Marks 7

- Write the equation for the dissolution of lead(II) chloride, $PbCl_2$, in water.

Write the expression for the solubility product constant, K_{sp}, for $PbCl_2$.

What $[Cl^-]$ is needed to reduce the $[Pb^{2+}]$ to the maximum safe level of 0.015 mg L^{-1}? $K_{sp}(PbCl_2) = 1.6 \times 10^{-6}$

$[Cl^-]$ =

The solubility of sodium chloride is 359 g L^{-1}. If a reservoir of 50,000 L is saturated with lead(II) chloride, can sodium chloride be used to reduce the $[Pb^{2+}]$ to a safe level? If so, what mass of sodium chloride (in kg) would be needed?

Answer:

Would the water in the reservoir be fit for drinking? Explain your answer.