1. What is the percent yield if 67.6 g of product was obtained for a reaction which theoretically should have produced 80.0 g?
2. What are some reasons why the percent yield might be below or above 100%?

|  |  |
| --- | --- |
| Yield < 100% | Yield > 100% |
|  |  |

1. If 1.00 mol of Ca and 1.00 mol Cl2 are reacted together and only 1.06 g of CaCl2 is produced, what is the percent yield?
2. A reaction is completed where 5.0 grams of zinc is reacted with 5.0 grams of hydrogen chloride. 7.53 grams of zinc chloride is produced along with some H2 gas. What amount of zinc chloride should have been produced, and what percentage of that amount was collected?
3. A reaction is done using 59.2 g of Cu2S and 47.8 L of O2 at STP. If 26.1 g of Cu2O is produced, calculate the percent yield.

2Cu2S + 3O2 → 2Cu2O + 2SO2

1. For the balanced equation shown below, if the reaction of 28.5 grams of O2 gives a 54.6% yield, how many grams of NO2 would be produced?

C2H5NSCl + 5O2 → 2CO2 + 2H2O + NO2 + SO2 + HCl

1. A scientist wishes to synthesize Fe2(SO4)3 using the following reaction:

3CuSO4 + 2Fe → Fe2(SO4)3 + 3Cu

How much CuSO4 should he use to make 125.0 g of Fe2(SO­4)3 if the reaction has a maximum 65.0% yield?

1. For the balanced equation shown below, if the reaction of 98.6 grams of BaO2 produces a 31.9% yield, how many grams of BaO would be produced?

2BaO2 → 2BaO + O2

1. A particular procedure for synthesizing Bi2S3 produces an 84.5% yield. If the goal is to synthesize 200.0 g, how many grams of each reactant is needed, at least?

2BiCl3 + 3H2S → Bi2S3 + 6HCl

1. Iron reacts with iron (lll) chloride to give iron (ll) chloride. How much reactants is needed to produce 50.0 g of iron (ll) chloride if the reaction gives a 72% yield?