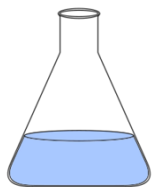


Name:

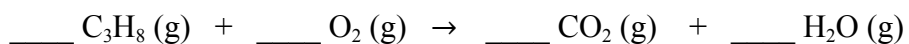
Date:



Limiting Reactants WS #1

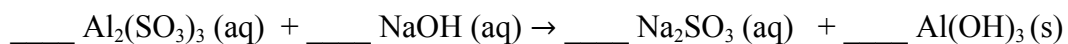
Directions: Balance the chemical reactions. Use Stoichiometry to solve the following limiting reagent problems. Show all work with units. Box the final answer.

1. Given the following reaction:



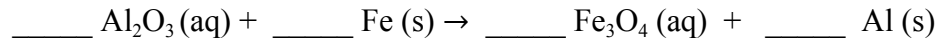
If you start with 3.95 g of C_3H_8 and 3.44 g of O_2 , determine the limiting reactant and the theoretical yield of CO_2 .

2. Given the following reaction:



If 10.0 g of $\text{Al}_2(\text{SO}_3)_3$ is reacted with 10.0 g of NaOH, determine the limiting reactant and the theoretical yield of the solid.

3. Given the following reaction:



If 25.4 g of Al_2O_3 is reacted with 10.2 g of Fe, determine the limiting reactant and the theoretical yield of Al.

4. Solid calcium carbonate, CaCO_3 , can remove sulfur dioxide from waste gases by the reaction (balanced as written):



- a. In an experiment, 255 g of CaCO_3 was exposed to 135 g of SO_2 in the presence of an excess amount of the other chemicals required for the reaction. What is the theoretical yield of CaSO_3 ?

- b. If only 198 g of CaSO_3 was isolated from the products, what was the percentage yield of CaSO_3 in this experiment?

- c. How much of the excess reagent is left?

