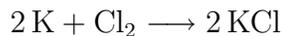


Name: _____

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Stoichiometry #2: Problems With Mole Conversions

1. In the chemical reaction:



How many *moles* of KCl (F.W. $74.55 \frac{\text{g}}{\text{mol}}$) would be produced from 2.50 g of K and excess Cl_2 ?

How many *grams* of KCl would be produced?

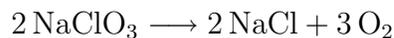
2. In the chemical reaction:



If 124 g of Na_2O (F.W. $61.98 \frac{\text{g}}{\text{mol}}$) is reacted with excess H_2O , how many *grams* of NaOH (F.W. $40.00 \frac{\text{g}}{\text{mol}}$) will be made?

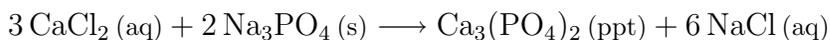
If, instead, you wanted to make 100. g of NaOH, how many grams of Na_2O would you need?

3. In the decomposition reaction:



If you reacted 26.6 g of NaClO_3 (F.W. $106.44 \frac{\text{g}}{\text{mol}}$), what volume of O_2 would you make at a pressure of 1.03 atm and a temperature of 30°C ? (*Hint: Use $PV = nRT$.*)

4. In the precipitation reaction:



If you added an excess of powdered Na_3PO_4 to 100. ml of an $0.200 \frac{\text{mol}}{\ell}$ solution of CaCl_2 , how many grams of precipitate would form? (*Assume any excess Na_3PO_4 dissolves.*)

5. How many grams of precipitate would form if 94.6 g of $\text{FeCl}_3 \cdot 6 \text{H}_2\text{O}$ crystals were added to an aqueous solution containing an excess of Na_2SiO_3 ? (*Hint: you will need to predict the products and balance the equation in order to do the stoichiometry.*)