

CHEMICAL FORMULA ⇔ NAMING

I. COMPOUND FORMULA TO NAME

NOTE: Binary Compounds always end in -ide.

1. Is the formula

BINARY (2 elements) or **NOT BINARY?**

2. Is the 1st element a **NONMETAL** or **METAL?**

Use Greek prefixes to indicate the # of each element.
Ex. P₂O₅ diphosphorous pentoxide
SO₃ sulfur trioxide

Polyatomic Ions (Memorize!)

Ex. CaCO₃ Calcium Carbonate
Cu(NO₃)₂ Copper (II) Nitrate

3. Is the Metal's charge **KNOWN** or **UNKNOWN?**

Group 1 +1, Group 2 +2
Al Group +3, Zn +2, Ag +1 (Memorize!)
Ex. MgS magnesium sulfide

Indicate the charge of the metal with a Roman Numeral.
Ex. Fe₃N₂ iron(II) nitride
FeN iron(III) nitride

II. NAME TO COMPOUND FORMULA

NOTE: Compound charges have to add up to zero.

1. If the compound name starts with ammonium, start with NH₄⁺

2. Does the compound name end in

-ate or -ite OR **-ide?**

Polyatomic Ion
Ex. aluminum sulfate
Al₂(SO₄)₃
Iron(II) nitrite
Fe(NO₂)₂

3. Is it hydroxide, cyanide, or peroxide?

YES

Polyatomic Ion
Ex. Calcium hydroxide
Ca(OH)₂

Nonmetal (Greek Prefixes)
Ex. triphosphorous decaoxide
P₃O₁₀

NO

Binary

Metal
sodium nitride
Na₃N

III. ACIDS

NOTE: All acids have H at the beginning of the compound.

1. Is the compound **BINARY** or **NOT**?

Name will start with hydro-,
drop the ending and add -ic.
Note: HCN is named this way.

Ex. H₂S hydrosulfuric acid
HCN hydrocyanic acid

Polyatomic Ion!

2. Does the name end in **-ate** or **-ite**?

Ending in -ate

Drop the -ate and add -ic
Ex. H₂SO₄
sulfuric acid

Ending in -ite

Drop the -ite and add -ous
Ex. H₂SO₃
sulfurous acid