

Percent Yield

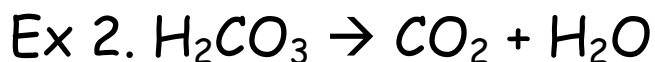
The amount of product created in a chemical reaction is often less than expected. This could be caused from:

1. Poor collection technique
2. Low chemical purity
3. Competing reactions (making CO_2 instead of CO)

Percent yield =

Ex 1. 169.3 g of ZnI_2 reacts with excess of Na_3P .

- a) What is the theoretical yield of NaI ?
- b) If 96.2 g is produced, what is the percent yield?



What mass of water will be produced if the above reaction has a 76% yield and 26.7 g of H_2CO_3 is heated.

Percent Purity: describes what proportion by mass a specific compound is present.

% purity =

Ex 3. A 13.5 g sample of MgCl_2 was left out on a humid day and has absorbed water. If the sample now has a mass of 17.6 g, what is the % purity?

Ex 4. You have 96.32 g of impure copper, and want to determine its purity. You react it with excess AgNO_3 and produce 196.5 g of $\text{Cu}(\text{NO}_3)_2$. Assume 100% yield.