

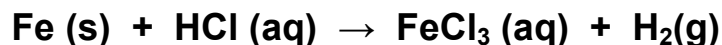
1. Pure oxygen gas was first produced by heating mercury (II) oxide:



What volume (in Liters) of oxygen gas at STP is released by heating 10.57 g of HgO?

0.5466 L O₂

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2. Using the following reaction:



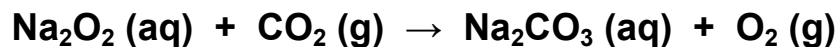
- a) How many L of H₂ would be formed at 742 mm Hg and 15°C if 25.5 g of iron reacts?

16.6 L H₂

- b) How many grams of FeCl₃ would be produced if 2.50 L of H₂ was produced at 350 mm Hg and 30.0°C?

5.02 g FeCl₃

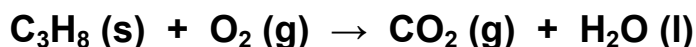
3. Using the following reaction of sodium peroxide and carbon dioxide:



How many grams of sodium carbonate will be produced from 23.1 g of Na_2O_2 and 2.10 L of CO_2 gas at STP?

9.94 g NaCO_3

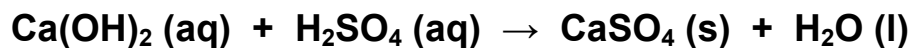
4. Using the following reaction for the combustion of propane:



How many grams of water will be produced from 14.6 g of C_3H_8 and 3.54 L of O_2 gas at 645 torr and 31°C ?

1.72 g H_2O

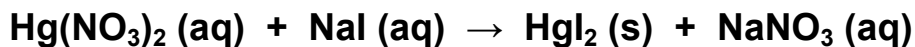
5. The neutralization reaction of calcium hydroxide and sulfuric acid is as follows:



How many grams of calcium sulfate will be produced from the reaction of 125.0 mL of a 1.36 M calcium hydroxide solution?

23.1 g CaSO_4

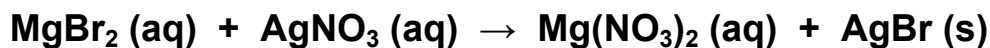
6. Given that 24.0 mL of 0.170 M sodium iodide reacts with 0.209 M mercury (II) nitrate as follows:



What volume of mercury (II) nitrate is needed for the reaction?

0.00976 L or 9.76 mL Hg(NO₃)₂

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7. 50.0 mL of 0.100 M magnesium bromide reacts with 13.9 mL of 0.250 M silver nitrate to produce 0.541 g of silver bromide according to the following reaction:



How many grams of silver bromide will be theoretically produced?

0.653 g AgBr

What is the percent yield of the reaction?

82.8 % Yield