

Ch 10

Sec 10.3

HW: Sec Asses 40,43,44 Rev Con 63,64,100

obj: Calculate the percentage composition of a substance from its formula or from experimental data.

Percent Composition

- The ratio of the mass of an element to the total mass of the compound.
- 2 ways to calculate Percent Composition

1) Experimental data

* Conservation of mass

* Mass of the reactants equals the mass of the products.

* The total mass of the compound is the sum of the masses from each element.

11/11/02 8:29 AM

A compound is made up of 8.2g of Mg + 5.4g of Oxygen. Find the % Composition for each element in the compound.

Given

8.2g Mg

5.4g O

Wanted

% Mg

% O

Nov 10 - 11:27 AM

A compound contains 29g of Al and 4.3g of S. Find the % Composition for each element.

<u>Given</u>	<u>Total Mass</u>	<u>Ratios</u>
29g Al	Al - 29g	$\%Al = \frac{29g}{33.3g} \times 100$
4.3g S	S - 4.3g	$\%S = \frac{4.3g}{33.3g} \times 100$
<u>Wanted</u>	33.3g	
% Al = ?		
% S = ?		

Nov 10 - 11:32 AM

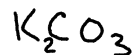
2) From the Chemical Formula
 * Mass of the compound is the formula mass of the compound.

Find the % Composition for each element in MgO.

<u>Given</u>
MgO
<u>Wanted</u>
% Comp.

Nov 10 - 11:38 AM

Find the % Composition for each element in



<u>Given</u>	<u>Total Mass</u>	<u>Ratios</u>
K_2CO_3	$\text{K} - 2 \times 39\text{g} = 78\text{g}$	$\% \text{K} = \frac{78\text{g}}{138\text{g}} \times 100$
<u>Want</u>	$\text{C} - 1 \times 12\text{g} = 12\text{g}$	$\% \text{C} = \frac{12\text{g}}{138\text{g}} \times 100$
<u>% Comp</u>	$\text{O} - 3 \times 16\text{g} = 48\text{g}$	$\% \text{O} = \frac{48\text{g}}{138\text{g}} \times 100$

Using the % Composition of K_2CO_3 how many grams of carbon will be in 193g of K_2CO_3

$$193\text{g K}_2\text{CO}_3 \cdot 8.6\% \text{C} =$$

Nov 10 - 11:44 AM