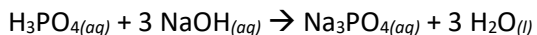


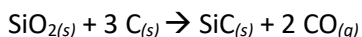
Chemistry – Chapter 12 Book problems #6: Review problems

1. Phosphoric acid reacts with sodium hydroxide according to the equation:



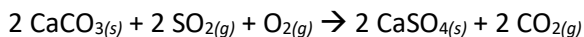
- If 1.75 mol H_3PO_4 is made to react with 5.00 mol NaOH , identify the limiting reagent.
- Calculate the amount excess remaining.**

2. When 50.0g of silicon dioxide is heated with an excess of carbon, 32.2 g of silicon carbide is produced.

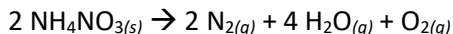


- What is the percent yield of this reaction?
- How many grams of CO gas are made?

3. If the reaction below proceeds with a 96.8% yield, how many kilograms of CaSO_4 are formed when 5.24 kg SO_2 reacts with an excess of CaCO_3 and O_2 ?

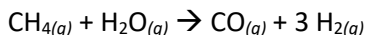


4. Ammonium nitrate will decompose explosively at high temperatures to form nitrogen, oxygen, and water vapor.



What is the total number of liters of GAS formed when 228 g NH_4NO_3 is decomposed? (Assume STP)

5. Hydrogen gas can be made by reacting methane (CH_4) with high-temperature steam:



How many hydrogen molecules are produced when 158 g of methane reacts with steam?

6. The following reaction occurs when an automobile battery is charged:



- Balance the equation
- How many grams of sulfuric acid are produced when 68.1 g of lead (II) sulfate react?

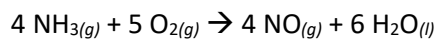
7. Liquid sulfur difluoride reacts with fluorine gas to form gaseous sulfur hexafluoride.

a. Write the balanced equation for the reaction.

b. How many fluorine molecules are required to react with 5.00mg of sulfur difluoride?

c. What volume of fluorine gas at STP is required to react completely with 6.66g of sulfur difluoride?

8. Ammonia (NH₃) reacts with oxygen (O₂) to produce nitrogen monoxide (NO) and water.



How many liters of NO are produced when 1.40 L of oxygen reacts with ammonia?