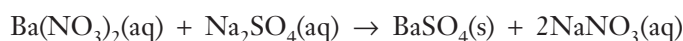


Post-Laboratory Review Questions

1. Calculate the theoretical mass of sodium carbonate solid that should be produced by heating 1.678 g of sodium bicarbonate.
2. If 1.018 g of sodium carbonate were produced from the sodium bicarbonate in Question 1, calculate the percent yield for the bicarbonate decomposition reaction.
3. Calculate the mass of water vapor and carbon dioxide that would be produced by gently heating a mixture of 1.550 g of sodium bicarbonate and 0.463 g of sodium carbonate. What mass of sodium carbonate would remain in the crucible?

4. A classic experiment involves combining a solution of barium nitrate, $\text{Ba}(\text{NO}_3)_2$, with a sodium sulfate solution, Na_2SO_4 , forming a precipitate of barium sulfate.



- a. Identify the hazards associated with the chemicals in this reaction.
- b. The purpose of this lab is to teach the techniques and principles of quantitative gravimetric analysis. Use your knowledge of solubility products to devise a greener set of solutions that would meet the purpose of this lab.