

Chemical Formulas and Names to Memorize

Common Cations Whose Charges/Oxidation States Do Not Vary (Chapter 1)

<u>+1 (Group I)</u>	<u>+2 (Group II)</u>	<u>+3</u>
Hydrogen (H^+)		
Lithium (Li^+)		
Sodium (Na^+)	Magnesium (Mg^{2+})	Aluminum (Al^{3+})
Potassium (K^+)	Calcium (Ca^{2+})	
Silver (Ag^+)	Zinc (Zn^{2+})	
Ammonium (NH_4^+)	Cadmium (Cd^{2+})	
Hydronium (H_3O^+)		

Important Cations Whose Charges/Oxidation States Vary (Chapter 1)

+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 (Chapter 1)

Fluoride (F^-)	Chloride (Cl^-)	Bromide (Br^-)	Iodide (I^-)
Hypochlorite (ClO^-)	Chlorite (ClO_2^-)	Chlorate (ClO_3^-)	Perchlorate (ClO_4^-)
Hypobromite (BrO^-)	Bromite (BrO_2^-)	Bromate (BrO_3^-)	Perbromate (BrO_4^-)
Hydroxide (OH^-)	Oxide (O^{2-})	Peroxide (O_2^{2-})	Hydride (H^-)
Hydrogen Sulfide (HS^-)	Sulfide (S^{2-})	Sulfite (SO_3^{2-})	Sulfate (SO_4^{2-})
Hydrogen Sulfite (HSO_3^-)	Hydrogen Sulfate (HSO_4^-)		Thiosulfate ($S_2O_3^{2-}$)
Cyanide (CN^-)	Cyanate (OCN^-)		Thiocyanate (SCN^-)
Phosphate (PO_4^{3-})	Hydrogen Phosphate (HPO_4^{2-})		Dihydrogen Phosphate ($H_2PO_4^-$)
Carbonate (CO_3^{2-})	Hydrogen Carbonate (HCO_3^-)		
Formate ($HCOO^-$)	Acetate (CH_3COO^-)		
Nitrite (NO_2^-)	Nitrate (NO_3^-)		
Permanganate (MnO_4^-)	Silicate (SiO_4^{4-})		
Chromate (CrO_4^{2-})	Dichromate ($Cr_2O_7^{2-}$)		

Important Acids (Chapter 4)

Hydrofluoric (HF)	Hydrochloric (HCl)	Hydrobromic (HBr)	Hydroiodic (HI)
Hypochlorous (HOCl)	Chlorous (HClO ₂)	Chloric (HClO ₃)	Perchloric (HClO ₄)
Nitric (HNO ₃)	Phosphoric (H ₃ PO ₄)	Carbonic (H ₂ CO ₃)	Sulfuric (H ₂ SO ₄)
Formic (HCOOH)	Acetic (CH ₃ COOH)	Hydrocyanic (HCN)	

Common Substances

Hydrogen (H ₂)			Helium (He)
Nitrogen (N ₂)	Methane (CH ₄)	Fluorine (F ₂)	Neon (Ne)
Oxygen (O ₂)	Carbon Monoxide (CO)	Chlorine (Cl ₂)	Argon (Ar)
Water (H ₂ O)	Carbon Dioxide (CO ₂)	Bromine (Br ₂)	Krypton (Kr)
Ammonia (NH ₃)		Iodine (I ₂)	Xenon (Xe)