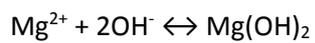


Answer on Question #61305 - Chemistry - Inorganic Chemistry



The solution constant K_s :

$$K_s = [\text{Mg}^{2+}] \times [\text{2OH}^-]^2 = s \times (2s)^2 = 4s^3 = 1.5 \times 10^{-12} \text{ (mol}^3 \text{ l}^3\text{)}$$

$$s = \sqrt[3]{1.5/4 \times 10^{-4}} = 0.7211 \times 10^{-4} = 7.21 \times 10^{-5} \text{ (mol l}^{-1}\text{)}$$

The concentration of $[\text{Mg}^{2+}] = 7.21 \times 10^{-5} \text{ mol l}^{-1}$, and the concentration of $[\text{OH}^-] = (1.5 \times 10^{-12}) / (7.21 \times 10^{-5}) = 2.08 \times 10^{-8} \text{ mol l}^{-1}$.