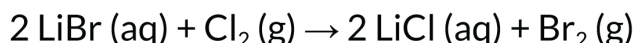


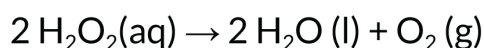
Name : _____ Date : _____

● STOICHIOMETRIC CALCULATION ●

1. How many moles of lithium chloride will be formed by the reaction of chlorine with 0.046 mol of lithium bromide in the following reaction?



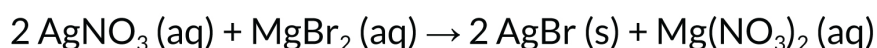
2. Hydrogen peroxide breaks down, releasing oxygen, in the following reaction:



a. What mass of oxygen is produced when 1.840 mol of H_2O_2 decomposes?

b. What mass of water is produced when this reaction produces 5 mol of O_2 ?

3. Calculate the mass of silver bromide produced from 22.5 g of silver nitrate in the following reaction:



4. Potassium chlorate is sometimes decomposed in the laboratory to generate oxygen. The reaction is:



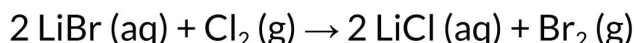
What mass of KClO_3 do you need to produce 0.5 mol of O_2 ?

Name : _____ Date : _____

● STOICHIOMETRIC CALCULATION ●

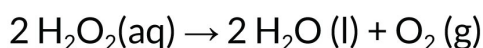
Answers

1. How many moles of lithium chloride will be formed by the reaction of chlorine with 0.046 mol of lithium bromide in the following reaction?



$$4 \text{ mol H}_2 \times (2 \text{ mol Na} / 1 \text{ mol H}_2) = 8 \text{ mol Na}$$

2. Hydrogen peroxide breaks down, releasing oxygen, in the following reaction:



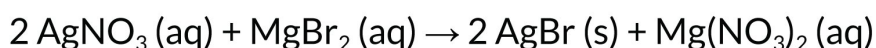
a. What mass of oxygen is produced when 1.840 mol of H_2O_2 decomposes?

$$1.840 \text{ mol H}_2\text{O}_2 \times (1 \text{ mol O}_2 / 2 \text{ mol H}_2\text{O}_2) \times (32 \text{ g O}_2 / 1 \text{ mol O}_2) = 29.44 \text{ g O}_2$$

b. What mass of water is produced when this reaction produces 5 mol of O_2 ?

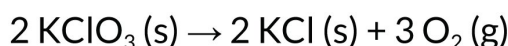
$$5 \text{ mol O}_2 \times (2 \text{ mol H}_2\text{O} / 1 \text{ mol O}_2) \times (18 \text{ g H}_2\text{O} / 1 \text{ mol H}_2\text{O}) = 180 \text{ g H}_2\text{O}$$

3. Calculate the mass of silver bromide produced from 22.5 g of silver nitrate in the following reaction:



$$22 \text{ g AgNO}_3 \times (1 \text{ mol AgNO}_3 / 170 \text{ g AgNO}_3) \times (2 \text{ mol AgBr} / 2 \text{ mol AgNO}_3) \times (188 \text{ g AgBr} / 1 \text{ mol AgBr}) = 24.3 \text{ g AgBr}$$

4. Potassium chlorate is sometimes decomposed in the laboratory to generate oxygen. The reaction is:



What mass of KClO_3 do you need to produce 0.5 mol of O_2 ?

$$0.5 \text{ mol O}_2 \times (2 \text{ mol KClO}_3 / 3 \text{ mol O}_2) \times (122.5 \text{ g KClO}_3 / 1 \text{ mol KClO}_3) = 40.8 \text{ g KClO}_2$$