

Name: _____ Date: _____
IPC

Class Notes

Naming Common Acids



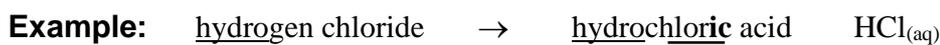
Acids have more than one possible definition. Some define an acid according to what it does, and others define an acid by its composition. For now, all you need to remember is that an **acid is a compound that releases hydrogen cations (H⁺) when dissolved in water (aqueous).**



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.



PRACTICE: Name the following compounds as binary acids.

hydrochloric acid	HCl
hydrosulfuric acid	H ₂ S
hydroiodic acid	HI
hydrofluoric acid	HF
hydrobromic acid	HBr
hydroselenic acid	H ₂ Se
hydrotelluric acid	H ₂ Te

WRITE the formula for the following acids.

HCl	hydrochloric acid	H ₂ S	hydrosulfuric acid
HBr	hydrobromic acid	HF	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 (H_3PO_4)
hydrogen sulfite sulfurous acid (H_2SO_3)

PRACTICE: Name the following compounds as binary acids.

nitric acid	HNO_3
acetic acid	$\text{HC}_2\text{H}_3\text{O}_2$
sulfuric acid	H_2SO_4
phosphorous acid	H_3PO_3
oxalic acid	$\text{H}_2\text{C}_2\text{O}_4$
hydrocyanic acid	HCN
thiocyanic acid	HSCN

WRITE the formula for the following acids.

HNO_3	nitric acid
HCl	hydrochloric acid
H_3PO_3	phosphorous acid
HF	hydrofluoric acid
H_2CrO_4	chromic acid
H_2SO_4	sulfuric acid

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