

SAFETY DATA SHEET



PolyEthylene Oxide Standard

Section 1. Identification

- Product identifier** : PolyEthylene Oxide Standard
- Part no.** : PL2080-0101, PL2080-0300, PL2080-0000HP, PL2080-0201HP, PL2080-0201, PL2080-0200, PL2080-0202, PL2080-0203, PL2084-2010, PL2084-2001, PL2084-2005, PL2083-5010, PL2083-5001, PL2083-5005, PL2082-9010, PL2082-9001, PL2082-9005, PL2083-6010, PL2083-6001, PL2083-6005, PL2084-1010, PL2084-1001, PL2084-1005, PL2083-7010, PL2083-7001, PL2083-7005, PL2083-1001, PL2083-1005, PL2082-5010, PL2082-5001, PL2082-5005, PL2083-8010, PL2083-8001, PL2083-8005, PL2083-2010, PL2083-2001, PL2083-2005, PL2083-9010, PL2083-9001, PL2083-9005, PL2083-3010, PL2083-3001, PL2083-3005, PL2082-7010, PL2082-7001, PL2082-7005, PL2084-0010, PL2084-0001, PL2084-0005, PL2083-4010, PL2083-4001, PL2083-4005, PL2083-1010
- Chemical identity** : Polyethylene glycol

Relevant identified uses of the substance or mixture and uses advised against

- Material uses** : Reagents and Standards for Analytical Chemistry Laboratory Use
- | | |
|---------------|--------------------------------------|
| PL2080-0101 | PEO calibration kit |
| PL2080-0300 | AQUEOUS GPC START-UP KIT |
| PL2080-0000HP | BROAD DEXTRAN TEST SAMPLE VIALS (30) |
| PL2080-0201HP | EASICAL VIALS, PEO/PEG, 1/PK |
| PL2080-0201 | EASIVIAL PEG/PEO 2 ML |
| PL2080-0200 | EASIVIAL PEG/PEO 4 ML |
| PL2080-0202 | PEG/PEO 2 ML TRI-PACK (90 VIALS) |
| PL2080-0203 | PEG/PEO 4 ML TRI-PACK (90 VIALS) |
| PL2084-2010 | PEO NOMINAL MP 1.5M 10G |
| PL2084-2001 | PEO NOMINAL MP 1.5M 1G |
| PL2084-2005 | PEO NOMINAL MP 1.5M 5G |
| PL2083-5010 | PEO NOMINAL MP 100K 10G |
| PL2083-5001 | PEO NOMINAL MP 100K 1G |
| PL2083-5005 | PEO NOMINAL MP 100K 5G |
| PL2082-9010 | PEO NOMINAL MP 10K 10G |
| PL2082-9001 | PEO NOMINAL MP 10K 1G |
| PL2082-9005 | PEO NOMINAL MP 10K 5G |
| PL2083-6010 | PEO NOMINAL MP 130K 10G |
| PL2083-6001 | PEO NOMINAL MP 130K 1G |
| PL2083-6005 | PEO NOMINAL MP 130K 5G |
| PL2084-1010 | PEO NOMINAL MP 1M 10G |
| PL2084-1001 | PEO NOMINAL MP 1M 1G |
| PL2084-1005 | PEO NOMINAL MP 1M 5G |
| PL2083-7010 | PEO NOMINAL MP 200K 10G |
| PL2083-7001 | PEO NOMINAL MP 200K 1G |
| PL2083-7005 | PEO NOMINAL MP 200K 5G |
| PL2083-1001 | PEO NOMINAL MP 20K 1G |
| PL2083-1005 | PEO NOMINAL MP 20K 5G |
| PL2082-5010 | PEO NOMINAL MP 2K 10G |
| PL2082-5001 | PEO NOMINAL MP 2K 1G |
| PL2082-5005 | PEO NOMINAL MP 2K 5G |
| PL2083-8010 | PEO NOMINAL MP 300K 10G |
| PL2083-8001 | PEO NOMINAL MP 300K 1G |
| PL2083-8005 | PEO NOMINAL MP 300K 5G |
| PL2083-2010 | PEO NOMINAL MP 30K 10G |
| PL2083-2001 | PEO NOMINAL MP 30K 1G |
| PL2083-2005 | PEO NOMINAL MP 30K 5G |
| PL2083-9010 | PEO NOMINAL MP 500K 10G |
| PL2083-9001 | PEO NOMINAL MP 500K 1G |
| PL2083-9005 | PEO NOMINAL MP 500K 5G |
| PL2083-3010 | PEO NOMINAL MP 50K 10G |

