## Molecular Compounds: Formulas and Names

Contains only nonmetals
Covalent bonds

- Name of first element (smaller group #) + prefix + base name of second element + ide
- Prefix when two or more elements

**Prefixes for naming molecular compounds**

| | | | |
|---|---|---|---|
| mono | = 1 | hexa | = 6 |
| di | = 2 | hepta | = 7 |
| tri | = 3 | octa | = 8 |
| tetra | = 4 | nona | = 9 |
| penta | = 5 | deca | = 10 |

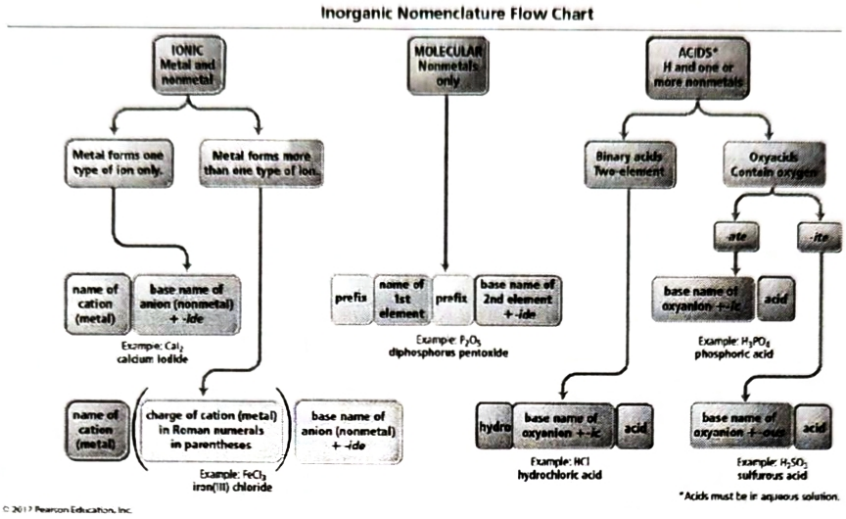
# Naming Acids

Molecular compounds that release $H^+$ when dissolved in water

Acidic $H^+$ always written first in the formula

Hydro + base name of nonmetal + ic + acid ← binary acids

Oxyanions
- -ate: Base name of oxyanion + ic + acid
- -ite: Base name of oxyanion + ous + acid




# Examples

| Name | Formula | | Formula | Name |
|---|---|---|---|---|
| Dinitrogen tetroxide | $N_2O_4$ | | $AlCl_3$ | Aluminum chloride |
| Calcium sulfate | $CaSO_4$ | | $Mg(OH)_2$ | Magnesium hydroxide |
| Zinc phosphate | $Zn_3(PO_4)_2$ | | $N_2O$ | Dinitrogen monoxide |
| Perchloric acid | $HClO_4$ | | $Cr(NO_2)_3$ | Chromium (III) nitrite |
| Copper(II) chloride | $CuCl_2$ | | $HNO_2$ | Nitrous acid |