

Rules for Naming Binary Covalent Compounds**Rules**

- The element with less electronegativity is written first in the name.

**Exception:** when the compound contains oxygen and a halogen, the name of the halogen is the first word in the name.

- The second element in the name is named as if it were an anion, i.e., by adding the suffix *-ide* to the name of the element.

- Greek prefixes (see the Table provided at the bottom of this page) are used to indicate the number of atoms of each nonmetal element in the chemical formula for the compound.

**Exception:** if the compound contains one atom of the element that is written first in the name, the prefix "mono-" is not used. **For example:**  $\text{CO}_2$  = carbon dioxide (NOT monocarbon)

**Note:** when the addition of the Greek prefix places two vowels adjacent to one another, the "a" (or the "o") at the end of the Greek prefix is usually dropped to avoid "ao" or "oo" combinations, but not "io".

**For example:** "nonaoxide" would be written as "nonoxide", and "monooxide" would be written as "monoxide". The "i" at the end of the prefixes "di-" and "tri-" are never dropped. **For**

**example:**  $\text{SO}_2$  = sulfur dioxide (NOT sulfur doxide)

Number of Atoms	Prefix
1	mono-
2	di-
3	tri-
4	tetra-
5	penta-
6	hexa-
7	hepta-
8	octa-
9	nona-
10	deca-

Naming Covalent Compounds

Write the formulas for the following covalent compounds:

1) antimony tribromide \_\_\_\_\_

7) phosphorus triiodide \_\_\_\_\_

2) hexaboron silicide \_\_\_\_\_

8) tetraphosphorus trisulfide \_\_\_\_\_

3) chlorine dioxide \_\_\_\_\_

9) carbon dioxide \_\_\_\_\_

4) hydrogen iodide \_\_\_\_\_

10) sulfur dichloride \_\_\_\_\_

5) iodine pentafluoride \_\_\_\_\_

11) nitrogen trifluoride \_\_\_\_\_

6) dinitrogen trioxide \_\_\_\_\_

12) dioxygen difluoride \_\_\_\_\_

Write the names for the following covalent compounds:

13)  $\text{P}_4\text{S}_5$  \_\_\_\_\_

16)  $\text{Si}_2\text{Br}_6$  \_\_\_\_\_

14)  $\text{SCl}_4$  \_\_\_\_\_

17)  $\text{SBr}_4$  \_\_\_\_\_

15)  $\text{SeF}_6$  \_\_\_\_\_

18) SiO<sub>2</sub> \_\_\_\_\_

19) B<sub>2</sub>Si \_\_\_\_\_

20) NF<sub>3</sub> \_\_\_\_\_

21) N<sub>2</sub>F<sub>4</sub> \_\_\_\_\_

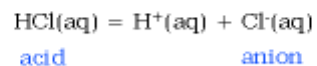
22) P<sub>4</sub>O<sub>10</sub> \_\_\_\_\_

23) TeF<sub>4</sub> \_\_\_\_\_

24) ClF<sub>3</sub> \_\_\_\_\_

Honors PS Chemistry **NAME THE ACID** (page 250-251)

## Naming Acids



♦ Acid names derived from anion names

Anion Ending:	Acid Prefix	Acid Ending
-ate		-ic acid
-ite		-ous acid
-ide	hydro-	-ic acid

Formula	Anion	Anion name	Acid Name
HF	F <sup>-</sup> is		
HBr	Br <sup>-</sup> is		
HI	I <sup>-</sup> is		
H <sub>2</sub> S	S <sup>2-</sup> is		
HNO <sub>3</sub>	NO <sub>3</sub> <sup>-</sup> is		
HC <sub>2</sub> H <sub>3</sub> O <sub>2</sub>	C <sub>2</sub> H <sub>3</sub> O <sub>2</sub> <sup>-</sup> is		
H <sub>2</sub> SO <sub>4</sub>	SO <sub>4</sub> <sup>2-</sup> is		
H <sub>2</sub> CO <sub>3</sub>	CO <sub>3</sub> <sup>2-</sup> is		
H <sub>3</sub> PO <sub>4</sub>	PO <sub>4</sub> <sup>3-</sup> is		
HClO	ClO <sup>-</sup> is		
HClO <sub>2</sub>	ClO <sub>2</sub> <sup>-</sup> is		
HClO <sub>3</sub>	ClO <sub>3</sub> <sup>-</sup> is		
HClO <sub>4</sub>	ClO <sub>4</sub> <sup>-</sup> is		
HIO <sub>3</sub>	IO <sub>3</sub> <sup>-</sup> is		
HNO <sub>2</sub>	NO <sub>2</sub> <sup>-</sup> is		
H <sub>2</sub> SO <sub>3</sub>	SO <sub>3</sub> <sup>2-</sup> is		