

# VALENCIA COLLEGE

## Chemistry

### Appendix 3: Solubility Rules for Common Ionic Compounds

<b>Soluble Compounds</b>		
	<b>Rule (are soluble)</b>	<b>Exception (are insoluble)</b>
1	All group IA (1) and $\text{NH}_4^+$ (ammonium) salts	No exceptions
2	All $\text{NO}_3^-$ (nitrates) and $\text{C}_2\text{H}_3\text{O}_2^-$ (acetate) salts	No exceptions
3	$\text{Cl}^-$ , $\text{Br}^-$ , $\text{I}^-$ salts	$\text{Ag}^+$ , $\text{Pb}^{2+}$ , $\text{Hg}_2^{2+}$ or the mercury (I) ion
4	$\text{SO}_4^{2-}$ salts	$\text{Ag}^+$ , $\text{Pb}^{2+}$ , Group IIA (2) starting from $\text{Ca}^{2+}$
<b>Insoluble Compounds</b>		
	<b>Rule (are insoluble)</b>	<b>Exception (are soluble)</b>
1	$\text{OH}^-$ and $\text{S}^{2-}$ salts	All group IA (1) and $\text{NH}_4^+$ (ammonium) salts, and Group IIA (2) starting from $\text{Ca}^{2+}$
2	$\text{CO}_3^{2-}$ and $\text{PO}_4^{3-}$ salts	All group IA (1) and $\text{NH}_4^+$ (ammonium) salts