Solubility Equilibria – Study Guide

*section 15.1 in OpenStax*

Write a balanced chemical equation showing the dissolution of iron (II) hydroxide:

Write the Ksp equation for the above reaction:

Ksp =

Following example 15.4 in the textbook, complete the ICE table below, then calculate the molar solubility of iron (II) hydroxide in pure water using a Ksp value 4.87 x 10-17.

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*(ans. 2.30 x 10-6 M)*

Consider that rather than adding iron (II) hydroxide to pure water, you add it to an aqueous solution of 0.100 M Fe(NO3)2. Use Le Chatelier’s principle to predict how the equilibrium will be affected.

Complete the ICE table below to show the solubility of iron (II) hydroxide in 0.100 M Fe(NO3)2. Then calculate the molar solubility.

Note: although the solubility changes, the Ksp value remains 4.87 x 10-17.

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*(ans. 1.10 x 10-8 M)*

Define the **common ion effect**, and use it to explain why the solubility changed in your calculations above.

**End of Chapter 15 Practice Problems**

#9, 13a–b, 15, 29

For detailed solutions to these problems, go to the [OpenStax website](https://openstaxcollege.org/textbooks/chemistry/resources) and download the “Student Answer and Solution Guide.”