Date

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Aim :-

Determine the sodium chloride by Mohr's method.

Reference :

Requirement :

- Apparatus :- Burette, burette stand, Measuring cylinder, beaker, conical flask, Stirring rod.
- Chemical :- $AgNO_3$ (Silver Nitrate)
  NaCl (Sodium Chloride)
  Potassium chromate (indicator)

Theory :

Sodium chloride, also known as common salt, it is commonly used as a condiment and food preservative.

The Mohr titration uses the chromate ion as an indicator for the titration of chloride with silver nitrate solution. After the

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Calculation and Observation

S.No.	Initial reading	final reading	Volume consumed.
1.	0.0	6.7	6.7
2.	6.7	13.1	6.4
3.	13.1	20.0	6.9

Avg. Vol. consumed $= \frac{6.7 + 6.4 + 6.9}{3} = \frac{20.0}{3}$

$= 6.66$ ml.

$n_1V_1 = n_2V_2$

$0.1 \times 6.6 = 10 \times n_2$

$n_2 = \frac{1}{10} \times \frac{66}{10} \times \frac{1}{10} = 0.66$ ml.

chloride is consumed, the slight excess of silver nitrate reacts with the chromate to form an orange yellow precipitate. As the indicator and analyte reactions are competitive equilibria, the concentration of the indicator must be carefully chosen.

$$NaCl + AgNO_3 \rightarrow AgCl^- \downarrow + NaNO_3$$

White ppt.

Procedure :

i) Preparation of 0.1 M silver Nitrate solution.

Prepare approx 0.1 M $AgNO_3$ by dissolving about 8.5 gm of $AgNO_3$ in 500 ml of deionized water. Mix well and store in a dark glass bottle.

ii) Preparation of 5% w/v potassium chromate indicator.

Dissolve 1 gm of K_2CrO_4 in 20 ml of distilled water.

iii) Preparation of sodium chloride.

Use the analytical balance to weigh out 0.25 gm of sodium chloride and dissolve it in 50 ml of water.

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Result:

The percentage purity of Sodium chloride sample is .....

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