

Chemical Quantities

Review

1. Name the following compounds.

- a. MgBr_2 _____
- b. N_2O _____
- c. Al_2O_3 _____
- d. $\text{Ca}(\text{OH})_2$ _____
- e. $\text{NaC}_2\text{H}_3\text{O}_2$ _____
- f. CCl_4 _____
- g. NH_4OH _____
- h. PbSO_4 _____

2. Write the correct chemical formulas for these chemical substances.

- a. calcium chromate _____
- b. iron(III) chloride _____
- c. lithium oxide _____
- d. dinitrogen pentoxide _____
- e. magnesium nitrite _____
- f. aluminum oxide _____
- g. hydrogen carbonate _____

Mole Conversions

- How many moles of silver are in 7.24×10^{23} atoms of silver?
- What is the molar mass of each of the following compounds?
 - P_2O_5 _____
 - $(NH_4)_3PO_4$ _____
 - aluminum permanganate _____
- How many grams are there in 1.73 moles of dinitrogen pentoxide?
- Calculate the number of moles in 2.64 g of sodium chloride.
- A chemist plans to use 435.0 grams of ammonium nitrate (NH_4NO_3) in a reaction. How many moles is this?
- How many molecules are there in 34.8 g of methane (CH_4) gas?
- How many oxygen atoms are present in 7.72 moles of SO_3 ?

Percent Composition

10. A compound analyzed in a chemistry laboratory consists of 5.34 g of carbon, 0.42 g of hydrogen and 47.08 g of chlorine. What is the percent composition of this compound?
11. Find the percent composition of a compound containing tin and chlorine if 18.35 g of the compound contains 5.74 g of tin.
12. What is the percent composition of each of the following?
- a. Cr_2O_3

 - b. $\text{Ca}(\text{NO}_3)_2$
13. How many grams of iron can be recovered from 639 grams of the ore Fe_2O_3 ?