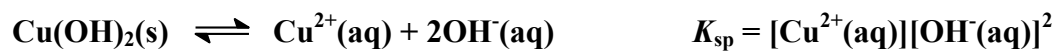


- What is the solubility of $\text{Cu}(\text{OH})_2$ in mol L^{-1} ? $K_{\text{sp}}(\text{Cu}(\text{OH})_2)$ is 1.6×10^{-19} at 25°C .

Marks
2

The dissolution reaction and associated solubility product are:



If x mol dissolve in one litre, $[\text{Cu}^{2+}(\text{aq})] = x \text{ M}$ and $[\text{OH}^{-}(\text{aq})] = 2x$. Hence:

$$K_{\text{sp}} = (x)(2x)^2 = 4x^3 = 1.6 \times 10^{-19}$$

$$x = 3.4 \times 10^{-7} \text{ M}$$

Answer: $3.4 \times 10^{-7} \text{ M}$