CONCEPT: SOLUTIONS: MASS PERCENT

Mass or **weight percent** is the percentage of a given element or compound within a solution.

$$\text{Mass Percent} = \frac{\text{Mass Component}}{\text{Total Mass}} \times 100\%$$

For example, if we are given 23.0% NaOH this means:

$$23.0\%\ \text{NaOH} = \frac{23.0\ \text{grams NaOH}}{100\ \text{grams Solution}}$$

EXAMPLE: Calculate the amount of water (in kilograms) that must be added to 12.0 g of urea, $(NH_2)_2CO$, in the preparation of a 18.3 percent by mass solution. The molar mass of urea, $(NH_2)_2CO$, is 60.055 g/mol.

EXAMPLE: A solution was prepared by dissolving 51.0 g of KBr in 310 mL of water. Calculate the mass percent of KBr in the solution.