

SOLUBILITY RULES

Soluble:

- All Nitrates, Acetates, Ammonium, and Group 1 (IA) salts
- All Chlorides, Bromides, and Iodides, except Silver, Lead, and Mercury(I)
- All Fluorides except Group 2 (IIA), Lead(II), and Iron(III)
- All Sulfates except Calcium, Strontium, Barium, Mercury, Lead(II), and Silver

Insoluble (0.10 M or greater):

- All Carbonates and Phosphates except Group 1 (IA) and Ammonium
- All Hydroxides except Group 1 (IA), Strontium, Barium, and Ammonium
- All Sulfides except Group 1 (IA), 2 (IIA), and Ammonium
- All Oxides except Group 1 (IA)

Chemical Formula	Name	Solubility If soluble, write soluble (aq) If insoluble, write insoluble (s)
1.	Aluminum Sulfide	
2. Ba(OH) ₂		
3. Na ₂ CO ₃		
4.	Barium Phosphate	
5.	Cesium Sulfate	
6. MgSO ₄		
7.	Magnesium Hydroxide	
8. Zn ₃ (PO ₄) ₂		

9. $\text{NaC}_2\text{H}_3\text{O}_2$		
10. PbI_2	lead(II) Iodide	
11. SrCl_2		
12.	Strontium Carbonate	
13.	Lithium Carbonate	
14. HgCl	Mercury(1) Chloride	
15.	Calcium Fluoride	

Polyatomic Ions	
NH_4^+	Ammonium
BrO_3^-	Bromate
CN^-	Cyanide
$\text{C}_2\text{H}_3\text{O}_2^-$ (CH_3COO^-)	Acetate
ClO_4^-	Perchlorate
ClO_3^-	Chlorate
ClO_2^-	Chlorite
ClO^-	Hypochlorite
IO_3^-	Iodate
MnO_4^-	Permanganate
NO_3^-	Nitrate
NO_2^-	Nitrite
OH^-	Hydroxide
HCO_3^-	Hydrogen carbonate
HSO_4^-	Hydrogen sulfate
SCN^-	Thiocyanate
CO_3^{2-}	Carbonate
$\text{Cr}_2\text{O}_7^{2-}$	Dichromate
CrO_4^{2-}	Chromate
SO_4^{2-}	Sulfate
SO_3^{2-}	Sulfite
PO_4^{3-}	Phosphate

+1										0					
H ⁺	+2									+3	-3	-2	-1	He ⁰	
Li ⁺	Be ²⁺									B ³⁺		N ³⁻	O ²⁻	F ⁻	Ne ⁰
Na ⁺	Mg ²⁺									Al ³⁺		P ³⁻	S ²⁻	Cl ⁻	Ar ⁰
K ⁺	Ca ²⁺									Ga ³⁺		As ³⁻	Se ²⁻	Br ⁻	Kr ⁰
Rb ⁺	Sr ²⁺									In ³⁺		Sb ³⁻	Te ²⁻	I ⁻	Xe ⁰
Cs ⁺	Ba ²⁺									Tl ³⁺					Rn ⁰
Fr ⁺	Ra ²⁺														