



Medical Chemistry lab



First Stage

Lab Two (Preparation of Standard Solutions from Solid Materials)

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the purpose of this experiment:

is Know Preparation of Standard Solutions from Solid Materials in different concentrations.

Tools and Materials :

- ✓ Funnel
- ✓ Stirrer
- ✓ Beaker
- ✓ Spatula
- ✓ Watch glass
- ✓ Volumetric Flask
- ✓ Washing bottle
- ✓ Balance.
- ✓ D.water
- ✓ Na₂CO₃

Theory

Define standard solution , types of solutions (There are two types of standard solution: **primary** and **secondary** standard Solution)

Properties of standard solutions , equations , How to prepare standard solutions give exam .

$$Wt = \frac{N * Eq. wt * Vml}{1000}$$

$$M = \frac{Wt * 1000}{M. Wt * Vml}$$

- ❖ Prepare a solution of Sodium carbonate, Na₂CO₃ (16N)in 0.25 L of water.

Procedure:

1. the solid substance(Na_2CO_3) has been Weighted in a watch glass.
2. (gm)of solvent (Na_2CO_3) have been added to the beaker and stirred the solution until the solid substance is dissolved.
3. the solution have been added to the volumetric flask.
4. A funnel has been Put into the slim neck of the volumetric flask.
5. the additional of solvent has been Completed to required volume (add solvent until the liquid level reaches the calibration mark).
6. Capped the volumetric flask and inverted until the contents are thoroughly mixed.

Discussion:

-The preparing a standard solution must be accurate when using of balance because the increasing or decreasing of materials result wrong concentration and so for liquids materials when using increasing or decreasing of volume of solution.

Q\\Prapare asolution of $\text{Na}(\text{OH})$ 0.2M in 100 ml of water ?

Na=23 , C=12 , O=16