

Solubility of Some Ionic Compounds in Water

Always Soluble

Alkali metals =	$\text{Li}^+, \text{Na}^+, \text{K}^+, \text{Rb}^+, \text{Cs}^+$
Ammonium =	NH_4^+
Acetate =	$\text{C}_2\text{H}_3\text{O}_2^-$
Chlorate =	ClO_3^-
Nitrate =	NO_3^-
Perchlorate =	ClO_4^-

Memorize the Always Soluble Ones!

These are the only ones you need to memorize. Others will be provided as needed.

AAA
CNP

Generally Soluble

$\text{Cl}^-, \text{Br}^-, \text{I}^-$ Except when with: $\text{Ag}^+, \text{Pb}^{2+}, \text{Hg}_2^{2+}$

AP-H

F^- Except when with: $\text{Ca}^{2+}, \text{Ba}^{2+}, \text{Sr}^{2+}, \text{Pb}^{2+}, \text{Mg}^{2+}$

CBS-PM

Sulfate = SO_4^{2-} Except when with: $\text{Ca}^{2+}, \text{Ba}^{2+}, \text{Sr}^{2+}, \text{Pb}^{2+}$

CBS-P

Generally Insoluble

$\text{O}^{2-}, \text{OH}^-$ Except when with: Alkali metals and NH_4^+

AA

Somewhat soluble: $\text{Ca}^{2+}, \text{Ba}^{2+}, \text{Sr}^{2+}$

CBS

$\text{CO}_2^{2-}, \text{CO}_3^{2-}$

$\text{S}^{2-}, \text{SO}_3^{2-}$

PO_4^{3-}

$\text{CrO}_4^{2-}, \text{Cr}_2\text{O}_4^{2-}$

Except when with: Alkali metals and NH_4^+

AA

Insoluble = forms precipitate
Soluble = dissolves in water (aqueous)

Acronyms to help with memorizing the rules.