

**Revised June 2005**



## AP Common Ions

CATIONS (+ve)			ANIONS (-ve)		
Name	Symbol	Alternative*	Name	Symbol	Alternative*
Aluminum	Al <sup>3+</sup>		Bromide	Br <sup>-</sup>	
Ammonium	NH <sub>4</sub> <sup>+</sup>		Bromate (I)	BrO <sup>-</sup>	(Hypobromite)
Arsenic (III)	As <sup>3+</sup>		Bromate (III)	BrO <sub>2</sub> <sup>-</sup>	(Bromite)
Arsenic (V)	As <sup>5+</sup>		Bromate (V)	BrO <sub>3</sub> <sup>-</sup>	(Bromate)
Barium	Ba <sup>2+</sup>		Bromate (VII)	BrO <sub>4</sub> <sup>-</sup>	(Perbromate)
Bismuth (III)	Bi <sup>3+</sup>		Carbonate	CO <sub>3</sub> <sup>2-</sup>	
Bismuth (V)	Bi <sup>5+</sup>		Chlorate (I)	ClO <sup>-</sup>	(Hypochlorite)
Cadmium	Cd <sup>2+</sup>		Chlorate (III)	ClO <sub>2</sub> <sup>-</sup>	(Chlorite)
Calcium	Ca <sup>2+</sup>		Chlorate (V)	ClO <sub>3</sub> <sup>-</sup>	(Chlorate)
Chromium (II)	Cr <sup>2+</sup>		Chlorate (VII)	ClO <sub>4</sub> <sup>-</sup>	(Perchlorate)
Chromium (III)	Cr <sup>3+</sup>		Chloride	Cl <sup>-</sup>	
Cobalt (II)	Co <sup>2+</sup>		Chromate	CrO <sub>4</sub> <sup>2-</sup>	
Cobalt (III)	Co <sup>3+</sup>		Cyanide	CN <sup>-</sup>	
Copper (I)	Cu <sup>+</sup>	(Cuprous)	Dichromate	Cr <sub>2</sub> O <sub>7</sub> <sup>2-</sup>	
Copper (II)	Cu <sup>2+</sup>	(Cupric)	Dihydrogen Phosphate	H <sub>2</sub> PO <sub>4</sub> <sup>-</sup>	
Hydrogen	H <sup>+</sup>		Ethanoate	C <sub>2</sub> H <sub>3</sub> O <sub>2</sub> <sup>-</sup>	(Acetate)
Hydronium	H <sub>3</sub> O <sup>+</sup>		Fluoride	F <sup>-</sup>	
Iron (II)	Fe <sup>2+</sup>	(Ferrous)	Hydride	H <sup>-</sup>	
Iron (III)	Fe <sup>3+</sup>	(Ferric)	Hydrogen Carbonate	HCO <sub>3</sub> <sup>-</sup>	(Bicarbonate)
Lead (II)	Pb <sup>2+</sup>	(Plumbous)	Hydrogen Oxalate	HC <sub>2</sub> O <sub>4</sub> <sup>-</sup>	(Binoxalate)
Lead (IV)	Pb <sup>4+</sup>	(Plumbic)	Hydrogen Phosphate	HPO <sub>4</sub> <sup>2-</sup>	
Lithium	Li <sup>+</sup>		Hydrogen Sulfate	HSO <sub>4</sub> <sup>-</sup>	(Bisulfate)
Magnesium	Mg <sup>2+</sup>		Hydrogen Sulfide	HS <sup>-</sup>	(Bisulfide)
Manganese (II)	Mn <sup>2+</sup>		Hydrogen Sulfite	HSO <sub>3</sub> <sup>-</sup>	(Bisulfite)
Manganese (IV)	Mn <sup>4+</sup>		Hydroxide	OH <sup>-</sup>	
Mercury (I)	Hg <sub>2</sub> <sup>2+</sup>	(Mercurous)	Iodate (I)	IO <sup>-</sup>	(Hypoiodite)
Mercury (II)	Hg <sup>2+</sup>	(Mercuric)	Iodate (III)	IO <sub>2</sub> <sup>-</sup>	(Iodite)
Nickel (II)	Ni <sup>2+</sup>		Iodate (V)	IO <sub>3</sub> <sup>-</sup>	(Iodate)
Potassium	K <sup>+</sup>		Iodate (VII)	IO <sub>4</sub> <sup>-</sup>	(Periodate)
Silver	Ag <sup>+</sup>		Iodide	I <sup>-</sup>	
Sodium	Na <sup>+</sup>		Manganate (VII)	MnO <sub>4</sub> <sup>-</sup>	(Permanganate)
Strontium	Sr <sup>2+</sup>		Nitrate	NO <sub>3</sub> <sup>-</sup>	
Tin (II)	Sn <sup>2+</sup>	(Stannous)	Nitride	N <sup>3-</sup>	
Tin (IV)	Sn <sup>4+</sup>	(Stannic)	Nitrite	NO <sub>2</sub> <sup>-</sup>	
Zinc	Zn <sup>2+</sup>		Oxalate	C <sub>2</sub> O <sub>4</sub> <sup>2-</sup>	(Ethandioate)
			Oxide	O <sup>2-</sup>	
			Peroxide	O <sub>2</sub> <sup>2-</sup>	
			Phosphate	PO <sub>4</sub> <sup>3-</sup>	
			Phosphide	P <sup>3-</sup>	
			Phosphite	PO <sub>3</sub> <sup>3-</sup>	
			Sulfate	SO <sub>4</sub> <sup>2-</sup>	
			Sulfide	S <sup>2-</sup>	
			Sulfite	SO <sub>3</sub> <sup>2-</sup>	
			Thiosulfate	S <sub>2</sub> O <sub>3</sub> <sup>2-</sup>	
			Thiocyanate	SCN <sup>-</sup>	

