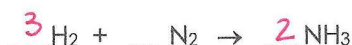


Mass Practice Worksheet

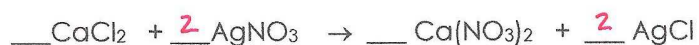


1. How many moles of H_2 are needed to react with 2.5 moles of N_2 ?

$$2.5 \text{ mol N}_2 \left| \frac{3 \text{ mol H}_2}{1 \text{ mol N}_2} \right| = 7.5 \text{ mol H}_2$$

2. How many moles of NH_3 can be produced by 2.5 moles of N_2 ?

$$2.5 \text{ mol N}_2 \left| \frac{2 \text{ mol NH}_3}{1 \text{ mol N}_2} \right| = 5.0 \text{ mol NH}_3$$



3. What mass of AgNO_3 solution is needed to react with 2.50 g of CaCl_2 ?

$$2.50 \text{ g CaCl}_2 \left| \frac{1 \text{ mol CaCl}_2}{110.98 \text{ g CaCl}_2} \right| \left| \frac{2 \text{ mol AgNO}_3}{1 \text{ mol CaCl}_2} \right| \left| \frac{169.88 \text{ g AgNO}_3}{1 \text{ mol AgNO}_3} \right| = 7.65 \text{ g AgNO}_3$$

4. What is the mass of CaCl_2 needed to react with 0.250 g AgNO_3 ?

$$0.250 \text{ g AgNO}_3 \left| \frac{1 \text{ mol AgNO}_3}{169.88 \text{ g AgNO}_3} \right| \left| \frac{1 \text{ mol CaCl}_2}{2 \text{ mol AgNO}_3} \right| \left| \frac{110.98 \text{ g CaCl}_2}{1 \text{ mol CaCl}_2} \right| = 0.0817 \text{ g CaCl}_2$$



5. What mass of NaCl can be produced from 2.00 g of NaHCO_3 in the above reaction?

$$2.00 \text{ g NaHCO}_3 \left| \frac{1 \text{ mol NaHCO}_3}{84.01 \text{ g NaHCO}_3} \right| \left| \frac{1 \text{ mol NaCl}}{1 \text{ mol NaHCO}_3} \right| \left| \frac{58.44 \text{ g NaCl}}{1 \text{ mol NaCl}} \right| = 1.39 \text{ g NaCl}$$

6. What mass of CO_2 can be produced by reacting 2.50 grams of NaHCO_3 with excess acid?

$$2.50 \text{ g NaHCO}_3 \left| \frac{1 \text{ mol NaHCO}_3}{84.01 \text{ g NaHCO}_3} \right| \left| \frac{1 \text{ mol CO}_2}{1 \text{ mol NaHCO}_3} \right| \left| \frac{44.01 \text{ g CO}_2}{1 \text{ mol CO}_2} \right| = 1.31 \text{ g CO}_2$$