

Friday Worksheet

Name:

Gravimetric worksheet 4

- 1) Determination of the amount of magnesium chloride in a contaminated sample of the product was undertaken by a chemist. A 4.521 gram sample of the contaminated magnesium chloride was weighed and dissolved in 200 mL of water. The sample was then filtered and washed several times. The chemist then used excess silver (I) nitrate as the precipitating reagent to precipitate the chloride ions from the filtrate. The precipitate was filtered and washed with distilled water. The filtrate was repeatedly tested using potassium iodide. After several washings and repeated testing the chemist was convinced that the precipitate was right for drying. A final mass of 3.45 grams of precipitate was obtained.
- a) Write an ionic equation for the precipitation reaction.
- b) Calculate the percentage by mass of MgCl_2 in the contaminated sample.
- c) What result from the test with potassium iodide indicates that the precipitate is ready to dry? Explain
- d) A 5.31 gram sample of contaminated MgCl_2 was found to contain 42.7% by mass of magnesium. What was the mass of the precipitate obtained from the experiment?