Chem 20L Spring 2006

Report Guidelines for Assignment #4 (Titrations and Indicators)

Pre-lab work is due at the beginning of the lab section. Refer to the laboratory syllabus for the due dates of the post-lab report. Pre-lab and post-lab reports MUST be written inside your lab notebook (with the exception of graphs.)

The REVISED PROCEDURE provided as a handout for this experiment supplements the assignment in the lab manual. Make sure you read the revised procedure before writing your reports.

(I) On-line Technique Videos & Resources For This Experiment

Click on the title below to download the video (require Real Player)

(1) **Laboratory Safety** (this video was shown on the first day of the lab)
(2) **Use of a Buret**

If you have trouble downloading the videos, go to the following Web site and click on the appropriate title to download the video.

http://oid.ucla.edu/Webcast/Chemistry/

Guides for Writing Lab Reports

Theory on pH Meter

Theory of Acid-Base Indicators

Various concentration units (including Normality and Molarity)

(II) Pre-lab Report Guideline

(I) Introduction

(II) Procedure in Flowchart Format ***(use the REVISED PROCEDURES)***

(III) Reference (i.e. complete reference of the experiment including title of the lab manual, author, edition and page number of the experiment in the manual etc.) Include any changes to the procedure that you know you will make.

Report Guidelines for Assignment #4 (Titrations and Indicators)

(II) Pre-lab Report Guideline (Continued)

(IV) MSDS information *(refer to the MSDS handout for details)*

The following chemicals will require you to use the MSDS database on the Web:

Sulfuric Acid (0.2N or 0.1M)

Note: For your MSDS information, select the site that gives you the MSDS information closest to the concentration listed above. You may have to convert the concentration units on MSDS before you decide which site to use since sometimes the unit may be reported as w/v%.

Record the following MSDS information in your notebook for the chemical listed above. **Printouts directly from Web pages will NOT be accepted for grading.**

Important: Reference the site (i.e. write down the URL address) that you used for each of the chemical.

(a) Product Name
(b) Chemical Formula
(c) Formula Weight
(d) Melting Point; Boiling Point and Density
(e) Health Hazard Data (**summarize in your own words**)
(f) Spill and Disposal procedures (**summarize in your own words**)

(V) Complete study questions #1 & #2 (see bottom of page 58 & 59):
Show ALL your work and reasoning.

Read pages 56-58 BEFORE you start working on the study questions.

NOTE: For question 2(b), you may assume that BOTH protons dissociate completely.

Useful mathematical relationship for pH and pOH:
$pH = -\log[H^+]$ and $pOH = -\log[OH^-]$. $pH + pOH = 14$.

(VI) Set up BLANK data table

READ the procedure and set up the necessary data tables for the experiment.
Note: Start a NEW page in your notebook for this section. The previous material will be turned in at the beginning of the period; this page will be turned in at the end of the lab period

Before attempting to work on the group post-lab report, please take a moment and read the following items carefully.

Definitions of Group Report and/or Group Experiment

(1) All members in the group MUST contribute equally when working on the experiment as well as writing the post-lab report

(2) Each group member must prepare ahead of time when writing the reports. This means review materials from lectures or from your Chemistry textbook or from on-line resources on certain topics that are relevant to the concepts when writing the reports.

Contribution to the group work is meaningless if a group member does not understand the concepts behind the experiment.

(3) It is the responsibility of the group members to plan ahead on when they should get together to work on the report. In other words, maintain good communication between group members.

(4) It is the responsibility of each group member to honestly describe the work that they did during the experiment and in writing the report. *No one should take advantage of the other group member. Report to the course instructor or your TA if you feel that other group members are taking advantage of your work.*

(5) Each member in the group MUST understand the concepts behind the ENTIRE experiment regardless of which portions of the report or experiment a person is responsible for. This is especially important for the exams.