

Naming Rules

What is the first element of the compound?

Hydrogen

Acid

How many different elements are present?

2

Binary Acid

1. Prefix = hydro
2. Add root of second element
3. Suffix = "ic"
4. 2nd word = "acid"

Example:

HCl
Hydro-chloric acid

3

Oxy Acid

1. identify the polyatomic ion
2. drop ending of polyatomic ion & replace with -ite → "ous"
-ate → "ic"
3. 2nd word "acid"

Example:

HC₂H₃O₂
Acetic acid

Metal or NH₄

Ionic Compound

Is a polyatomic ion present?

No

Binary Ionic

1. name the cation (+) by using full element name
*If transition metal, follow by Roman Numeral to show charge
2. name anion (-); drop the end and replace with "-ide"

Example:

MgO
Magnesium oxide

Yes

Ternary Ionic

1. name the cation (+) by using full element name
2. name anion (-) by using the full polyatomic name

Example:

Ca₃(PO₄)₂
Calcium phosphate

Nonmetal or Metalloid

Covalent Compound

Is the compound a hydrocarbon?

No

Covalent Compound

1. name 1st element with its full name, **use a prefix if there is more than one**
2. name the 2nd element with the root of the name with "-ide" ending, **always using a prefix**

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

Example:

P₂O₅
Diphospho-rous pentoxide

Yes
Hydro-carbon

1. count number of carbons in the chain
2. use the prefix for number of carbons followed by "-ane" -single
"-ene" -double
"-yne" -triple

- 1 = meth
2 = eth
3 = prop
4 = but
5 = pent
6 = hex
7 = hept
8 = oct
9 = non
10 = dec

Example:

C₂H₆ Ethane: 2n+2
C₂H₄ Ethene: 2n
C₂H₂ Ethyne: 2n-2

No prefixes