Chem 103, Spring 2006
Prof. Sevian
Assignment 4

Note:
This is a light homework assignment because you told me in class on Thursday that you'd rather spend your time studying for the exam this week. Please note I have placed on this assignment an additional problem involving stoichiometry with a hydrated ionic compound, and this is material from chapter 3 that is fair game for the exam. Any of the problems on this assignment that are from chapter 3 should be considered additional review for the exam. Problems from chapter 4 on this assignment will not be on Exam 1, but the material will be covered on Exam 2, so you will be responsible for learning this material.

Homework Assignment

- Chapter 3: problems 35, 45, 73, 81
- Chapter 4: problems 9, 15
- Additional problem (see next page) involving stoichiometry with a hydrated ionic compound.

Answers to the red problems in the book are in the back of the book. Worked out solutions to all the problems are in the Student Solutions Manual, which you have access to if you purchased the bundle from the bookstore. Otherwise, you can use one of the paper copies of the Student Solutions Manual on reserve at Healey Library. Only the red problems are assigned. However, to study for exams I encourage you to try the other problems also.

Announcements

- The first exam is on Thursday, February 23, during the normal class time. A practice exam, answer key, and study guide will be posted online by Saturday morning. Also look on the course website to find out the location where you will be taking your exam, since one-third of the class will take the exam in an overflow room.
- In addition to the solutions manual on reserve in Healey Library, I have also placed a small math help book on reserve at the library. The math help book was written to accompany the text book we are using, and provides a review of the math needed to do problems in the book, broken down by chapter. If you feel you are in need of some math review, I encourage you to have a look at this book.

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Assignment 4 Extra Problem

Epsom salt is a hydrated salt of magnesium sulfate. In order to determine the number of waters of hydration, a student measured 5.491 g of the hydrated magnesium sulfate, placed it in a crucible, and heated it until the mass no longer decreased. In the end, 2.681 g of anhydrous magnesium sulfate remained. What is the empirical formula of the hydrated salt?

The reaction that occurred was:

$$MgSO_4 \bullet nH_2O\,(s) \xrightarrow{heat} MgSO_4\,(s) + n\,H_2O\,(g)$$

Answer: $MgSO_4 \bullet 7H_2O$