

Naming Covalent Compounds

Covalent compounds are much easier to name than ionic compounds. Here's how you do it:

All covalent compounds have two word names. The first word typically corresponds to the first element in the formula and the second corresponds to the second element in the formula except that "-ide" is substituted for the end. As a result, HF is named "hydrogen fluoride", because hydrogen is the first element and fluorine is the second element.

If there is more than one atom of an element in a molecule, we need to add prefixes to these words to tell us how many are present. Here are the prefixes you'll need to remember:

Number of atoms	Prefix
1	mono- (use only for oxygen)
2	di-
3	tri-
4	tetra-
5	penta-
6	hexa-
7	hepta-
8	octa-

Let's see how this works: Examples:

P_2O_5 - this is named diphosphorus pentoxide, because there are two phosphorus atoms and five oxygen atoms.

CO - this is carbon monoxide (you need the "mono-" because there's only one oxygen atom).

CF_4 - this is carbon tetrafluoride, because there's one carbon atom and four fluorine atoms.

Some important exceptions to this naming scheme occur because the compounds were originally named before the methodical naming scheme above became widespread.

Nowadays, these names are so common that they're officially recognized:

- H_2O is "water"
- NH_3 is "ammonia"
- CH_4 is "methane"

There are lots of other names for covalent compounds that are commonly used, particularly for organic molecules and acids.

Name: _____, _____ Band: _____

Worksheet # 8

Write the formulas for the following covalent compounds:

1) antimony tribromide _____

2) hexaboron silicide _____

3) chlorine dioxide _____

4) hydrogen iodide _____

5) iodine pentafluoride _____

6) dinitrogen trioxide _____

7) ammonia _____

8) phosphorus triiodide _____

Write the names for the following covalent compounds:

9) P_4O_5 _____

10) O_2 _____

11) SeF_6 _____

12) Si_2Br_6 _____

13) SCl_4 _____

14) CH_4 _____

15) B_2C _____

16) NF_3 _____

17) H_2O _____