Solubility Rules for Ionic Compounds at 25°C

Soluble Compounds	Exceptions
Almost all salts of Na^+, K^+, the other alkali metals and NH_4^+	none
All salts of Cl^-, Br^-, and I^-	Halides of Ag^+, Hg_2^{2+}, Pb^{2+}
Compounds containing F^-	Fluorides of Mg^{2+}, Ca^{2+}, Sr^{2+}, Ba^{2+}, Pb^{2+}
Salts of NO_3^-, ClO_3^-, ClO_4^-, HCO_3^-, $C_2H_3O_2^- = H_3CO_2^-$	none
Salts of SO_4^{2-}	Sulfates of Ag^+, Ca^{2+}, Sr^{2+}, Ba^{2+}, Pb^{2+}
Inorganic acids	none

Insoluble Compounds	Exceptions
All salts of CO_3^{2-}, PO_4^{3-}, $C_2O_4^{2-}$, CrO_4^{2-}	Salts of $NH_4^+$and the alkali metal cations
Compounds containing S^{2-}	Salts of NH_4^+, Ca^{2+}, Sr^{2+}, Ba^{2+}, and the alkali metals
Metal hydroxides and oxides	Hydroxides or oxides Salts of NH_4^+, [Ca^{2+}], Sr^{2+}, $Ba^2$and the alkali metals (Note, NH_4OH does not exist in ionic form; it is actually NH_3 in water.)

Activity series of elements

Elements					
Lithium	Li	→	Li^+	+	1e-
Potassium	K	→	K^+	+	1e-
Barium	Ba	→	Ba^{2+}	+	2e-
Calcium	Ca	→	Ca^{2+}	+	2e-
Sodium	Na	→	Na^+	+	1e-
Magnesium	Mg	→	Mg^{2+}	+	2e-
Aluminum	Al	→	Al^{3+}	+	3e-
Manganese	Mn	→	Mn^{2+}	+	2e-
Zinc	Zn	→	Zn^{2+}	+	2e-
Chromium	Cr	→	Cr^{3+}	+	3e-
Iron	Fe	→	Fe^{2+}	+	2e-
Cobalt	Co	→	Co^{2+}	+	2e-
Nickel	Ni	→	Ni^{2+}	+	2e-
Tin	Sn	→	Sn^{2+}	+	2e-
Lead	Pb	→	Pb^{2+}	+	2e-
HYDROGEN	H_2	→	$2H^+$	+	2e-
Copper	Cu	→	Cu^{2+}	+	2e-
Mercury	2Hg	→	Hg_2^{2+}	+	2e-
Silver	Ag	→	Ag^+	+	$1e^-$
Mercury	Hg	→	Hg^{2+}	+	2e-
Platinum	Pt	→	Pt^{2+}	+	2e-
Gold	Au	→	Au^{3+}	+	3e-