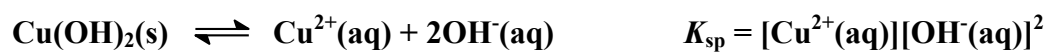


- What is the solubility of  $\text{Cu}(\text{OH})_2$  in  $\text{mol L}^{-1}$ ?  $K_{\text{sp}}(\text{Cu}(\text{OH})_2)$  is  $1.6 \times 10^{-19}$  at  $25^\circ\text{C}$ .

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