CW2: More Stoichiometry Problems #2

Name: Period: 1 2

Directions: Solve each problem completely, show all your work and make sure your answer has the correct amount of significant figures and units!

**KClO3 (s) 🡪 KCl (s) + O2 (g)**

1. How many grams of potassium chloride are produced from the decomposition of 100.0 g of potassium chlorate?
2. What mass, in grams, of oxygen gas are produced from the decomposition of 100.0 g of potassium chlorate?

**C3H8 (g) + O2 (g) 🡪 CO2 (g) + H2O (g)**

1. What is the mass, in grams, of carbon dioxide produced when 25.0 g of propane reacts with excess oxygen?
2. What is the theoretical yield of carbon dioxide, in grams, when 25.0 g of oxygen gas reacts with excess propane?
3. What is the theoretical yield of water, in grams, when 25.0 g of propane reacts with excess oxygen?
4. What is the theoretical yield of water, in grams, when 25.0 g of oxygen gas reacts with excess propane?

**NH3 (g) + O2 (g) 🡪 NO (g) + H2O (l)**

**% yield = actual yield × 100**

 **theoretical yield**

1. What is the theoretical yield of nitrogen monoxide when 60.00 g of ammonia (NH3) reacts with excess oxygen? If 90.0g of nitrogen monoxide are actually produced, what is the percent yield?
2. What is the theoretical yield of water when 60.00 g of ammonia reacts with excess oxygen? If 45.0g of water is actually produced, what is the percent yield?
3. How many grams of nitrogen monoxide are formed when 60.00 g of oxygen reacts with excess ammonia? If 32.1g of nitrogen monoxide are actually produced, what is the percent yield?