

1. Identification

Product identifier	Polyethylene Glycol 300	
Other means of identification		
Catalog number	1546423	
Chemical name	alpha-Hydro-omega-hydroxypoly(oxy-1,2-ethanediyl)	
Recommended use	Specified quality tests and assay use only.	
Recommended restrictions	Not for use as a drug. Not for administration to humans or animals.	
Manufacturer/Importer/Supplier/Distributor information		
Company name	U. S. Pharmacopeia	
Address	12601 Twinbrook Parkway Rockville MD 20852-1790 US	
Telephone	RS Technical Services	301-816-8129
Website	www.usp.org	
E-mail	RSTECH@usp.org	
Emergency phone number	CHEMTREC within US & Canada	1-800-424-9300
	CHEMTREC outside US & Canada	+1 703-527-3887

2. Hazard(s) identification

Physical hazards	Not classified.	
Health hazards	Serious eye damage/eye irritation	Category 2B
OSHA hazard(s)	Not classified.	
Label elements		
Hazard symbol	No symbol.	
Signal word	Warning	
Hazard statement	Causes eye irritation.	
Precautionary statement		
Prevention	Wash thoroughly after handling.	
Response	If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.	
Storage	Not available.	
Disposal	Not available.	
Hazard(s) not otherwise classified (HNOC)	Not classified.	

3. Composition/information on ingredients

Substance

Hazardous components

Chemical name	Common name and synonyms	CAS number	%
Polyethylene Glycol 300		25322-68-3	100

4. First-aid measures

Inhalation	Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact	Rinse skin with water/shower. Get medical attention if irritation develops and persists.
Eye contact	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. If ingestion of a large amount does occur, call a poison control center immediately.

Most important symptoms/effects, acute and delayed

Irritation of eyes and mucous membranes. Gastrointestinal disturbances.

Indication of immediate medical attention and special treatment needed

Treatment for overdose of polyethylene glycol should be symptomatic and supportive and may include the following:

1. Monitor acid-base balance, renal function, pulmonary function, serum calcium, osmolality, and pulse oximetry.
2. For acidosis, administer sodium bicarbonate intravenously.
3. For acute lung injury, maintain ventilation and oxygenation. Early use of PEEP and mechanical ventilation may be needed. Onset of acute lung injury may be delayed 24 to 72 hours after exposure.
4. Hemodialysis may be beneficial in severe acid-base imbalances or in renal failure. [Toxicologic Managements 2005]

General information

Remove from exposure. Remove contaminated clothing. For treatment advice, seek guidance from an occupational health physician or other licensed health-care provider familiar with workplace chemical exposures. In the United States, the national poison control center phone number is 1-800-222-1222. If person is not breathing, give artificial respiration. If breathing is difficult, give oxygen if available. Persons developing serious hypersensitivity (anaphylactic) reactions must receive immediate medical attention.

5. Fire-fighting measures

Suitable extinguishing media

Water fog. Foam. Dry chemical powder. Carbon dioxide (CO₂).

Unsuitable extinguishing media

Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical

No unusual fire or explosion hazards noted.

Special protective equipment and precautions for firefighters

Wear suitable protective equipment.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Avoid inhalation of vapors. Wear appropriate personal protective equipment.

Methods and materials for containment and cleaning up

Absorb spillage with suitable absorbent material. For waste disposal, see section 13 of the SDS. Clean surface thoroughly to remove residual contamination.

7. Handling and storage

Precautions for safe handling

As a general rule, when handling USP Reference Standards, avoid all contact and inhalation of dust, mists, and/or vapors associated with the material. Clean equipment and work surfaces with suitable detergent or solvent after use. After removing gloves, wash hands and other exposed skin thoroughly.

Conditions for safe storage, including any incompatibilities

Store in tight container as defined in the USP-NF. This material should be handled and stored per label instructions to ensure product integrity.

8. Exposure controls/personal protection

Occupational exposure limits

US. Workplace Environmental Exposure Level (WEEL) Guides

Material	Type	Value	Form
Polyethylene Glycol 300 (CAS 25322-68-3)	TWA	10 mg/m ³	Aerosol.

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

Airborne exposure should be controlled primarily by engineering controls such as general dilution ventilation, local exhaust ventilation, or process enclosure. Local exhaust ventilation is generally preferred to general exhaust because it can control the contaminant at its source, preventing dispersion into the work area. An industrial hygiene survey involving air monitoring may be used to determine the effectiveness of engineering controls. Effectiveness of engineering controls intended for use with highly potent materials should be assessed by use of nontoxic surrogate materials.

Individual protection measures, such as personal protective equipment

Eye/face protection

Safety glasses with sideshields are recommended. Face shields or goggles may be required if splash potential exists or if corrosive materials are present. Approved eye protection (e.g., bearing the ANSI Z87 or CSA stamp) is preferred. Maintain eyewash facilities in the work area.

Skin protection	
Hand protection	Chemically compatible gloves. For handling solutions, ensure that the glove material is protective against the solvent being used. Use handling practices that minimize direct hand contact. Employees who are sensitive to natural rubber (latex) should use nitrile or other synthetic nonlatex gloves. Use of powdered latex gloves should be avoided due to the risk of latex allergy.
Other	For handling of laboratory scale quantities, a cloth lab coat is recommended. Where significant quantities are handled, work clothing may be necessary to prevent take-home contamination.
Respiratory protection	Where respirators are deemed necessary to reduce or control occupational exposures, use NIOSH-approved respiratory protection and have an effective respirator program in place (applicable U.S. regulation OSHA 29 CFR 1910.134).
Thermal hazards	Not available.
General hygiene considerations	Handle in accordance with good industrial hygiene and safety practice.

