Determination the ratio of water of hydration in crystalied BaCl2.XH2O

1- What are the conditions required in a materials that water crystallization can be determinted? Give an example.?

A\ 1- Water is the main part to be volatilized only

2- When the composition of the precipitate is not changed by oxidation or hydrolysis ... etc … like BaCl2.2H2O

2- Why empty Crucibles need to be heated?

A\ To get rid of the suspended materials in the crucible .

3- Define crystallized materials? Can some of them be used in chemical analyzes?

A\ Crystallized materials are solid materials with regular crystalline forms that are used as reagents after converting them into liquid materials, which are used in liquid state not in solid state.

4- What is the purpose of the crucible cooling after heating in a desiccator?

A\ To get rid of moisture .

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.

$AgCl \rightarrow Ag + \frac{1}{2} Cl_2$

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 [AgCl4]-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 chloride 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

wt of cl = G.F × wt of AgCl

$$0.1 = \frac{\text{A.Wt of cl}}{\text{M.Wt of AgCl}} \times \text{Wt of AgCl}$$

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

Wt = 0.8 g