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# Glycerin Ophthalmic Solution

» Glycerin Ophthalmic Solution is a sterile, anhydrous solution of Glycerin, containing not less than 98.5 percent of glycerin (C<sub>3</sub>H<sub>8</sub>O<sub>3</sub>). It may contain one or more suitable antimicrobial preservatives. [NOTE—In the preparation of this Ophthalmic Solution, use Glycerin that has a low water content, in order that the Ophthalmic Solution may comply with the *Water* limit. This may be ensured by using Glycerin having a specific gravity of not less than 1.2607, corresponding to a concentration of 99.5 percent.]

[NOTE—Do not use the Ophthalmic Solution if it contains crystals, or is cloudy or discolored, or contains a precipitate.]

**Packaging and storage**—Preserve in tight containers of glass or plastic, containing not more than 15 mL, protected from light. The container or individual carton is sealed and tamper-proof so that sterility is ensured at time of first use.

**USP REFERENCE STANDARDS** (11)—  
[USP Glycerin RS](#)

**Identification**—It responds to the [Identification](#) test under [Glycerin](#).

**STERILITY TESTS** (71): meets the requirements.

**pH** (791): between 4.5 and 7.5, determined potentiometrically in a solution prepared by the addition of 5 mL of Sodium Chloride Injection to 5 mL of Ophthalmic Solution.

**WATER DETERMINATION, Method I** (921): not more than 1.0%.

**Assay**—Transfer an accurately measured volume of Ophthalmic Solution, equivalent to about 3 g of glycerin, to a 500-mL volumetric flask, dilute with water to volume, and mix. Transfer a 3-mL portion to a conical flask, add 100.0 mL of a solution of potassium periodate (prepared by dissolving 3 g of potassium periodate in about 500 mL of warm water, cooling to room temperature, and then diluting with water to 1000 mL), swirl, and allow to stand at room temperature for 10 minutes. Add 4 g of sodium bicarbonate and 2 g of potassium iodide, and titrate immediately with 0.1 N potassium arsenite VS, adding 3 mL of starch TS as the endpoint is approached. Perform a blank determination, using water in place of the Ophthalmic Solution, and note the difference in volumes required. Each mL of 0.1 N potassium arsenite is equivalent to 2.303 mg of glycerin (C<sub>3</sub>H<sub>8</sub>O<sub>3</sub>).

**Auxiliary Information** - Please [check for your question in the FAQs](#) before contacting USP.

Topic/Question	Contact	Expert Committee
GLYCERIN OPHTHALMIC SOLUTION	<a href="#">Documentary Standards Support</a>	SM32020 Small Molecules 3

**Chromatographic Database Information:** [Chromatographic Database](#)

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