9. Physical and chemical properties

Appearance	Clear, colorless liquid.
Physical state	Liquid.
Form	Liquid.
Odor	Mild odor.
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	5 - 17.6 °F (-15 - -8 °C)
Initial boiling point and boiling range	> 392 °F (> 200 °C) (decomposes)
Flash point	390.20 - 460.40 °F (199.00 - 238.00 °C) Open Cup 424.40 °F (218.00 °C) Pensky-Martens Closed Cup
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	< 0.01 mm Hg at 20 °C
Vapor density	> 10 (air=1)
Relative density	Not available.
Solubility in water	Miscible.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	698 °F (370 °C)
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Chemical family	Oxyalkylene polymer.
Dynamic viscosity	80 - 105 mPa·s
Dynamic viscosity temperature	68 °F (20 °C)
Molecular formula	(C2-H4-O)MULT-H2-O
Molecular weight	285 - 315
pH in aqueous solution	4.5 - 7.5 (5% solution)
Solubility (other)	Soluble in dichloromethane, in alcohol, and in acetone.
Specific gravity	1.127

10. Stability and reactivity

Reactivity	No reactivity hazards known.
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Chemical stability	Stable at normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
Conditions to avoid	None known.
Incompatible materials	Strong oxidizing agents. Strong acids. Strong bases.
Hazardous decomposition products	Irritating and/or toxic fumes or gases. Emits toxic fumes under fire conditions.

11. Toxicological information

Information on likely routes of exposure

Ingestion	Based on available data, the classification criteria are not met.
Inhalation	Due to lack of data the classification is not possible.
Skin contact	Based on available data, the classification criteria are not met.
Eye contact	Causes eye irritation.

Symptoms related to the physical, chemical, and toxicological characteristics Polyethylene glycols: Nausea. Vomiting. Diarrhea. Bloating. Cramping. Gas. Taste disorders.

Delayed and immediate effects of exposure Polyethylene glycols: Heart arrhythmias. Low blood pressure. Metabolic acidosis. Kidney damage.

Medical conditions aggravated by exposure Polyethylene glycols: Gastrointestinal tract obstruction. Gastric retention. Gastric perforation. Toxic or active colitis.

Acute toxicity

Product	Species	Test Results
Polyethylene Glycol 300 (CAS 25322-68-3)		
Acute		
<i>Dermal</i>		
LD50	Rabbit	> 20 g/kg
<i>Oral</i>		
LD50	Mouse	31 g/kg
	Rat	27.5 g/kg

Skin corrosion/irritation Based on available data, the classification criteria are not met.

Serious eye damage/eye irritation Causes eye irritation.

Local effects

Eye irritancy test
Result: Mild irritation.
Species: Rabbit
Eye irritancy test
Result: No irritation.
Species: Rabbit
Skin irritancy test
Result: No irritation.
Species: Rabbit

Respiratory sensitization Due to lack of data the classification is not possible.

Skin sensitization Based on available data, the classification criteria are not met.

Sensitization

Modified Draize test
Result: No sensitization.
Species: Guinea pig
Skin sensitization study
Result: No sensitization.
Species: Human

Germ cell mutagenicity Due to lack of data the classification is not possible.
Data from germ cell mutagenicity tests were not found.
In vivo and in vitro mutagenicity studies were negative in a related material.

Carcinogenicity Due to lack of data the classification is not possible.
This material is not considered to be a carcinogen by IARC, NTP, or OSHA.
A related material has not caused cancer in animal studies.

Reproductive toxicity Due to lack of data the classification is not possible.

Specific target organ toxicity - single exposure Based on available data, the classification criteria are not met.

Specific target organ toxicity - repeated exposure Based on available data, the classification criteria are not met.

Aspiration hazard Due to lack of data the classification is not possible.

12. Ecological information

Ecotoxicity

Product	Species	Test Results
Polyethylene Glycol 300 (CAS 25322-68-3)		
Aquatic		
<i>Acute</i>		
Fish	LC50	Ide, silver or golden orfe (Leuciscus idus)
		> 10000 mg/l, 48 hours
Persistence and degradability	Readily biodegradable.	
Bioaccumulative potential	Not available.	
Mobility in soil	Not available.	
Other adverse effects	Not available.	

13. Disposal considerations

Disposal instructions	Dispose in accordance with all applicable regulations. Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste.
Local disposal regulations	Not available.
Hazardous waste code	Not available.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transport information

DOT

Not regulated as a hazardous material by DOT.

IATA

Not regulated as a dangerous good.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code No information available.

15. Regulatory information

US federal regulations CERCLA/SARA Hazardous Substances - Not applicable.

All components are on the U.S. EPA TSCA Inventory List.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories	Immediate Hazard - Yes Delayed Hazard - No Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No
SARA 302 Extremely hazardous substance	No
SARA 311/312 Hazardous chemical	No
Other federal regulations	
Safe Drinking Water Act (SDWA)	Not regulated.
Food and Drug Administration (FDA)	Not regulated.
US state regulations	California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	No
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

16. Other information, including date of preparation or last revision

Issue date 05-26-2005

Revision date 09-11-2014

Version # 02

Further information Not available.

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Revision Information This document has undergone significant changes and should be reviewed in its entirety.