

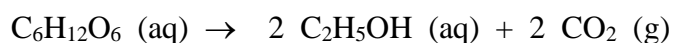
**Stoichiometry/Limiting Reactant & Percent Yield**

1. Use the equation below to answer the following questions:



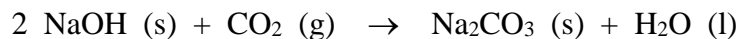
- a) How many moles of HF are needed to react with 0.300 mol of  $\text{Na}_2\text{SiO}_3$ ?
- b) How many grams of NaF form when 0.500 mol of HF reacts with excess  $\text{Na}_2\text{SiO}_3$ ?
- c) How many grams of  $\text{Na}_2\text{SiO}_3$  can react with 0.800 g of HF?

2. Use the equation below to answer the following questions:



- a) How many grams of  $\text{CO}_2$  are produced when 0.400 mol of  $\text{C}_6\text{H}_{12}\text{O}_6$  reacts in this fashion?
- b) How many grams of  $\text{C}_6\text{H}_{12}\text{O}_6$  are needed to form 7.50 g of  $\text{C}_2\text{H}_5\text{OH}$ ?

3. Use the equation below to answer the following questions:



- a) How many moles of  $\text{Na}_2\text{CO}_3$  form when 1.85 mol  $\text{NaOH}$  and 1.00 mol  $\text{CO}_2$  are allowed to react?
- b) How many moles of excess reagent remain after all reaction has been completed?

4. Use the equation below to answer the following questions:



- a) What is the theoretical yield of  $\text{C}_6\text{H}_5\text{Br}$  in this reaction when 30.0 g of  $\text{C}_6\text{H}_6$  reacts with 65.0 g of  $\text{Br}_2$ ?
- b) How many grams of excess reagent remain after all reaction has been completed.
- c) If the actual yield of  $\text{C}_6\text{H}_5\text{Br}$  was 56.7 g, what is the percent yield for this reaction?