**Marks
6**

- The pH of the ocean before the industrial revolution was around 8.22. Show that this pH corresponds to a concentration of $[OH^-(aq)] = 1.7 \times 10^{-6}$ M.

All forms of life depend on iron and the concentration of iron in the oceans and elsewhere is one of the primary factors limiting the growth rates of the most basic life forms. One reason for the low availability of iron(III) is the insolubility of the hydroxide, $Fe(OH)_3$, which has a K_{sp} of only 1×10^{-39}. What was the maximum concentration of $Fe^{3+}(aq)$ at a pH of 8.22?

Answer:

Industrialisation has led to an increase in atmospheric CO_2. What effect has this had on the amount of $Fe^{3+}(aq)$ in sea water?