

## SOLUBILITY RULES

1. All common nitrates ( $\text{NO}_3^-$ ) are soluble.
2. All common compounds containing ammonium ions ( $\text{NH}_4^+$ ) or alkali ions (family IA -  $\text{Li}^+$ ,  $\text{Na}^+$ ,  $\text{K}^+$ ,  $\text{Rb}^+$ ,  $\text{Cs}^+$ ,  $\text{Fr}^+$ ) are soluble.
  - other common carbonates ( $\text{CO}_3^{2-}$ ) are insoluble.
  - other common phosphates ( $\text{PO}_4^{3-}$ ) are insoluble.
  - other common hydroxides ( $\text{OH}^-$ ) are insoluble.
3. All chlorides ( $\text{Cl}^-$ ) bromides ( $\text{Br}^-$ ) and iodides ( $\text{I}^-$ ) are soluble except with  $\text{Ag}^+$ ,  $\text{Pb}^{2+}$ ,  $\text{Hg}^+$ .
4. All sulphates ( $\text{SO}_4^{2-}$ ) are soluble except with  $\text{Ca}^{2+}$ ,  $\text{Sr}^{2+}$ ,  $\text{Ba}^{2+}$ ,  $\text{Ra}^{2+}$ ,  $\text{Pb}^{2+}$ .

Insoluble	Soluble
$\text{CO}_3^{2-}$ , $\text{PO}_4^{3-}$ , $\text{OH}^-$ except with $\text{NH}_4^+$ , $\text{Li}^+$ , $\text{Na}^+$ , $\text{K}^+$ , $\text{Rb}^+$ , $\text{Cs}^+$ , $\text{Fr}^+$ .	$\text{NO}_3^-$ $\text{NH}_4^+$ , $\text{Li}^+$ , $\text{Na}^+$ , $\text{K}^+$ , $\text{Rb}^+$ , $\text{Cs}^+$ , $\text{Fr}^+$ . $\text{Cl}^-$ , $\text{Br}^-$ , $\text{I}^-$ except with $\text{Ag}^+$ , $\text{Pb}^{2+}$ , $\text{Hg}^+$ . $\text{SO}_4^{2-}$ except with $\text{Ca}^{2+}$ , $\text{Sr}^{2+}$ , $\text{Ba}^{2+}$ , $\text{Ra}^{2+}$ , $\text{Pb}^{2+}$ .