Section 1. Identification

| | |
|-------------|-------------------------|
| PL2083-3001 | PEO NOMINAL MP 50K 1G |
| PL2083-3005 | PEO NOMINAL MP 50K 5G |
| PL2082-7010 | PEO NOMINAL MP 5K 10G |
| PL2082-7001 | PEO NOMINAL MP 5K 1G |
| PL2082-7005 | PEO NOMINAL MP 5K 5G |
| PL2084-0010 | PEO NOMINAL MP 700K 10G |
| PL2084-0001 | PEO NOMINAL MP 700K 1G |
| PL2084-0005 | PEO NOMINAL MP 700K 5G |
| PL2083-4010 | PEO NOMINAL MP 70K 10G |
| PL2083-4001 | PEO NOMINAL MP 70K 1G |
| PL2083-4005 | PEO NOMINAL MP 70K 5G |
| PL2083-1010 | PEO NOMINAL MP 20K 10G |

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Section 2. Hazard(s) identification

Classification of the substance or mixture

Not classified.

GHS label elements

Signal word : No signal word.
Hazard statements : No known significant effects or critical hazards.
Precautionary statements
Prevention : Not applicable.
Response : Not applicable.
Storage : Not applicable.
Disposal : Not applicable.

Supplemental label elements

Additional warning phrases : Not applicable.

Other hazards which do not result in classification : May form explosible dust-air mixture if dispersed.

Section 3. Composition and ingredient information

Substance/mixture : Substance

CAS number/other identifiers

| Ingredient name | % (w/w) | CAS number |
|---------------------|---------|------------|
| Polyethylene glycol | 100 | 25322-68-3 |

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
- Ingestion** : Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the eyes.
- Inhalation** : Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat and lungs.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:
irritation
redness
- Inhalation** : Adverse symptoms may include the following:
respiratory tract irritation
coughing
- Skin contact** : No specific data.
- Ingestion** : No specific data.

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

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

Section 5. Firefighting measures

Extinguishing media

- Suitable extinguishing media** : Use dry chemical powder.
- Unsuitable extinguishing media** : Avoid high pressure media which could cause the formation of a potentially explosible dust-air mixture.

Specific hazards arising from the chemical : May form explosible dust-air mixture if dispersed.

- Hazardous thermal decomposition products** : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

Section 5. Firefighting measures

- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing dust. Put on appropriate personal protective equipment.

- For emergency responders** : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

- Environmental precautions** : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and material for containment and cleaning up

- Methods for cleaning up** : Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Vacuum or sweep up material and place in a designated, labelled waste container. Dispose of via a licensed waste disposal contractor.

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Avoid breathing dust. Avoid the creation of dust when handling and avoid all possible sources of ignition (spark or flame). Prevent dust accumulation. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Electrical equipment and lighting should be protected to appropriate standards to prevent dust coming into contact with hot surfaces, sparks or other ignition sources. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by earthing and bonding containers and equipment before transferring material.

- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

- Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls and personal protection

Control parameters

Occupational exposure limits

| Ingredient name | Exposure limits |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Polyethylene glycol | DFG MAC-values list (Germany, 7/2017). PEAK: 8000 mg/m ³ , 4 times per shift, 15 minutes. Form: Inhalable fraction TWA: 1000 mg/m ³ 8 hours. Form: Inhalable fraction |

Appropriate engineering controls : Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields. If operating conditions cause high dust concentrations to be produced, use dust goggles.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

Appearance

| | |
|------------------------|-----------------------------------------------------------------------------------------|
| Physical state | : Solid. [Powder. (Molecular weight (low) = liquid , Molecular weight (high) = Solid.)] |
| Colour | : White. |
| Odour | : Odourless. |
| Odour threshold | : Not available. |
| pH | : Not available. |
| Melting point | : Various |

Section 9. Physical and chemical properties

| | |
|-----------------------------------------------------|------------------------------------------------------------------------------------------|
| Boiling point | : 250°C (482°F) |
| Flash point | : Closed cup: 171 to 235°C (339.8 to 455°F) Open cup: 199 to 238°C (390.2 to 460.4°F) |
| Evaporation rate | : Not available. |
| Flammability (solid, gas) | : Not available. |
| Lower and upper explosive (flammable) limits | : Not available. |
| Vapour pressure | : 0 kPa (0 mm Hg) [room temperature] |
| Vapour density | : Not available. |
| Relative density | : 1.1 to 1.3 [Water = 1] |
| Density | : 1.13 g/cm ³ [25°C (77°F)] |
| Solubility | : Soluble in the following materials: cold water and hot water. |
| Solubility in water | : 620 g/l |
| Partition coefficient: n-octanol/water | : Not available. |
| Auto-ignition temperature | : 360°C (680°F) |
| Decomposition temperature | : Not available. |
| Viscosity | : Not available. |

