

# What type of compound is it?

## Ionic Compound

Composed of cations (metals or polyatomic ions) and anions (nonmetals and polyatomic ions)

### Type I

1. Name the cation first using its full name
2. Name the anion second keeping only the root and adding a -ide ending

### Type II

1. Name the cation first using its full name
2. write the charge of the cation in parentheses and write the charge in Roman numerals example: Iron (III)
3. Name the anion second keeping only the root and adding a -ide ending

### Type III

1. Name the first element using its full name
2. Name the second element keeping only the root and adding a -ide ending
3. Add prefixes to the name to represent the number of each element you have

## Covalent Compound

Nonionic - not composed of cations and anions. Typically only nonmetals are present

## Polyatomic ions

The compound contains a polyatomic ion

1. Keep the full name of the polyatomic ion.
2. Follow the same rules as before with the positively charged cation listed first then the negatively charged anion listed second

## Acid

Produces  $H^+$  in water. Typically the Hydrogen cation is written first in the formula

Anion doesn't contain Oxygen

Hydro + *halogen name* + ic Acid

**Example:** HCl  
Halogen - Chlorine  
**Name:** Hydrochloric Acid

Anion does contain Oxygen

These are polyatomic ions. The acid name is formed from the root name of the central element of the anion

### Polyatomic ion ends in -ate

When the anion name ends in -ate, the suffix -ic is used.

1. Identify the central atom
2. Add the -ic ending to the central atom
3. Add acid to the end

**Example:**  
 $H_2SO_4$   
Central Atom = Sulfur  
Sulfuric Acid

### Polyatomic ion ends in -ite

When the anion name ends in -ite, the suffix -ous is used.

1. Identify the central atom
2. Add the -ous ending to the central atom
3. Add acid to the end

**Example:**  
 $H_2SO_3$   
Central Atom = Sulfur  
Sulfurous Acid