

Ksp:

- Fancy name for Keq for the dissolving of slightly soluble salts. (ionic)
 - Equations: $aA(s) \rightleftharpoons bB^+(aq) + cC^-(aq)$
 - Since the reaction is ALWAYS solid,
 - $K_{sp} = [cation]^b [anion]^c$
 - b and c are the coefficients on the ions
- * The smaller Ksp is the less soluble salt
- * Ksp can be used to calculate the solubility of salts.

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Ksp:

- Write the Ksp expression for the solvation of Ag_2SO_4 .
First determine the ions that will be formed.

$$\cancel{(Ag)_2SO_4(s)} \rightarrow 2Ag^{+1}(aq) + SO_4^{-2}(aq)$$
 Put the ions in the Ksp expressions. (must include charges!)

$$K_{sp} = [Ag^{+1}]^2 [SO_4^{-2}]$$
 Use the coefficients to determine how many moles of each ion will be formed. Put those numbers in for b and c (as exponents)
If the exponent is 1, it is not used in the expression!

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Ksp:

- Write the Ksp expression for the solvation of magnesium hydroxide.

$$Mg^{+2} (OH^{-1})_2$$

$$\cancel{Mg(OH)_2} \rightarrow Mg^{+2} + 2OH^{-1}$$

$$K_{sp} = [Mg^{+2}] [OH^{-1}]^2$$

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Ksp:

- Write the Ksp expression for the solvation of calcium phosphate.

$$Ca_3(PO_4)_2$$

$$+2 \quad -3$$

$$[Ca^{+2}]^3 [PO_4^{-3}]^2$$

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