

COVALENT BINARY COMPOUNDS

Naming: Use prefixes, mono-, di-, tri-, etc., to indicate how many of each atom is in one molecule, and change the name of the second element to an "-ide" ending. Drop the "a" at the end of a prefix if the second element is oxygen. If the first element has only one atom, omit the "mono-" prefix. Hydrogen compounds have no prefixes.

e.g. CCl_4 N_2O_4

~~HBF_4~~

Writing Formulas:

Do not use valences to do the crossover method.

The prefix value for each element becomes the subscript after the symbol for that element.

Do not reduce the subscripts to lowest terms.

You will have to memorize the common names and formulas for

CH_4 methane O_3 ozone NH_3 ammonia

e.g. tetraphosphorus decoxide sulfur hexachloride

HOMEWORK
Text p. 105 # 24

Understanding Concepts

22. Write the chemical formula for each of the following molecules:

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|---|------------------------------|
| (a) nitrogen | (n) sulfur tetrafluoride |
| (b) carbon dioxide | (o) phosphorus pentachloride |
| (c) carbon monoxide | (p) disulfur dichloride |
| (d) nitrogen dioxide | (q) carbon tetrachloride |
| (e) nitrogen monoxide | (r) sulfur trioxide |
| (f) dinitrogen oxide <i>monoxide</i> | (s) sulfur hexafluoride |
| (g) dinitrogen tetroxide | (t) chlorine dioxide |
| (h) sulfur dioxide | (u) dinitrogen pentoxide |
| (i) diiodine pentoxide | (v) phosphorus trichloride |
| (j) silicon tetrafluoride | (w) silicon tetrachloride |
| (k) boron trifluoride | (x) carbon disulfide |
| (l) phosphorus triiodide | (y) phosphorus pentabromide |
| (m) diphosphorus pentoxide | (z) carbon tetrafluoride |

23. Name the compound indicated by each of the following formulas:

- | | |
|---------------------------------|--|
| (a) $\text{SF}_{6(g)}$ | (f) $\text{IF}_{7(g)}$ |
| (b) $\text{N}_2\text{O}_{3(g)}$ | (g) $\text{BF}_{3(g)}$ |
| (c) $\text{NO}_{2(g)}$ | (h) $\text{P}_2\text{S}_{5(s)}$ |
| (d) PCl_3 | (i) P_2O_5 |
| (e) PCl_5 | |