

Rules for Naming Binary Covalent Compounds

A binary covalent compound is composed of two different nonmetal elements. For example, a molecule of chlorine trifluoride, ClF_3 contains 1 atom of chlorine and 3 atoms of fluorine.

Rule 1. The element with the lower group number is written first in the name; the element with the higher group number is written second in the name.

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

Rule 2. If both elements are in the same group, the element with the higher period number is written first in the name.

Rule 3. 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.

Rule 4. 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.

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; e.g., "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.

	number indicated
--	------------------

	1
<i>mono-</i>	
	2
<i>di-</i>	
	3
<i>tri-</i>	
	4
<i>tetra-</i>	
	5
<i>penta-</i>	
	6
<i>hexa-</i>	
	7
<i>hepta-</i>	
	8
<i>octa-</i>	
	9
<i>nona-</i>	
	10
<i>deca-</i>	