

To facilitate your reading and thinking about inorganic chemistry—both in class and in lab—it is important to have command of the notation we use to identify elements and ions. You should be familiar with the chemical symbols and names of the following elements, the common charges of the following monatomic ions, and the formulas, names, and charges of the following polyatomic ions.

Elements to Be Familiar With

aluminum (Al)	chlorine (Cl)	iron (Fe)	nickel (Ni)	silver (Ag)
antimony (Sb)	chromium (Cr)	krypton (Kr)	oxygen (O)	sodium (Na)
argon (Ar)	cobalt (Co)	lanthanum (La)	phosphorous (P)	strontium (Sr)
arsenic (As)	copper (Cu)	lead (Pb)	platinum (Pt)	sulfur (S)
barium (Ba)	fluorine (F)	lithium (Li)	plutonium (Pu)	tellurium (Te)
bismuth (Bi)	gallium (Ga)	mercury (Hg)	potassium (K)	tin (Sn)
boron (B)	germanium (Ge)	magnesium (Mg)	radon (Rn)	titanium (Ti)
bromine (Br)	gold (Au)	manganese (Mn)	rubidium (Rb)	uranium (U)
carbon (C)	hydrogen (H)	molybdenum (Mo)	Scandium (Sc)	vanadium (V)
cadmium (Cd)	helium (He)	Neon (Ne)	selenium (Se)	xenon (Xe)
calcium (Ca)	iodine (I)	nitrogen (N)	silicon (Si)	zinc (Zn)
cesium (Cs)				

Monatomic Cations and Anions to Be Familiar With

hydrogen H^+ , H^-	lithium Li^+	potassium K^+
titanium Ti^{2+} , Ti^{3+}	manganese Mn^{2+} , Mn^{3+}	nickel Ni^{2+}
bromine Br^-	silver Ag^+	iodine I^-
mercury Hg^{2+}	oxygen O^{2-}	sulfur S^{2-}
calcium Ca^{2+}	vanadium V^{2+} , V^{3+}	iron Fe^{2+} , Fe^{3+}
copper Cu^+ , Cu^{2+}	rubidium Rb^+	cadmium Cd^{2+}
cesium Cs^+	lead Pb^{2+} , Pb^{4+}	fluorine F^-
chlorine Cl^-	scandium Sc^{3+}	chromium Cr^{2+} , Cr^{3+}
cobalt Co^{2+} , Co^{3+}	zinc Zn^{2+}	strontium Sr^{2+}
tin Sn^{2+} , Sn^{4+}	barium Ba^{2+}	bismuth Bi^{3+} , Bi^{5+}

Polyatomic Cations and Anions to Be Familiar With

ammonium NH_4^+	hydronium H_3O^+	mercury (I) Hg_2^{2+}
carbonate CO_3^{2-}	hydrogen carbonate HCO_3^-	perchlorate ClO_4^-
chlorate ClO_3^-	chlorite ClO_2^-	hypochlorite ClO^-
chromate CrO_4^{2-}	dichromate $\text{Cr}_2\text{O}_7^{2-}$	cyanide CN^-
hydroxide OH^-	iodate IO_3^-	permanganate MnO_4^-
nitrate NO_3^-	nitrite NO_2^-	peroxide O_2^{2-}
phosphate PO_4^{3-}	hydrogen phosphate HPO_4^{2-}	dihydrogen phosphate H_2PO_4^-
sulfate SO_4^{2-}	hydrogen sulfate HSO_4^-	sulfite SO_3^{2-}
hydrogen sulfite HSO_3^-	thiocyanate SCN^-	thiosulfate $\text{S}_2\text{O}_3^{2-}$