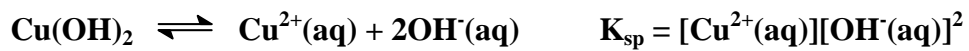


- What is the molar solubility of  $\text{Cu}(\text{OH})_2$  at  $25\text{ }^\circ\text{C}$  given its  $K_{\text{sp}} = 4.5 \times 10^{-21}\text{ M}^3$ ?

**Marks**  
**2**

**The solubility expression and product for  $\text{Cu}(\text{OH})_2(\text{s})$  are:**



**If the molar solubility is  $S$ ,  $[\text{Cu}^{2+}(\text{aq})] = S$  and  $[\text{OH}^{-}(\text{aq})] = 2S$ . Hence,**

$$K_{\text{sp}} = (S) \times (2S)^2 = 4S^3 = 4.5 \times 10^{-21}$$

$$S = 1.0 \times 10^{-7}\text{ M}$$

Answer:  $1.0 \times 10^{-7}\text{ M}$