Polyatomic Ions and Oxyacids

Common Polyatomic Ions

Anions 1^-		**Anions 2^-**	
acetate	CH_3COO^-	chromate	CrO_4^{2-}
cyanate	OCN^-	dichromate	$Cr_2O_7^{2-}$
cyanide	CN^-	manganate	MnO_4^{2-}
formate	$HCOO^-$	oxalate	$C_2O_4^{2-}$
hydride	H^-	peroxide	O_2^{2-}
hydroxide	OH^-	phthalate	$C_8H_4O_4^{2-}$
permanganate	MnO_4^-	tartrate	$C_4H_4O_6^{2-}$
thiocyanate	SCN^-	**Cation 1^+**	
triiodide	I_3^-	ammonium	NH_4^+

Oxyanions ending in –ate

IIIA	**IVA**	**VA**	**VIA**	**VIIA**
BO_3^{3-} borate	CO_3^{2-} carbonate	NO_3^- nitrate	---	---
	SiO_3^{2-} silicate	PO_4^{3-} phosphate	SO_4^{2-} sulfate	ClO_3^- chlorate
		AsO_4^{3-} arsenate	SeO_4^{2-} selenate	BrO_3^- bromate
			TeO_4^{2-} tellurate	IO_3^- iodate

Prefixes and suffixes for –ate oxyanions

2 oxygens less than –ate ion	**1 oxygen less than –ate ion**	**--ate ion**	**1 oxygen more than –ate ion**
hypo--------ite	--------ite	------ate	per------ate
ClO^- hypochlorite	ClO_2^- chlorite	ClO_3^- chlorate	ClO_4^- perchlorate

Oxyacids (derived from oxyanions)
---ate ion becomes –ic acid

2 oxygens less than –ic acid	**1 oxygen less than –ic acid**	**--ic acid**	**1 oxygen more than –ic acid**
hypo---ous acid	---ous acid	--ic acid	per---ic acid
HClO hypochlorous acid	$HClO_2$ chlorous acid	$HClO_3$ chloric acid	$HClO_4$ perchloric acid