

9.2

NAMING AND WRITING FORMULAS FOR IONIC COMPOUNDS

Section Review

Objectives

- Apply the rules for naming and writing formulas for binary ionic compounds
- Apply the rules for naming and writing formulas for compounds with polyatomic ions

Vocabulary

- binary compound

Part A Completion

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

- Binary ionic compounds are named by writing the name of _____ **1.** _____
 the **1** followed by the name of the **2**. Names of _____ **2.** _____
 binary compounds end in **3**. For example, NaI is **4**. _____ **3.** _____
 When a cation has more than one ionic charge, a **5** _____ **4.** _____
 is used in the name. _____ **5.** _____
 Compounds with polyatomic ions whose names end in *-ite* _____ **6.** _____
 or *-ate* contain a polyatomic **6** that includes **7**. _____ **7.** _____
 In writing the formula of an ionic compound, the net ionic charge _____ **8.** _____
 must be **8**.

Part B True-False

Classify each of these statements as always true, AT; sometimes true, ST; or never true, NT.

- _____ **9.** The systematic name for baking soda (NaHCO_3) is sodium bicarbonate.
- _____ **10.** In writing a formula for an ionic compound, the net ionic charge of the formula must be zero.

- _____ 11. Anions that contain oxygen end in *-ite* or *-ate*.
- _____ 12. The cation name is placed first when naming ionic compounds.

Part C Matching

Match each description in Column B to the correct term in Column A.

Column A

- _____ 13. binary compounds
- _____ 14. monatomic ions
- _____ 15. polyatomic ions
- _____ 16. transition metals

Column B

- a. ions that consist of a single atom
- b. ionic compounds composed of two elements
- c. Group B metals, many of which have more than one common ionic charge
- d. ions that consist of more than one atom

Part D Questions and Problems

Answer the following in the space provided.

17. Name the following compounds and tell what type of compound they are (binary ionic or ionic with a polyatomic ion).

a. FeBr_3 _____

b. KOH _____

c. $\text{Na}_2\text{Cr}_2\text{O}_7$ _____

18. Write the formulas for the following compounds.

a. sodium chlorate _____

b. lead(II) phosphate _____

c. magnesium hydrogen carbonate _____