

Solutions, Molarity, and Stoichiometry

CHM 1311.003 - Practice Questions II

1. A 12.5 mL sample of vinegar (containing acetic acid, $\text{HC}_2\text{H}_3\text{O}_2$) was titrated using 0.504 M NaOH. If the titration required 20.65 mL of the NaOH solution, what was the molar concentration of acetic acid in the vinegar?

2. Assume a density of 1.0 g/mL for the vinegar. What percent is acetic acid by mass?

3. Consider the titration of aluminum chloride with silver acetate. If 20.0 mL of 0.500M silver acetate is required to react with 38.20 mL of an aluminum chloride solution, what is the molarity of that solution?

4. Magnesium sulfate forms a hydrate known as Epsom salts. If 1.24 g of Epsom salts is dissolved in water, and barium chloride is added until the precipitation of barium sulfate is complete, the weight of (filtered and dried) precipitate that results is 1.174 g. What is the formula for Epsom salts?