Stoichiometry and Percent Yield

3C.7 practice

TEKS: 8Eiii

Use the equation below to solve the following problems.



1. When benzene, C6H6, reacts with bromine, Br2, bromobenzene, C6H4Br is obtained”



* 1. When 30.0 g of benzene reaction with 65.0 grams of bromine, what is the theoretical yield of bromobenzene?
  2. If the actual yield of bromobenzene is 42.3 g, what is the percent yield?

1. When ethane, C2H6­, reacts with chlorine, Cl2, the main product is C2H5Cl, but other products containing chlorine are also produced. The formation of other products impacts the yield of C2H5Cl.
   1. Calculate the yield of C2H5Cl when 125 g of C2H6reacts with 255 g of Cl2, assuming the only products are C2H5Cl and HCl.
   2. Calculate the percent yield of C2H5Cl if the reaction produces 206 g of C2H5Cl.
2. Carbon monoxide can be combined with hydrogen to produce methanol, CH3OH. Methanol is used as an industrial solvent, as a reactant in some synthesis reactions, and as a clean-burning fuel for some racing cars.
   1. Write a balanced equation for the reaction.
   2. If you had 152.5 g of carbon monoxide and 24.5 g of hydrogen gas, how many grams of methanol could be produced?
   3. If you produced 100.0 grams of methanol, calculate your percent yield.