

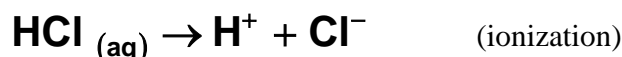
Name: \_\_\_\_\_ Date: \_\_\_\_\_  
IPC

Class Notes



# Naming Common Acids

Acids have more than one possible definition. Some define an acid according to what it does, and others define an acid by its composition. For now, all you need to remember is that an **acid is a compound that releases hydrogen cations ( $H^+$ ) when dissolved in water (aqueous).**



Common acids are formed from the **aqueous** (aq) solutions of binary compounds and fall into two basic categories of acids: binary acids and oxyacids (ternary).

## Binary Acids

Binary Acids are the aqueous (aq) solutions of binary compounds. Binary acids are named using the "**hydro-**" prefix, the **root of the other element**, the suffix "**-ic**" and the word acid.

**Example:** hydrogen chloride  $\rightarrow$  hydrochloric acid  $HCl_{(aq)}$

**PRACTICE:** Name the following compounds as binary acids.

\_\_\_\_\_ **HCl**

\_\_\_\_\_ **H<sub>2</sub>S**

\_\_\_\_\_ **HI**

\_\_\_\_\_ **HF**

\_\_\_\_\_ **HBr**

\_\_\_\_\_ **H<sub>2</sub>Se**

\_\_\_\_\_ **H<sub>2</sub>Te**

**WRITE** the formula for the following acids.

\_\_\_\_\_ hydrochloric acid

\_\_\_\_\_ hydrosulfuric acid

\_\_\_\_\_ hydrobromic acid

\_\_\_\_\_ hydrofluoric acid

## Oxyacids

Sometimes called ternary acids, **oxyacids** are the aqueous solutions of compounds containing hydrogen, oxygen and a third element. These compounds usually produce a polyatomic ion when in aqueous solution, and the names for these acids formed are based on the polyatomic ions produced.

If the polyatomic ion ends in "**-ate**" use the root of the third element and **add "-ic"**

If the polyatomic ion ends in "**-ite**" use the root of the third element and **add "-ous"**

**Examples:** hydrogen phosphate      phosphoric acid      ( $\text{H}_3\text{PO}_4$ )  
 hydrogen sulfite      sulfurous acid      ( $\text{H}_2\text{SO}_3$ )

**PRACTICE:** Name the following compounds as binary acids.

\_\_\_\_\_  $\text{HNO}_3$   
 \_\_\_\_\_  $\text{HC}_2\text{H}_3\text{O}_2$   
 \_\_\_\_\_  $\text{H}_2\text{SO}_4$   
 \_\_\_\_\_  $\text{H}_3\text{PO}_3$   
 \_\_\_\_\_  $\text{H}_2\text{C}_2\text{O}_4$   
 \_\_\_\_\_  $\text{HCN}$   
 \_\_\_\_\_  $\text{HSCN}$

**WRITE** the formula for the following acids.

\_\_\_\_\_ nitric acid  
 \_\_\_\_\_ hydrochloric acid  
 \_\_\_\_\_ phosphorous acid  
 \_\_\_\_\_ hydrofluoric acid  
 \_\_\_\_\_ chromic acid  
 \_\_\_\_\_ sulfuric acid

***"Life is not a dress rehearsal every day is opening night."  
 --Peter Daniels***