

Experiment (1)

A. Prepration of Standared Solution of (0.1 N) Hydrochloric Acid

1. Calculte the normality of the concentrated HCl

$$\text{Normality (N)} = \frac{\text{sp. g} * \text{percentage} * 1000}{\text{equivalent weight}}$$

$$N = \frac{1.19 * \left(\frac{37}{100}\right) * 1000}{36.5} = 12.063 N$$

2. Prepare (500ml) of (0.1N) HCl

$$N_1 * V_1 = N_2 * V_2$$

Const. HCl Dil. HCl

$$12.063 * V_1 = 0.1 * 500$$

$$V_1 = 4.1449 \text{ ml}$$

3. Procedure:

Added an amount of distilled water to a (500 ml) volumetric flask and then added (4.14 ml) of hydrochloric acid to the volumetric flask. Mix well the content of the volumetric flask well. Dilute the mixture with distilled water to the the mark and lable the flask.

B. Prepration of Standared Solution of (0.1 N) Sodium Carbonate

1. Dry a quantity of primary-standard sodium carbonate for 2 hours at 110 °C to remove any moisture. Weigh 2.65 g of the salt into a small beaker, and dissolve in (25 to 50 ml) of distilled water.
2. Transfer this solution to a (500ml) volumetric flask. Wash the beaker with distilled water and transfer this washing water to the volumetric flask. Dilute to the mark with distilled water and mix well and lable the flask.
3. Calculate the Normality

$$N = \frac{\text{weight}}{\text{equivalent weight}} * \frac{1000}{\text{volume (ml)}}$$