

Chemistry—ch. 9 worksheet

SECTION 9.1 NAMING IONS

1. What is the charge on the ion typically formed by each element?
a. oxygen b. sodium c. nickel, 2 electrons lost d. iodine e. aluminum
3. Name each ion. Identify each as a cation or an anion.
a. Sn^{2+} b. Br^- c. H^+ d. Co^{3+} e. K^+ f. Mn^{2+}
4. Write the formula (including charge) for each ion. Use Table 9.3 if necessary.
a. carbonate ion c. sulfate ion e. chromate ion
b. nitrate ion d. hydroxide ion f. ammonium ion

SECTION 9.2 NAMING AND WRITING FORMULAS FOR IONIC COMPOUNDS

1. Write the formulas for these binary ionic compounds.
a. magnesium oxide b. potassium iodide c. sodium sulfide
d. tin(II) fluoride e. aluminum chloride f. ferric bromide
2. Write the formulas for the compounds formed from these pairs of ions.
a. $\text{Ba}^{2+}, \text{Cl}^-$ b. $\text{Ca}^{2+}, \text{S}^{2-}$ c. $\text{Al}^{3+}, \text{O}^{2-}$
d. Ag^+, I^- e. K^+, Br^- f. $\text{Fe}^{2+}, \text{O}^{2-}$
3. Name the following binary ionic compounds.
a. MnO_2 b. CaCl_2 c. NiCl_2
d. CuCl_2 e. Li_3N f. SrBr_2
4. Write formulas for the following ionic compounds.
a. sodium phosphate b. sodium hydroxide c. ammonium chloride
5. Write formulas for compounds formed from these pairs of ions.
a. $\text{NH}_4^+, \text{SO}_4^{2-}$ b. $\text{K}^+, \text{NO}_3^-$ c. barium ion and hydroxide ion
6. Name the following compounds.
a. Na_2SO_4 b. FeCl_3 c. $\text{Cu}(\text{OH})_2$ d. K_2CO_3 e. LiNO_3
7. Name and give the charge of the metal cation in each of the following ionic compounds.
a. Na_3PO_4 b. CaS c. FeCl_3 d. NiCl_2 e. CuI

SEC 9.3 NAMING AND WRITING FORMULAS FOR MOLECULAR COMPOUNDS

1. Name the following molecular compounds.
a. PCl_5 b. CCl_4 c. NO_2
d. N_2F_2 e. P_4O_6 f. XeF_2
2. Write the formulas for the following binary molecular compounds.
a. nitrogen tribromide b. dichlorine monoxide