

Memorizing Polyatomic Ions and more...

Name _____ Per _____

By learning the four shaded ions below, **and** knowing that one less oxygen (same charge) turns the name to *-ite*, **and** two less oxygens (if possible) turns the name to *hypo-xxx-ite* **and** one more oxygen (if possible) turns the name to *hypo-xxx-ite* will make learning all eighteen ions in the chart below as easy as learning just four.

hypo- (2 less O)	-ite (1 less O)	-ate	per- (1 more O)
	nitrite NO ₂ ⁻	nitrate NO ₃ ⁻	
	sulfite SO ₃ ²⁻	sulfate SO ₄ ²⁻	
	phosphite PO ₃ ³⁻	phosphate PO ₄ ³⁻	
hypochlorite ClO ⁻	chlorite ClO ₂ ⁻	chlorate ClO ₃ ⁻	perchlorate ClO ₄ ⁻
hypobromite BrO ⁻	bromite BrO ₂ ⁻	bromate BrO ₃ ⁻	perbromate BrO ₄ ⁻
hypoiodite IO ⁻	iodite IO ₂ ⁻	iodate IO ₃ ⁻	periodate IO ₄ ⁻

Odd Companions or No Companion	
hydroxide OH ⁻	
cyanide CN ⁻	
acetate C ₂ H ₃ O ₂ ⁻	
carbonate CO ₃ ²⁻	bicarbonate HCO ₃ ⁻
permanganate MnO ₄ ⁻ <i>purple</i>	

and don't forget

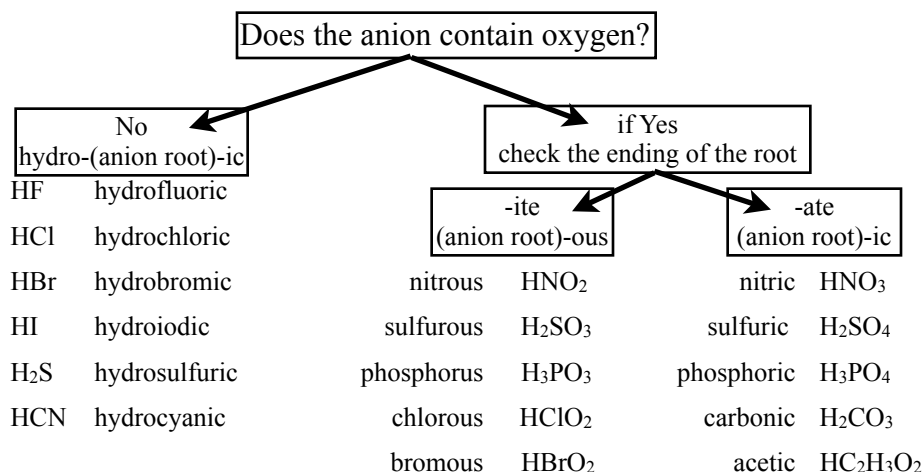
ammonium NH₄⁺

Solubility Rules worth memorizing

ALWAYS SOUBLE IF IN A COMPOUND	EXCEPT WITH
Alkali ions, NH ₄ ⁺ ,	No Exceptions
NO ₃ ⁻ , C ₂ H ₃ O ₂ ⁻ , ClO ₄ ⁻ , ClO ₃ ⁻	No Exceptions
Cl ⁻ , Br ⁻ , I ⁻	Pb ²⁺ , Ag ⁺
SO ₄ ²⁻	Pb ²⁺ , Ag ⁺ , Hg ₂ ²⁺ Ca ²⁺ , Sr ²⁺ , Ba ²⁺

Demystifying the Naming of Acids

(refer to page 61 – 62 in text)



Memorize the Seven Strong Acids

(all other acids are weak)

HCl	hydrochloric acid
HBr	hydrobromic acid
HI	hydroiodic acid
HNO ₃	nitric acid
H ₂ SO ₄	sulfuric acid
HClO ₃	chloric acid
HClO ₄	perchloric acid