

Chemical Formulas and Names to Memorize (adapted from Atkins and Jones)Prefixes for Naming Compounds

mono-	1	penta-	5	nona-	9
di-	2	hexa-	6	deca-	10
tri-	3	hepta-	7	undeca-	11
tetra-	4	octa-	8	dodeca-	12

Common Cations Whose Charges/Oxidation States Do Not Vary

+1:	All Group 1 Elements	Silver (Ag^+)	Ammonium (NH_4^+)	Hydronium (H_3O^+)
+2:	All Group 2 Elements	Zinc (Zn^{2+})	Cadmium (Cd^{2+})	
+3:	Aluminum (Al^{3+})			

Important Cations Whose Charges/Oxidation States Vary

+1/+2:	Copper	Cu(I) and Cu(II)	Cu^+ and Cu^{2+}
	Mercury	Hg(I) and Hg(II)	Hg_2^{2+} (note: diatomic!) and Hg^{2+}
+2/+3:	Iron	Fe(II) and Fe(III)	Fe^{2+} and Fe^{3+}
+2/+4	Tin	Sn(II) and Sn(IV)	Sn^{2+} and Sn^{4+}

Common Anions

Group 17:	Fluoride (F^-)	Chloride (Cl^-)	Bromide (Br^-)	Iodide (I^-)
	Hypochlorite (ClO^-)	Chlorite (ClO_2^-)	Chlorate (ClO_3^-)	Perchlorate (ClO_4^-)
Group 16:	Oxide (O^{2-})	Peroxide (O_2^{2-})	Superoxide (O_2^-)	Hydroxide (OH^-)
	Sulfide (S^{2-})	Sulfite (SO_3^{2-})	Sulfate (SO_4^{2-})	Thiosulfate ($\text{S}_2\text{O}_3^{2-}$)
	Hydrogen Sulfide (HS^-)	Hydrogen Sulfite (HSO_3^-)	Hydrogen Sulfate (HSO_4^-)	
Group 15:	Nitrite (NO_2^-)	Nitrate (NO_3^-)		
	Phosphate (PO_4^{3-})	Hydrogen Phosphate (HPO_4^{2-})	Dihydrogen Phosphate (H_2PO_4^-)	
Group 14:	Cyanide (CN^-)	Cyanate (OCN^-)	Thiocyanate (SCN^-)	
	Carbonate (CO_3^{2-})	Hydrogen Carbonate (HCO_3^-)	Formate (HCOO^-)	Acetate (CH_3COO^-)
Others:	Hydride (H^-)	Permanganate (MnO_4^-)	Chromate (CrO_4^{2-})	Dichromate ($\text{Cr}_2\text{O}_7^{2-}$)

Important Acids

Group 17:	Hydrofluoric (HF)	Hydrochloric (HCl)	Hydrobromic (HBr)	Hydroiodic (HI)
	Hypochlorous (HOCl)	Chlorous (HClO_2)	Chloric (HClO_3)	Perchloric (HClO_4)
Group 16:	Hydrosulfuric (H_2S)	Sulfurous (H_2SO_3)	Sulfuric (H_2SO_4)	
Group 15:	Nitrous (HNO_2)	Nitric (HNO_3)	Phosphoric (H_3PO_4)	
Group 14:	Hydrocyanic (HCN)	Carbonic (H_2CO_3)	Formic (HCOOH)	Acetic (CH_3COOH)

Common Substances

Group 18:	Helium (He)	Neon (Ne)	Argon (Ar)	Krypton (Kr)	Xenon (Xe)
Group 17:	Fluorine (F_2)	Chlorine (Cl_2)	Bromine (Br_2)	Iodine (I_2)	
Others:	Hydrogen (H_2)	Nitrogen (N_2)	Oxygen (O_2)	Carbon Monoxide (CO)	
	Methane (CH_4)	Ammonia (NH_3)	Water (H_2O)	Nitric Oxide (NO)	