
By spraying with water, reduce vapors

6.2 Environmental precautions
Absorb with sand or other non-combustible materials.
Do not let product enter drains.

6.3 Methods and materials for containment
Minor spills
Absorb it using nonflammable materials
(ex. dry sand or dirt)
7. Handling and storage:

7.1 Precautions for safe handling

Avoid contact with skin and eyes.
Provide appropriate exhaust ventilation at places where dust is formed.
Clean the clothes after using chemical material.

7.2 Conditions for safe storage

Keep separated from with incompatible materials.
Store in an airtight container.
Keep container tightly closed in a dry and well-ventilated place.
Comply with local regulations for storage.

8 Exposure controls/personal protection:

8.1 Exposure limits of chemical substance,
Domestic regulation
ACGIH regulation
Biological exposure limits

No Exposure Limits
No Exposure Limits
No Exposure Limits

8.2 Appropriate engineering controls
Provide local exhaust ventilation to control vapours/mists.

8.3 Individual protective equipment

Respiratory Protection

Not normally needed. Use adequate certified respirator if there is any potential for an uncontrolled release.

Eye protection

Wear safety glasses to avoid contact with eyes.

Hands protection

Wear appropriate protective gloves to avoid contact with skin.

Body protection:

Wear suitable protective clothing.

9. Physical and chemical properties:

9.1 Appearance (physical state, colour etc.)
Liquid to waxy, Colourless

9.2 Odour
Negligible

9.3 Odour threshold
No Data Available

9.4 pH
No Data Available

9.5 Melting point/freezing point
25 ℃ ~ 32 ℃

9.6 Initial boiling point and boiling range
> 204 ℃ (> 398 ℉)

9.7 Flash point
259 ℃
### Substance name
Polytetramethylene Ether Glycol (PTMEG)

#### 9. Evaporation rate
- **9.8 Evaporation rate**: No Data Available
- **9.9 Flammability (solid, gas)**: No Data Available
- **9.10 Upper/lower explosive limits**: No Data Available
- **9.11 Vapour pressure**: No Data Available
- **9.12 Solubility**: Slightly soluble
- **9.13 Vapour density**: No Data Available
- **9.14 Specific gravity**: 0.979 (at 25 °C)
- **9.15 N-octanol/water partition coefficient**: No Data Available
- **9.16 Auto-ignition temperature**: No Data Available
- **9.17 Decomposition temperature**: No Data Available
- **9.18 Viscosity**: No Data Available
- **9.19 Molecular weight**: 250, 650, 1000, 1400, 1800, 2000, 3000
- **9.20 Solvent soluble**: Aromatic and chlorinated solvents

#### 10. Stability and reactivity:
- **10.1 Chemical stability and Possibility of hazardous reactions**: Stable under recommended storage conditions. But there is a risk of self-ignition at high temperature.
- **10.2 Conditions to avoid**: Avoid heat, flame, spark and ignition source. (Electrostatic discharge, Shock, vibration, etc.) Avoid contact with incompatible materials.
- **10.3 Substance to avoid**: Acid, Oxidant
- **10.4 Hazardous decomposition products**: Carbon oxides

#### 11. Toxicological information:
- **11.1 Information on the likely route of exposure**
  - Inhalation: Possible
  - Oral: Possible
  - Skin Contact: Possible
  - Eye contact: Possible
- **11.2 Health Hazard Information**
  - Acute oral toxicity: LD50 11,340 mg/kg rat (650 mw, Quaker Oats)
  - Acute dermal toxicity: LD50 8,370 mg/kg rabbit (650 mw, Quaker Oats)
  - Acute inhalation toxicity: No Data Available
  - Skin corrosion or irritation: May cause slight skin irritation.
  - Serious eyes damages or irritation: May cause slight eye irritation.
  - Respiratory sensitization: No Data Available
  - Skin sensitization: No Data Available
  - Specific target organ toxicity substance: No Data Available
- **(single exposure)**
  - Specific target organ toxicity substance: No Data Available
  - Germ cell mutagenicity: No Data Available
  - Reproductive toxicity: No Data Available
Carcinogenicity

IARC No Data Available
ACGIH No Data Available
NTP No Data Available
OSHA No Data Available

Aspiration hazard No Data Available

11.3 Numerical Scale of toxicity No Data Available
(Acute toxicity Estimates)

12. Ecological information:
12.1 Ecotoxicity
Fish No Data Available
Crustacean No Data Available
Bird No Data Available

12.2 Persistence and degradability
Persistence No Data Available
degradability No Data Available

12.3 Bioaccumulative potential
Accumulative No Data Available
Biodegradation No Data Available

12.4 Mobility in soil No Data Available
12.5 Other hazardous effects No Data Available

13. Disposal considerations:
13.1 Disposal methods No Data Available
13.2 Disposal attention Consider notices of regulations in case that it is indicated in waste disposal regulation.

14. Transport information:
14.1 U.S. Department of Transportation (DOT) Not regulated as dangerous good
14.2 International Maritime Organization (IMDG) Not regulated as dangerous good
14.3 International Air Transport Association (IATA) Not regulated as dangerous good

/ International Civil Aviation Organization (ICAO)

15. Regulatory information:
15.1 Korean Industrial Safety and Health Act Not Applicable
15.2 Korea Toxic Chemicals Control Act (KCCA) Not Applicable
15.3 Safety Control of Dangerous Substances Act in Korea Not Applicable
15.4 International Regulations

US Toxic Substance Chemical Control Act (TSCA)  Listed
Canada Domestic Substance List (DSL or NDSL)  Listed on Canada’s DSL List
American Management Information (OSHA Regulation)  Not Applicable
American Management Information (CERCLA Regulation)  Not Applicable
American Management Information (EPCRA 302 Regulation)  Not Applicable
American Management Information (EPCRA 304 Regulation)  Not Applicable
American Management Information (EPCRA 313 Regulation)  Not Applicable
American Management Information (Rotterdam Convention material)  Not Applicable
American Management Information (Stockholm Convention material)  Not Applicable
American Management Information (Montreal Protocol material)  Not Applicable
EU classification Information (Final classification results)  Not Applicable
EU classification Information (Risk statement)  Not Applicable
EU classification Information (Safety statement)  Not Applicable

16. Other information:
16.1 Reference:
Croner’s: Emergency Spillage Guide.
Croner’s: Emergency First Aid Guide. Croner’s: Substances Hazardous to Health
ERG 2004, , RSAP, US DOT
National Institute of Technology and Evaluation, Japan
UN Recommendations on the Transport of Dangerous Goods Model Regulations, 14th Edition
The Chemical Database, The Department of Chemistry at the University of Akron http://ull.chemistry.uakron.edu/erd
International Chemical Safety Cards (ICSC) http://www.nihs.go.jp/ICSC
ECB-ESIS(European chemical Substances Information System) http://ecb.jrc.it/esis
ECOTOX Database, EPA http://cfpub.epa.gov/ecotox
IUCLID Chemical Data Sheet, EC-ECB
Initial Assessment Report for SIAM 19, Synthetic Amorphous Silica, July 2004, UNEP, OECD.
IMDG Code 2006 edition (Amendment 33-06), IMO

16.2 Initial Issue Date  Nov. 1996
16.3 Revision Number and Date
- Revision Number 5
- Revision Date Jul. 2019
16.4 Others  No Data Available