

Solubility Rules

Soluble Compounds

Compounds containing: NO_3^-
 $\text{C}_2\text{H}_3\text{O}_2^-$
 Cl^-
 Br^-
 I^-
 SO_4^{2-}

Exceptions

none
 none
 combined with Ag^+ , Hg_2^{2+} , and Pb^{2+}
 combined with Ag^+ , Hg_2^{2+} , and Pb^{2+}
 combined with Ag^+ , Hg_2^{2+} , and Pb^{2+}
 combined with Ca^{2+} , Sr^{2+} , Ba^{2+} , Hg^{2+} ,
 and Pb^{2+}

Insoluble Compounds

Compounds containing: S^{2-}
 CO_3^{2-}
 PO_4^{3-}
 OH^-

Exceptions

combined with NH_4^+ , the alkali metal cations, and Ca^{2+} , Sr^{2+} , and Ba^{2+}
 combined with NH_4^+ , and alkali metal cations
 combined with NH_4^+ , and alkali metal cations
 combined with alkali metal cations, Ca^{2+} , Sr^{2+} , and Ba^{2+}

To remember: All nitrates and acetates are soluble, and any compound containing the Group IA elements are soluble.

Activity Series of Metals in Aqueous Solution

Lithium	Li	(highest)	Nickel	Ni	
Potassium	K	↑	Tin	Sn	
Barium	Ba		Lead	Pb	
Calcium	Ca		Hydrogen	H	
Sodium	Na		Copper	Cu	
Magnesium	Mg		Silver	Ag	
Aluminum	Al		Mercury	Hg	
Manganese	Mn		Platinum	Pt	
Zinc	Zn		Gold	Au	↓
Chromium	Cr				(lowest)
Iron	Fe				
Cadmium	Cd				
Cobalt	Co				