

transfer gradually to a 200-mL measuring cylinder, and allow to stand: the volume is not less than 70 mL.

Assay Weigh accurately about 1 g of Light Anhydrous Silicic Acid, add 20 mL of hydrochloric acid, and evaporate to dryness on a sand bath. Moisten the residue with hydrochloric acid, evaporate to dryness, and heat between 110°C and 120°C for 2 hours. Cool, add 5 mL of dilute hydrochloric acid, and heat. Allow to cool to room temperature, add 20 to 25 mL of hot water, filter rapidly, and wash the residue with warm water until the last washing becomes negative to the Qualitative Tests (2) for chloride. Transfer the residue together with the filter paper to a platinum crucible, ignite to ash, and continue the ignition for 30 minutes. Cool, weigh the crucible, and designate the mass as *a* (g). Moisten the residue in the crucible with water, add 6 mL of hydrofluoric acid and 3 drops of sulfuric acid, and evaporate to dryness. Heat strongly for 5 minutes, cool, weigh the crucible, and designate the mass as *b* (g).

Content (g) of silicon dioxide (SiO₂) = *a* - *b*

Containers and storage Containers—Tight containers.

Silver Nitrate Ophthalmic Solution

硝酸銀点眼液

Silver Nitrate Ophthalmic Solution is an aqueous eye lotion containing not less than 0.95 w/v% and not more than 1.05 w/v% of silver nitrate (AgNO₃: 169.87).

Method of preparation

Silver Nitrate	10 g
Sterile Purified Water	a sufficient quantity
To make 1000 mL	

Prepare as directed under Ophthalmic Solution, with the above ingredients.

Description Silver Nitrate Ophthalmic Solution is a clear, colorless liquid.

Identification Silver Nitrate Ophthalmic Solution responds to the Qualitative Tests for silver salt and for nitrate.

Assay Measure accurately 20 mL of Silver Nitrate Ophthalmic Solution, add 30 mL of water and 2 mL of nitric acid, and titrate with 0.1 mol/L ammonium thiocyanate VS (indicator: 2 mL of ammonium iron (III) sulfate TS).

Each mL of 0.1 mol/L ammonium thiocyanate VS
= 16.987 mg of AgNO₃

Containers and storage Containers—Tight containers.
Storage—Light-resistant.

Silver Protein

プロテイン銀

Silver Protein is a compound of silver and proteins. It contains not less than 7.5% and not more than 8.5% of silver (Ag: 107.87).

Description Silver Protein occurs as a light yellow-brown to brown powder. It is odorless. It (1 g) dissolves slowly in 2 mL of water. It is practically insoluble in ethanol (95), in diethyl ether and in chloroform.

The pH of a solution of Silver Protein (1 in 10) is between 7.0 and 8.5.

It is slightly hygroscopic.

It is affected by light.

Identification (1) To 10 mL of a solution of Silver Protein (1 in 100) add 2 mL of dilute hydrochloric acid, shake frequently for 5 minutes, and filter. To the filtrate add 5 mL of a solution of sodium hydroxide (1 in 10), and add 2 mL of diluted copper (II) sulfate TS (2 in 25): a purple color develops.

(2) To 5 mL of a solution of Silver Protein (1 in 100) add dropwise iron (III) chloride TS: the color of the solution fades and a precipitate is gradually formed.

(3) Incinerate 0.2 g of Silver Protein by strong heating, dissolve the residue in 1 mL of nitric acid by warming, and add 10 mL of water: this solution responds to the Qualitative Tests (1) for silver salt.

Purity Silver salt—Dissolve 0.10 g of Silver Protein in 10 mL of water, and filter. To the filtrate add 1 mL of potassium chromate TS: no turbidity is produced.

Assay Transfer about 1 g of Silver Protein, accurately weighed, to a 100-mL decomposition flask, add 10 mL of sulfuric acid, cover the flask with a funnel, and boil for 5 minutes. Cool, add dropwise 3 mL of nitric acid with caution, and heat for 30 minutes without boiling. Cool, add 1 mL of nitric acid, boil, and, if necessary, repeat this operation until the solution becomes colorless. After cooling, transfer the solution to a 250-mL conical flask with 100 mL of water, and titrate with 0.1 mol/L ammonium thiocyanate VS (indicator: 3 mL of ammonium iron (III) sulfate TS).

Each mL of 0.1 mol/L ammonium thiocyanate VS
= 10.787 mg of Ag

Containers and storage Containers—Tight containers.
Storage—Light-resistant.

Silver Protein Solution

プロテイン銀液

Silver Protein Solution contains not less than 0.22 w/v% and not more than 0.26 w/v% of silver (Ag: 107.87).