

AP Chemistry

Ion List

The following ions and their charges should be committed to memory:

I. You should be able to determine main group element charges from their position on the periodic table.

II. Transition Element Charges:

Ag	Silver	1+			
Zn	Zinc	2+			
Cu	Copper	1+	Copper(I)	Cuprous	
		2+	Copper(II)	Cupric	
Hg	Mercury	1+	Mercury(I)	Mercurous	Exists as Hg_2^{2+}
		2+	Mercury(II)	Mercuric	
Fe	Iron	2+	Iron(II)	Ferrous	
		3+	Iron(III)	Ferric	
Mn	Manganese	2+	Manganese(II)	Manganous	
		3+	Manganese(III)	Manganic	
Co	Cobalt	2+	Cobalt(II)	Cobaltous	
		3+	Cobalt(III)	Cobaltic	
Au	Gold	3+			
Ni	Nickel	2+	Nickel(II)		
		3+	Nickel(III)		
Cr	Chromium	2+	Chromium(II)	Chromous	
		3+	Chromium(III)	Chromic	

III. Polyatomic Ions:

NH_4^+	Ammonium	HCO_3^-	Bicarbonate (Hydrogen carbonate)
SO_4^{2-}	Sulfate	MnO_4^-	Permanganate
SO_3^{2-}	Sulfite	ClO^-	Hypochlorite
NO_3^-	Nitrate	ClO_2^-	Chlorite
NO_2^-	Nitrite	ClO_3^-	Chlorate
PO_4^{3-}	Phosphate	ClO_4^-	Perchlorate
HPO_4^{2-}	Hydrogen phosphate	HSO_4^-	Bisulfate (Hydrogen sulfate)
H_2PO_4^-	Dihydrogen phosphate	HSO_3^-	Bisulfite (Hydrogen sulfite)
OH^-	Hydroxide	$\text{C}_2\text{O}_4^{2-}$	Oxalate
CN^-	Cyanide	CrO_4^{2-}	Chromate
$\text{C}_2\text{H}_3\text{O}_2^-$	Acetate	$\text{Cr}_2\text{O}_7^{2-}$	Dichromate
CO_3^{2-}	Carbonate	MnO_4^-	Permanganate

IV. Miscellaneous(Post Transition Elements):

Sn	Tin	2+	Tin(II)	Stannous
		4+	Tin(IV)	Stannic
Pb	Lead	2+	Lead(II)	Plumbous
		4+	Lead(IV)	Plumbic
Bi	Bismuth	3+		

Less commonly used polyatomic ions:

Arsenate	AsO_4^{3-}
Thiosulfate	$\text{S}_2\text{O}_3^{2-}$
Thiocyanate	SCN^-
Oxalate	$\text{C}_2\text{O}_4^{2-}$
Ferrocyanide	$\text{Fe}(\text{CN})_6^{4-}$