

10.3

PERCENT COMPOSITION AND CHEMICAL FORMULAS

Section Review

Objectives

- Calculate the percent by mass of an element in a compound
- Interpret an empirical formula
- Compare and contrast empirical and molecular formulas

Vocabulary

- percent composition
- empirical formula

Key Equation

- % mass of element = $\frac{\text{mass of element}}{\text{mass of compound}} \times 100\%$

Part A Completion

Use this completion exercise to check your knowledge of the terms and your understanding of the concepts introduced in this section. Each blank can be completed with a term, short phrase, or number.

The 1 of a compound is the percent by mass of each element in a compound. The percent by mass of an element in a compound is the number of grams of the element per 2 g of the compound, multiplied by 100%. To calculate the percent by mass of an element in a known compound, divide the mass of the element in one mole by the 3 and multiply by 100%.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____

A(n) 4 formula represents the lowest 5 ratio of the elements in a compound. It can be calculated from a compound's percent composition. The 6 formula of a compound is either the same as its empirical formula, or it is some whole-number multiple of it.

