Answers to Practice Problems C in page 466

Homework

Additional Practice Have students solve the following stoichiometry problems.

1. What volume in milliliters of a 1.50 M HCl solution would be needed to react completely with 28.4 g of Na_2CO_3 to produce water, CO_2, and NaCl? **Ans. 357 mL**

2. A zinc bar is placed in 435 mL of a 0.770 M solution of $CuCl_2$. What mass of zinc would be replaced by copper if all of the copper ions were used up? **Ans. 21.9 g**

3. What volume of a 0.232 M solution of barium nitrate would be needed to precipitate all of the sulfate ions in 150.0 mL of a 0.086 M solution of sodium sulfate, Na_2SO_4? **Ans. 56 mL**

4. Zinc combines with hydrochloric acid to form aqueous zinc chloride and hydrogen gas. If 300.0 mL of a 0.150 M solution of HCl is allowed to react with excess zinc, how many moles of hydrogen gas would be produced? If this reaction takes place at standard temperature and pressure, what volume of hydrogen gas is produced? **Ans. 0.0225 mol H_2; 0.501 L H_2**