

Solubility Rules

Solubility Rules for Ionic Substances in Water

Rule 1 Compounds containing NH_4^{1+} and group 1A metal ions are soluble.

Rule 2 Compounds containing NO_3^{1-} , ClO_4^{1-} , and $\text{C}_2\text{H}_3\text{O}_2^{1-}$ are soluble.

Rule 3 Compounds containing Cl^{1-} , Br^{1-} , and I^{1-} are soluble *except* those of Ag^{1+} , Tl^{1+} , Hg_2^{2+} , and Pb^{2+} .

Rule 4 Compounds containing SO_4^{2-} are soluble *except* those of Ca^{2+} , Sr^{2+} , Ba^{2+} , and Pb^{2+} .

Rule 5 Most other ionic compounds are insoluble in water.