33. A compound is formed when 9.03 g Mg combines completely with 3.48 g N. What is the percent composition of this compound?

34. When a 14.2 g sample of mercury (II) oxide is decomposed into its elements by heating, 13.2 g Hg is obtained. What is the percent composition of the compound?

35. Calculate the percent by mass of nitrogen in these fertilizers.

   a. NH_3

   b. NH_4NO_3

36. Calculate the percent composition of these compounds.

   a. ethane (C_2H_6)

   b. sodium hydrogen sulfate ($NaHSO_4$)

37. Calculate the grams of nitrogen in 125 g of each fertilizer.

   a. NH_3

   b. NH_4NO_3

38. Calculate the mass of hydrogen in each of the following compounds:

   a. 350 g ethane (C_2H_6)

   b. 20.2 g sodium hydrogen sulfate ($NaHSO_4$)