

**Government of Nepal
Ministry of Health and Population
Department of Drug Administration
National Medicines Laboratory
Quality and Method Validation Section**

Analytical profile of Solution of Glycerin and Sodium Chloride

Analytical Profile No.: Gly Sod 080/81/AP 140

Solution of Glycerin and Sodium Chloride contains not less than 90.0% and not more than 110.0% of the stated amount of both Glycerin and Sodium Chloride.

Usual Strength: 15% w/v (Both Glycerin and Sodium Chloride)

1. Identification:

1.1 For Glycerin: Mix 1 ml of solution with 0.5 ml of nitric acid and superimpose 0.5 ml of potassium dichromate solution; a blue ring develops at the interface of two liquids. Allow standing for 10 minutes; the blue color does not diffuse into the lower layer.

1.2 For Sodium Chloride: Acidify 1 ml of the solution with dilute nitric acid and add 0.4 ml of silver nitrate solution. Shake and allow to standing. A curdled, white precipitate is formed. Centrifuge and wash the precipitate with three quantities, each of 1 ml, of water. Carry out this operation rapidly in subdued light, disregarding the supernatant solution may not become perfectly clear. Suspend the precipitate in 2 ml of water and add 2.5 ml of 25% ammonia solution. The precipitate dissolves easily with the possible exception of few large particles which dissolve slowly.

2. Assay: *Determine by Titrimetry*

2.1 For Glycerin: Dilute 11 gm. of the solution with sufficient water to produce 100 ml. Pipette 5 ml of this solution and transfer to a 250 ml conical flask, add 150 ml of water and neutralize with 0.1M sodium hydroxide using bromocresol purple solution as indicator. Add 1.6 gm. of sodium periodate and then add 3 ml of ethylene Glycol, mix, and titrate with 0.1 M sodium hydroxide. Calculate the percentage of Glycerin.

Each ml of 0.1M sodium hydroxide is equivalent to 0.00921 gm. of Glycerin.

2.2 For Sodium Chloride: Dilute 11 gm. of the solution with sufficient water to produce 100 ml. Pipette 5 ml of this solution, transfer to a 250 ml conical flask, add 5 ml of glacial acetic acid and 50 ml of methanol; mix. Titrate with 0.1M silver nitrate using Eosin solution as indicator. Calculate the percentage of sodium chloride.

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Each ml of 0.1M silver nitrate is equivalent to 0.005844 gm. of sodium chloride.

Note: Prepare the required solutions and standardize them as per IP.

3. Other tests: As per pharmacopoeial requirements.