

1. Preparation & standardization of Sodium hydroxide- by Ms. Lipsa Samal

Aim : To Prepare and Standardize Sodium Hydroxide Standard Solution by acid – base titration.

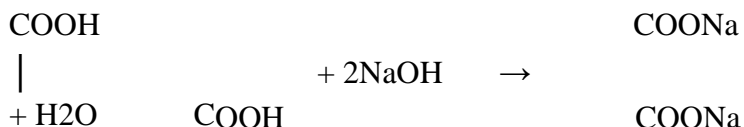
REQUIREMENTS:

Apparatus : conical flask, burette, pipette, standard flask

Reagents : NaOH, Oxalic acid, phenolphthalein

PRINCIPLE:

Standardization of sodium hydroxide is done by acid base titration. When oxalic acid is allowed to react with sodium hydroxide, sodium oxalate and water are obtained. In this titration, to locate the end point phenolphthalein indicator is used. Appearance of the pale pink colour which persists for 30 sec is the endpoint.



PROCEDURE:

Preparation : 4 gm of NaOH is accurately weighed and transferred in 1000 ml volumetric flask. The volume is made up to mark with distilled water to get 0.1 N solution of NaOH

Weigh accurately 0.63 g of oxalic acid into a 100 ml volumetric flask and make up to 100 ml volume with distilled water. Pipette out 20 ml solution and titrated 0.1 NaOH using phenolphthalein as indicator. Continue the titration to get the concordant value.

$$N_1 V_1 = N_2 V_2$$

$$N_2 = \frac{N_1 V_1}{V_2}$$

$$V_2$$

Observation :

Sl. NO	Content of the Flask	Burette Reading (ml)				Indicator
		Initial reading	Final reading	Difference	Precision	
1	20 ml solution of Oxalic acid	0.0	19.8	19.8		Phenolphthalein
2	20 ml solution of Oxalic acid	0.0	19.7	19.7	19.8	Phenolphthalein
3	20 ml solution of Oxalic acid	0.0	19.8	19.8		Phenolphthalein

Calculation : $N_1 V_1 = N_2 V_2$

$N_1 = 0.1 \text{ N} = \text{Normality of Oxalic acid Solution}$, $N_2 = ? = \text{Normality of NaOH}$

$V_1 = 20 \text{ ml} = \text{Volume of Oxalic acid Solution}$, $V_2 = 19.8 \text{ ml} = \text{Volume of NaOH}$

$$N_2 = \frac{N_1 V_1}{V_2}$$

$$N_2 = 20 \text{ ml} \times 0.1$$

$$\frac{\quad}{19.8}$$

$$N_2 = 0.10 \text{ N}$$

REPORT: The strength of the given solution of sodium hydroxide is...0.10 N.