

Naming Compounds, Part II: Acids

I. Binary acids: Hydrogen + nonmetal

First, the prefix Hydro- is used. Then, the element after the hydrogen is named with the suffix -ic added to the end of that element's name, followed by the word acid. Notice that you do not have to indicate the number of hydrogen atoms when naming the acid.

Examples: HCl is Hydro-chlor-ic acid
H₃P is Hydro-Phosphor-ic acid

II. Polyatomic acids: Hydrogen + polyatomic anion

Do **NOT** name the hydrogen! The polyatomic anion is named as usual, but there are two changes to make:

- Change -ite to -ous
- Change -ate to -ic

Examples: H₂SO₄ is sulfur-ic acid (sulfate becomes sulfuric) and H₂SO₃ is sulfur-ous acid (sulite becomes sulfurous).

There are special rule for polyatomic anions of the halogens—you need to **MEMORIZE** these!

- ClO¹⁻ is hypochlorite
- ClO₂¹⁻ is chlorite
- ClO₃¹⁻ is chlorate
- ClO₄¹⁻ is perchlorate

You can replace Cl with any halogen, and they are named the same way!

Examples: HClO₂ is chlorous acid and HIO₄ is periodic acid