

Practice Problems: % composition, Empirical and Molecular Formula WS

Part I: Find the **percentage composition** of each compound listed below.

1. NH_4Cl
2. SrCl_2
3. Potassium phosphate
4. Analysis of a compound shows that it consists of 43.40 g of copper and 10.95 g of sulfur. What is the percentage composition of this compound?
5. A sample of benzene is analyzed and found to consist of 13.74 g of carbon and 1.15 g of hydrogen. What is the percent composition of benzene?

Part II: Determine the **empirical** (simplest) formula for each compound listed below.

1. 63.5% silver, 8.2% nitrogen, 28.2% oxygen.
2. 24.7% potassium, 34.7% manganese, 40.5% oxygen
3. 56.6% potassium, 8.68% carbon, 34.7% oxygen
4. Analysis of a sample of sulfuric acid shows it to contain 0.17 g of hydrogen, 2.82 g of sulfur and 5.67 g of oxygen. What is the simplest formula for this compound?
5. Analysis of a salt results in the following composition: 3.47 g of sodium, 2.12 g of nitrogen and 7.27 g of oxygen. What is the simplest empirical formula for this salt?

Part III: Determine the **molecular** formula for each compound.

1. A compound has the following percentage composition, 26.7% carbon, 2.2% hydrogen, 71.1% oxygen. The molecular weight of this composition is 90. What is the compounds true formula?
2. The percentage composition of ethane gas is 80.0% and carbon and 20.0% hydrogen. The molecular weight for ethane is 30. What is the correct formula for this compound?