



Effective: June 29th, 2015

Supersedes:

Dow Propylene Glycol USP/EP (PG USP/EP)

Shelf Life

Propylene Glycol USP/EP is stable for at least two years when stored at ambient temperatures in closed containers and away from sunlight and other sources of UV light. An ongoing stability test program confirms this shelf life. The shelf life refers to the length of time during which a product complies with its sales specification when stored under appropriate conditions.

Where product heating is utilized (i.e. for bulk storage and/or transport containers) the product temperature should be controlled to prevent unintentional overheating over extended periods as this may potentially lead to accelerated oxidative degradation of the product. As a general guide Dow recommends heating up to not more than 40° C.

PG USP/EP is hygroscopic and may be subject to partial oxidation in the presence of oxygen. With increasing storage time, dependent on the storage conditions, the water content, color, odor and acidity can increase.

Dow does not support re-certification of its product when the product has exceeded its shelf life. Refer to the Certificate of Analysis to determine the expiration date. Users of Propylene Glycol USP/EP are advised to consider their own shelf life studies as their conditions and handling may deviate from those used by Dow.

Should you have any questions or require further information, please contact us via our web site at <http://dowac.custhelp.com/> (Answer Center, Ask a Question tab).

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Propylene Glycols - Storage Recommendations

Answer ID 7590 | Updated 08/29/2014 02:49 PM

What are the storage recommendations for glycols?

The storage of *glycols* presents no unusual problems. A tank truck or tank car can be off-loaded into a storage tank and kept with little difficulty since *glycols* do not freeze nor degrade readily. They are easy to handle since they have low vapor pressures and relatively low degrees of toxicity.

An all stainless steel system is recommended for USP/EP grade of *propylene glycol* (PG). Carbon steel systems may be utilized for other grades of *glycols* if slight coloration of the *glycol* can be tolerated.

Epoxy and phenolic resins provide an excellent liner for carbon steel storage tanks. A number of the liner systems have been approved by the FDA for food contact and are suitable for PG USP/EP.

View here for more detailed information regarding [Glycol Stability and Shelf Life](#)


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Propylene Glycols - Stability & Storage

Answer ID 7485 | Updated 08/29/2014 02:57 PM

What are the storage recommendations for propylene glycols?

Propylene Glycols should be stored at ambient temperatures in closed containers and away from sunlight and other sources of UV light.

Prolonged contact of glycols with air should be avoided to decrease the possibility of oxidative degradation reactions and water absorption (glycols are hygroscopic). Dow recommends that propylene glycols in bulk be stored under nitrogen, ideally, but the use of dry air is also effective.

Propylene glycols will degrade slowly in the presence of oxygen. Metal contamination, acidic or basic contaminants and higher temperatures all accelerate the degradation reactions. Typical oxidation products are aldehydes, ketones, acids and dioxolanes. A strong odor, higher acidity, higher ultra-violet (UV)-absorption or high color are indicators that a propylene glycol has been not been stored properly and has started to degrade.

Propylene glycols are sensitive to UV light, which can act as a radical initiator and initiate oxidation reactions. For this reason, it is recommended that glycols be stored in opaque containers and avoid frequent or prolonged exposure to sunlight.

Continuous stability testing programs show *Glycol Shelf Lives*, from the manufacturing date, for propylene glycols products, when stored under the recommended storage conditions.

Where product heating is utilized (i.e. for bulk storage and/or transport containers) the product temperature should be controlled to prevent unintentional overheating over extended periods as this may potentially lead to accelerated oxidative degradation of the product. As a general guide Dow recommends heating up to not more than 40° C.

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