

# Rule:

Name of cation + name of anion (word ion dropped)

# **Examples:**

NaCl sodium chloride MgCl<sub>2</sub> magnesium chloride  $Fe_3N_2$ iron(II) nitride  $(NH_4)_2S$ ammonium sulfide Na<sub>2</sub>CO<sub>3</sub> sodium carbonate NaClO<sub>4</sub> sodium perchlorate NaH sodium hydride CaH<sub>2</sub> calcium hydride

### **Comment:**

The name does not indicate the numbers of cations and anions because there is only one possibility for the ions to combine to form a compound.

### **Covalent Comment:**

Tetraoxide becomes tetroxide. monooxide becomes monoxide, etc. b) The (ag) in the formulas of the so that the name sounds better. H-containing compounds do not follow a rule concerning the order they are acids. in which the elements are written and should be memorized (H<sub>2</sub>O, NH<sub>3</sub>, etc.).

#### Rule 1:

(without the presence of H<sub>2</sub>O) hydrogen ide

## **Examples:**

HCl hydrogen chloride HBr hydrogen bromide HF H<sub>2</sub>S hydrogen sulfide

### Rule 2:

(when dissolved in H<sub>2</sub>O) hydro ic acid

# **Examples:**

HCl(ag) hydrochloric acid hydrofluoric acid HF(aq) hydrosulfuric acid H<sub>2</sub>S(aq)

### **Comment:**

- a) These H-containing compounds are named as if they were ionic compounds.
- acids is often omitted when it is obvious from the context that

hydrogen

hydrogen fluoride

### Rule 2:

of H<sub>2</sub>O)

(when dissolved in H<sub>2</sub>O) hypo \_\_\_ous acid

(without the presence

like ionic compounds:

hydrogen hypo \_\_\_ite

hydrogen per \_\_\_ate

ite

\_\_\_ate

cation + anion

hydrogen

ous acid ic acid per ic acid

# **Examples:**

HClO hypochlorous acid HClO<sub>2</sub> chlorous acid HClO<sub>3</sub> chloric acid HClO<sub>4</sub> perchloric acid HNO<sub>2</sub> nitrous acid HNO<sub>3</sub> nitric acid H<sub>2</sub>SO<sub>3</sub> sulfurous acid H<sub>2</sub>SO<sub>4</sub> sulfuric acid

### Rule:

a) Less electronegative element first.

exception: when one of the elements is hydrogen.

- b) Number of atoms of each kind specified by Greek prefixes.
- c) The prefix mono- at beginning is dropped.

## Prefixes:

1 = mono6 = hexa2 = di7 = hepta3 = tri8 = octa4 = tetra9 = nona|5| = penta10 = deca

## **Examples:**

N<sub>2</sub>O<sub>4</sub> dinitrogen tetroxide carbon monoxide CO<sub>2</sub> carbon dioxide PCl<sub>3</sub> phosphorous trichloride dinitrogen monoxide

See covalent comment in the far left corner of the page.