



Percent Composition

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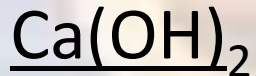
Determining Percent Composition

- **Step 1**: Determine the formula mass.
- **Step 2**: Divide the mass of each element by the mass of the compound and multiply each by 100 %.

Sample Problem

What is the percent composition of Ca(OH)_2 ?

- **Step 1:** Determine the formula mass



$$\text{Ca} = 40 \times 1 = 40$$

$$\text{O} = 16 \times 2 = 32$$

$$\text{H} = 1 \times 2 = \underline{2}$$
$$74$$

- **Step 2:** Divide the mass of each element in the compound by the mass of the compound and multiply by 100.

$$\% \text{Ca} = \frac{40}{74} \times 100 = 54\% \qquad \% \text{O} = \frac{32}{74} \times 100 = 43\%$$

$$\% \text{H} = \frac{2}{74} \times 100 = 3\%$$

Check

- The percentages should add up to about 100%.

$$\%Ca = \frac{40}{74} \times 100 = 54\%$$

$$\%O = \frac{32}{74} \times 100 = 43\%$$

$$\%H = \frac{2}{74} \times 100 = \frac{3}{100}\%$$

- The sum can vary due to rounding error.