

# Nomenclature Rules

## I. Binary Compounds: Metal-Nonmetal

- Name the first element in the compound, the metal, by its actual name. If it is a transition metal, then you must also include its oxidation number by putting it in () after the name.
- The second element is then named by using the base of the nonmetal's name and adding -ide as a suffix  
Ex. FeP is named Iron (III) Phosphide

Here are some hints to help you. **In Binary compounds:**

- The IA metals (H - Fr) are always +1
- The IIA metals (Be - Ra) are always +2
- Aluminum is always +3
- The halogens (F - At) are always -1
- The Oxygen family (chalcogenides) (O - Te) are always -2
- The Nitrogen Family (pnictogens) (N - As) are always -3

## II. Binary Compounds: Nonmetal-Nonmetal

- Put the most electronegative element (the one closest to Fluorine) last when writing compounds. Then name the first element, then the second, again ending it with -ide. The big difference is the use of prefixes instead of Roman numerals.
- The prefixes: mono-1, di-2, tri-3, tetra-4, penta-5, hexa-6, hepta-7, octa-8, nona-9, and deca-10 are used to tell how many of each nonmetal ion are present in the compound. If there is only one of the first element, the prefix is omitted.  
Ex. P<sub>2</sub>O<sub>5</sub> is named diphosphorous pentoxide      CO is carbon monoxide

## III. Compounds with polyatomic anions: Metal-Polyatomic anion

- Name the metal cation the same as in a Type I binary compound.
- Name the polyatomic anion as usual

*With thanks to Mr. John Fischer and Brady Forsberg*