**Marks**
**5**

- $BaSO_4$ is used as a contrast agent in medical imaging. It has a $K_{sp}$ of $1.1 \times 10^{-10}$. What is the molarity of $Ba^{2+}$ ions in a saturated aqueous solution of $BaSO_4$?

Answer:

What is the molar solubility of $BaSO_4$ in the presence of a 0.1 M solution of $Na_2SO_4$?

Answer:

The lethal concentration of $Ba^{2+}$ in humans is about 60 mg $L^{-1}$ ($4 \times 10^{-4}$ M). Is there any advantage to administering $BaSO_4$ in the presence of 0.1 M $Na_2SO_4$ solution? Explain your reasoning.

**THE REMAINDER OF THIS PAGE IS FOR ROUGH WORKING ONLY.**