

Oxyanions				
borate, $\text{BO}_3^{3-}$	carbonate, $\text{CO}_3^{2-}$	nitrate, $\text{NO}_3^-$		
	silicate, $\text{SiO}_3^{2-}$	phosphate, $\text{PO}_4^{3-}$	sulfate, $\text{SO}_4^{2-}$	chlorate, $\text{ClO}_3^-$
		arsenate, $\text{AsO}_4^{3-}$	selenate, $\text{SeO}_4^{2-}$	bromate, $\text{BrO}_3^-$
			tellurate, $\text{TeO}_4^{2-}$	iodate, $\text{IO}_3^-$

Naming Rules (keep charges the same as -ate):		Examples
per-	one more oxygen (than -ate)	perchlorate, $\text{ClO}_4^-$
-ite	one less oxygen (than -ate)	chlorite, $\text{ClO}_2^-$
hypo-	one less oxygen (than -ite)	hypochlorite, $\text{ClO}^-$
thio-	replace one oxygen with one sulfur	thiosulfate, $\text{S}_2\text{O}_3^{2-}$

Naming Rules (the charges change):		Examples
0 $\text{H}^+$	Normal anion name	phosphate, $\text{PO}_4^{3-}$
1 $\text{H}^+$	Add hydrogen as prefix (charge reduced by 1)	hydrogenphosphate, $\text{HPO}_4^{2-}$
2 $\text{H}^+$	Add dihydrogen as prefix (charge reduced by 1)	dihydrogenphosphate, $\text{H}_2\text{PO}_4^-$

Other Common Polyatomic Ions					
Formula	Name	Formula	Name	Formula	Name
$\text{H}_3\text{O}^+$	hydronium	$\text{NH}_4^+$	ammonium	$\text{Hg}_2^{2+}$	mercury(I)
$\text{OH}^-$	hydroxide	$\text{CN}^-$	cyanide	$\text{O}_2^{2-}$	peroxide
$\text{MnO}_4^-$	permanganate	$\text{CrO}_4^{2-}$	chromate	$\text{Cr}_2\text{O}_7^{2-}$	dichromate
$\text{C}_2\text{O}_4^{2-}$	oxalate	$\text{C}_2\text{H}_3\text{O}_2^-$ or $\text{CH}_3\text{COO}^-$		acetate	

## Solubility Table

Group or Ion	Generally soluble, with the stated exceptions.
Group 1 ( $\text{Li}^+$ , $\text{Na}^+$ , $\text{K}^+$ , etc.), $\text{NH}_4^+$	$\text{Li}^+$ is slightly soluble with $\text{CO}_3^{2-}$ , $\text{PO}_4^{3-}$ , and $\text{F}^-$ .
$\text{ClO}_4^-$ , $\text{ClO}_3^-$ , $\text{NO}_3^-$ , $\text{C}_2\text{H}_3\text{O}_2^- / \text{CH}_3\text{COO}^-$	None.
$\text{Cl}^-$ , $\text{Br}^-$ , $\text{I}^-$	<b>Except</b> for those containing $\text{Ag}^+$ , $\text{Hg}_2^{2+}$ , and $\text{Pb}^{2+}$ .
$\text{F}^-$	<b>Except</b> for those containing $\text{Mg}^{2+}$ , $\text{Ca}^{2+}$ , $\text{Sr}^{2+}$ , $\text{Ba}^{2+}$ , and $\text{Pb}^{2+}$ .
$\text{SO}_3^{2-}$ , $\text{SO}_4^{2-}$	<b>Except</b> for those containing $\text{Ca}^{2+}$ , $\text{Sr}^{2+}$ , $\text{Ba}^{2+}$ , $\text{Ag}^+$ , and $\text{Pb}^{2+}$ .
	Generally insoluble, with the stated exceptions.
$\text{CO}_3^{2-}$ , $\text{PO}_4^{3-}$	<b>Except</b> those of Group 1 and $\text{NH}_4^+$ .
$\text{CrO}_4^{2-}$ , $\text{C}_2\text{O}_4^{2-}$	<b>Except</b> those of Group 1 and $\text{NH}_4^+$ .
$\text{O}^{2-}$ , $\text{S}^{2-}$	<b>Except</b> those of Group 1, $\text{NH}_4^+$ , $\text{Ca}^{2+}$ , $\text{Sr}^{2+}$ , and $\text{Ba}^{2+}$ .
$\text{OH}^-$	<b>Except</b> those of Group 1, $\text{NH}_4^+$ . <b>Except</b> $\text{OH}^-$ is slightly soluble with $\text{Ca}^{2+}$ , $\text{Sr}^{2+}$ , and $\text{Ba}^{2+}$ .

## Strong Acids and Bases

### List of Strong Acids

HCl  
HClO<sub>4</sub>  
HNO<sub>3</sub>  
H<sub>2</sub>SO<sub>4</sub>  
HBr  
HI

### List of Strong Bases

LiOH    \*Ca(OH)<sub>2</sub>  
NaOH    \*Sr(OH)<sub>2</sub>  
KOH    \*Ba(OH)<sub>2</sub>  
RbOH  
CsOH

\* Group 2 bases are slightly soluble, however they fully dissociate into component anions.