1. A compound contains 40.00% carbon, 6.67% hydrogen, and 53.33% oxygen. Find the empirical formula.
2. A compound contains 40.06% calcium, 11.99% carbon, and 47.95% oxygen. Find the empirical formula.
3. An oxide of aluminum is 52.9% aluminum. What is the empirical formula for this compound?
4. A hydrocarbon is 85.7% carbon and 14.3% hydrogen. What is the empirical formula for this compound?
5. Calculate the empirical formula of a compound consisting of 36.4% sodium, 25.5% sulfur, and 38.1% oxygen.
6. A compound of nitrogen and oxygen is analysed. 2.000 g of nitrogen and 4.57 g of oxygen are found. What is its empirical formula?
7. Acetone is the chemical solvent present in nail polish remover. A 1.00 g of acetone contains 62.0% carbon, 10.4% hydrogen, and 27.5% oxygen. What is the empirical formula for the compound?
8. The tip of the head of a strike-anywhere match contains a phosphorus-sulfur compound that readily ignites when drawn over a rough surface. What is the empirical formula of this ignitable compound given that a 1.0000 g sample of the compound contains 0.5629 g of P and 0.4371 g of S?