

## Experiment No.2

### Determination of Chloride as Silver Chloride

#### 1- Why the experiments are done in a dark place?

A\ This is because the salt is very sensitive to light.

The silver chloride is precipitate in a white color and when exposed to light it turns into a silver color precipitate because it is reduced into free silver.



#### 2- The diluted nitric acid is used as a washing agent for the residue and does not use diluted hydrochloric acid?

A\ This is because dilute hydrochloric acid lead to the formation a soluble complex with silver  $[\text{AgCl}_4]^{-3}$  Therefore, dilute nitric acid is used to wash the precipitate.

#### 3- What are the specifications of the formed silver chloride precipitate?

A\ White precipitate, very sensitive to light and its solubility is low in water and this solubility increase when the temperature increase.

#### 4- The precipitate filtration is done at room temperature or less?

A\ This is because the solubility of the precipitate is increased by increasing the temperature.

5- What is the weight of the precipitate obtained from a (1) gram weight sample, if you know that the percentage of chlorine ion which was precipitated on the form of the silver chloride is (19.2%) and the weight of the chlorine ion is (0.1) g?

the atomic weight for Ag=108, cl=35.5

$$\text{wt of Cl} = \text{G.F} \times \text{wt of AgCl}$$

$$\text{Wt of Cl} = \frac{\text{A.Wt of Cl}}{\text{M.Wt of AgCl}} \times \text{Wt of AgCl}$$

$$0.1 = \frac{35.5}{108+35.5} \times \text{Wt of AgCl}$$

$$\text{Wt. of AgCl} = 0.8 \text{ g}$$

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