

## Law of Definite Proportions –

Eg. H<sub>2</sub>O

## Mass Percent –

## Percentage Composition –

$$\% \text{ Element in Compound} = \frac{\text{mass of element}}{\text{mass of compound}} \times 100\%$$

eg. Tylenol C<sub>8</sub>H<sub>9</sub>NO<sub>2</sub>

63.6 % C
6.0 % H
9.3 % N
21.2 % O

**Try:** p. 260 #4,5; p. 264 #18, 20; p. 266 #23, 27

## Two Types of Problems

### 1. Percentage Composition from Mass Data

A sample of a compound that is found in gasoline has a mass of 35.8 g. The sample contains 30.1 g of carbon and 5.70 g of hydrogen. What is the percentage composition of the compound?

A sample of an unknown compound contains 84.05 g of carbon, 5.00 g of hydrogen, 42.02 g of nitrogen, and 96.08 g of oxygen. Determine the percentage composition of the compound.

## 2. Percentage Composition from a Chemical Formula

Determine the percentage composition by mass of aluminum hydroxide.

Determine the percentage composition by mass of aspirin,  $C_9H_8O_4$  .