\* In the case of the cations, the alternative names are generally redundant in modern chemistry, but the anions *sometimes* use the older, alternate names. For example, the oxyhalogen ions (bromate, chlorate, iodate etc.) are usually referred to by the alternate names, but HSO<sub>3</sub><sup>-</sup> is much more likely to be called Hydrogen Sulfite rather than Bisulfite.

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POLYATOMIC IONS				
+2	+1	-1	-2	-3
$\text{Hg}_2^{2+}$	$\text{NH}_4^+$	$\text{BrO}^-$	$\text{CO}_3^{2-}$	$\text{PO}_3^{3-}$
		$\text{BrO}_2^-$	$\text{C}_2\text{O}_4^{2-}$	$\text{PO}_4^{3-}$
		$\text{BrO}_3^-$	$\text{CrO}_4^{2-}$	
		$\text{BrO}_4^-$	$\text{Cr}_2\text{O}_7^{2-}$	
		$\text{C}_2\text{H}_3\text{O}_2^-$	$\text{HPO}_4^{2-}$	
		$\text{ClO}^-$	$\text{SO}_3^{2-}$	
		$\text{ClO}_2^-$	$\text{SO}_4^{2-}$	
		$\text{ClO}_3^-$	$\text{S}_2\text{O}_3^{2-}$	
		$\text{ClO}_4^-$		
		$\text{CN}^-$		
		$\text{HCO}_3^-$		
		$\text{HC}_2\text{O}_4^-$		
		$\text{H}_2\text{PO}_4^-$		
		$\text{HS}^-$		
		$\text{HSO}_3^-$		
		$\text{HSO}_4^-$		
		$\text{IO}^-$		
		$\text{IO}_2^-$		
		$\text{IO}_3^-$		
		$\text{IO}_4^-$		
		$\text{MnO}_4^-$		
		$\text{NO}_2^-$		
		$\text{NO}_3^-$		
		$\text{OH}^-$		
		$\text{SCN}^-$		