Non Sibi High School

Andover's Chem 300: Accelerated/Honors Chemistry

Chapter 4, Review Quiz 1

1

Balance the equation $N_2O_5 \longrightarrow NO_2 + O_2$ using the smallest possible whole-number coefficients.

2

The density of CS_2 is 1.26 g/mL. Given the unbalanced equation $CS_2 + O_2 \longrightarrow CO_2 + SO_2$, how many liters of CS_2 must react to produce 4.2×10^3 g of SO_2?

3

Given the unbalanced equation $CaCO_3 + HC_2H_3O_2 \longrightarrow Ca(C_2H_3O_2)_2 + CO_2 + H_2O$, if 16.8 grams of $CaCO_3$ is mixed with 11.0 grams of $HC_2H_3O_2$:

a. Which is the limiting reagent and what maximum mass of CO_2 can form?
b. What mass of the excess reagent remains when the reaction is complete?

4

Given the unbalanced equation $Pb(NO_3)_2 + KI \longrightarrow PbI_2 + KNO_3$, if 4.1 grams of KI react with an excess of $Pb(NO_3)_2$ and then 4.9 grams of PbI_2 are actually collected, what is the percent yield of the reaction?

5

A 2.85 gram sample of a solid mixture contains MgH_2 as well as unreactive material. When added to water, only the MgH_2 in the mixture reacts to produce 0.0575 grams of H_2 according to the unbalanced equation $MgH_2 + H_2O \longrightarrow Mg(OH)_2 + H_2$. What is the percent by mass of MgH_2 in the mixture?

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