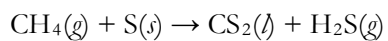


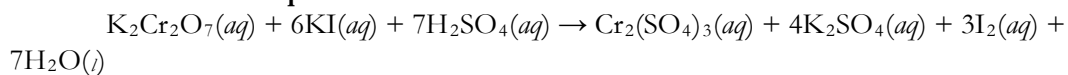
CHEM 106 Chapter 9 Stoichiometry

MOLE-MOLE

1. Balance the equation. How many moles of H_2S are expected when 2.55 moles methane react?



2. Given the balanced equation:

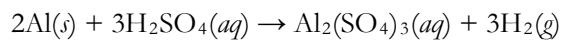


- a) Calculate the number of moles of H_2SO_4 that will react with 2.0 mol KI.

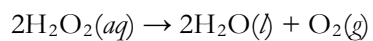
- b) Calculate the number of moles of I_2 that will be produced from 2.0 mol KI.

MOLE-GRAM

- 3.** How many grams of aluminum metal should react to produce 0.0305 moles aluminum sulfate?



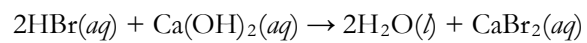
- 4.** Oxygen gas can be produced by decomposing hydrogen peroxide:



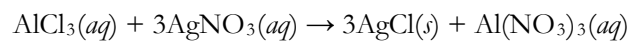
If 35.0 grams of pure hydrogen peroxide are decomposed, how many moles of oxygen are produced?

GRAM-GRAM

5. How many grams of HBr would react with 1.29 grams Ca(OH)₂ in the equation below?

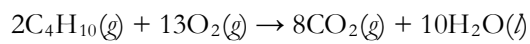


- 6.** What mass silver chloride is expected (theoretical yield) when 132.0 grams AlCl_3 react with excess silver nitrate?



LIMITING REACTANT

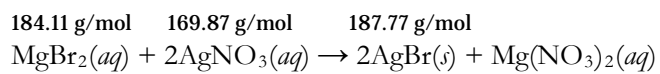
7. You combine 5.00 moles butane with 10.00 moles oxygen. The balanced equation is below.



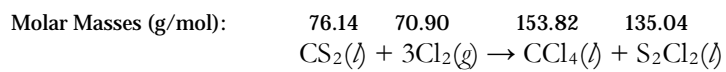
a) How many moles of water is produced?

b) What is the limiting reactant?

- 8.** How many grams silver bromide (AgBr) can be formed when solutions containing 50.0 g MgBr₂ and 100.0 g AgNO₃ are mixed? Which reactant is limiting? The molar masses are provided along with the balanced equation below.



9. Carbon tetrachloride was prepared by reacting 100.g carbon disulfide and 100.g chlorine gas. The equation and molar masses are below.



Calculate the percent yield if 65.0 g CCl_4 was obtained.

STEPS