

Solubility

Soluble - the compound can dissolve in water

Slightly soluble - an insignificant amount dissolves
↳ would still be considered a solid (precipitant)

Insoluble - the compound does not dissolve in water

solid (s)

gas (g)

liquid (l)

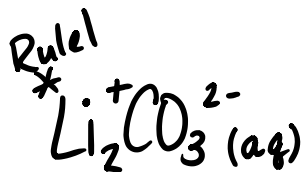
aqueous (aq) - when compound is dissolved in water (putting salt in water)

Solubility Rules

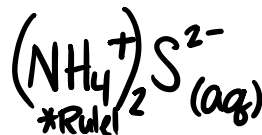
1. All common compounds containing Group 1 or Ammonium are soluble (aq)



Lithium Carbonate



Ammonium sulfide



H, Li, Na, K, Rb, Cs, Fr



2. All nitrates, acetates, and chlorates are soluble.



3. All binary (contains two) compounds with halogens with metals are soluble [Except!] Silver, Mercury, & Lead.



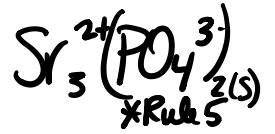
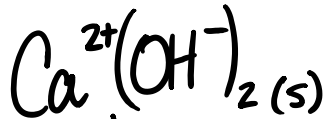
4. All sulfates are soluble EXCEPT: Ba, Ca, Sr, Pb, Ag, Hg



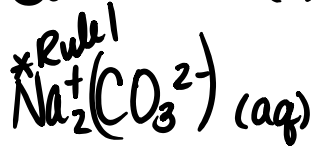
5. Carbonates, hydroxides, oxides, silicates, and phosphates are insoluble (s).



Calcium hydroxide

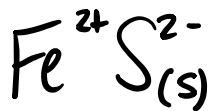


Sodium Carbonate



6. Sulfides (S^{2-}) are insoluble EXCEPT: Ca, Ba, Sr, Mg

→ change
 Iron(II) sulfide



Magnesium sulfide