Section 10. Stability and reactivity

| | |
|-------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Reactivity | : No specific test data related to reactivity available for this product or its ingredients. |
| Chemical stability | : The product is stable. |
| Possibility of hazardous reactions | : Under normal conditions of storage and use, hazardous reactions will not occur. |
| Conditions to avoid | : Avoid the creation of dust when handling and avoid all possible sources of ignition (spark or flame). Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by earthing and bonding containers and equipment before transferring material. Prevent dust accumulation. |
| Incompatible materials | : Reactive or incompatible with the following materials: oxidizing materials |
| Hazardous decomposition products | : Under normal conditions of storage and use, hazardous decomposition products should not be produced. |

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Not available.

Irritation/Corrosion

Section 11. Toxicological information

| Product/ingredient name | Result | Species | Score | Exposure | Observation |
|-------------------------|----------------------|---------|-------|-------------------------|-------------|
| Polyethylene glycol | Eyes - Mild irritant | Rabbit | - | 24 hours 500 milligrams | - |
| | Eyes - Mild irritant | Rabbit | - | 500 milligrams | - |
| | Skin - Mild irritant | Rabbit | - | 24 hours 500 milligrams | - |
| | Skin - Mild irritant | Rabbit | - | 500 milligrams | - |

Sensitisation

Not available.

Mutagenicity

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on likely routes of exposure : Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential acute health effects

- Eye contact** : Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the eyes.
- Inhalation** : Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat and lungs.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : Adverse symptoms may include the following:
irritation
redness
- Inhalation** : Adverse symptoms may include the following:
respiratory tract irritation
coughing
- Skin contact** : No specific data.
- Ingestion** : No specific data.

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

Short term exposure

Potential immediate effects : Not available.

Section 11. Toxicological information

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

General : Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Section 12. Ecological information

Toxicity

| Product/ingredient name | Result | Species | Exposure |
|-------------------------|--------------------------------------|---------------------------|----------|
| Polyethylene glycol | Acute LC50 >1000000 µg/l Fresh water | Fish - Salmo salar - Parr | 96 hours |

Persistence and degradability

Not available.

Bioaccumulative potential

| Product/ingredient name | LogP _{ow} | BCF | Potential |
|-------------------------|--------------------|-----|-----------|
| Polyethylene glycol | - | 3.2 | low |

Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

ADG / IMDG / IATA : Not regulated as Dangerous Goods according to the ADG Code .

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of Marpol and the IBC Code : Not available.

Section 15. Regulatory information

Standard Uniform Schedule of Medicine and Poisons

Not regulated.

Model Work Health and Safety Regulations - Scheduled Substances

No listed substance

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol (Annexes A, B, C, E)

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

| | |
|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|
| Australia | : This material is listed or exempted. |
| Canada | : This material is listed or exempted. |
| China | : This material is listed or exempted. |
| Europe | : This material is listed or exempted. |
| Japan | : Japan inventory (ENCS): This material is listed or exempted. Japan inventory (ISHL): This material is listed or exempted. |
| Malaysia | : <input checked="" type="checkbox"/> This material is listed or exempted. |
| New Zealand | : This material is listed or exempted. |
| Philippines | : This material is listed or exempted. |
| Republic of Korea | : This material is listed or exempted. |
| Taiwan | : This material is listed or exempted. |
| Thailand | : Not determined. |
| Turkey | : This material is listed or exempted. |
| United States | : This material is listed or exempted. |
| Viet Nam | : Not determined. |

Section 16. Any other relevant information

History

Date of issue/Date of revision : 30/04/2018

Date of previous issue : 23/05/2017

Version : 4

Key to abbreviations

: ADG = Australian Dangerous Goods
 ATE = Acute Toxicity Estimate
 BCF = Bioconcentration Factor
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals
 IATA = International Air Transport Association
 IBC = Intermediate Bulk Container
 IMDG = International Maritime Dangerous Goods
 LogPow = logarithm of the octanol/water partition coefficient
 MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
 NOHSC = National Occupational Health and Safety Commission
 SUSMP = Standard Uniform Schedule of Medicine and Poisons
 UN = United Nations

Procedure used to derive the classification

| Classification | Justification |
|-----------------|---------------|
| Not classified. | |

References : Not available.

✔ Indicates information that has changed from previously issued version.

Notice to reader

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