

Lab-report #1

Date: 97-09-15 Time: 12.55-14.20

Determination of water in Hydrated Barium Chloride:

Work to be done:

- Determine how much water there is in hydrated barium chloride.
Also solve n in $\text{BaCl}_2 + n \text{H}_2\text{O}$

Chemicals and apparatus:

- Porcelain crucible and lid
- Pipe-clay triangle
- Desiccator
- Tongs
- AR hydrated barium chloride

Lab:

First, we have to clean the crucible and lid that we are going to use to get a more exact answer, so we heat the crucible and lid for about ten minutes. Then we let it cool for one minute so we can put it in the desiccator to cool to room temperature.

We then weigh the empty crucible and lid (w_1), they were measured to 16.98 grams. Then we add AR hydrated barium chloride and measure the weight again (w_2) to 19.22 grams, that is 2.24 grams barium chloride and 16.98 grams crucible.

We then heat everything for about 15 minutes and reweigh (w_3) everything to 18.88 grams. That is, the water that was vaporised weighed 0.34 grams.

Conclusion:

Mass of anhydrous barium chloride: ($w_3 - w_1$) 1.9 grams

Mass of water removed: ($w_2 - w_3$) 0.34 grams

Moles of BaCl_2 0.009

Moles of H_2O 0.0189

$N = 0.0189 / 0.009 = 2.099 \approx 2$

Formula: $\text{BaCl}_2 + 2\text{H}_2\text{O}$