

Lab reports (including In Laboratory Report Sheets and Post Lab Question sheets) are due before the beginning of the lab period one week after the completion of the experiment. Experiments with formal reports (Lab D and J) will be due 2 weeks after the completion of the experiment, and include a formal typed report along with the usual In Laboratory Report Sheet and Post Lab Questions sheets.

Reports that are not turned in by the beginning of lab will be assessed the following penalties:

Late same day (after the beginning of lab) → -10% of total assignment points

Late next day to 1 week → -25% of total assignment points

More than 1 week late → Automatic score of 0.

All reports must be turned in to receive a passing grade for the course regardless of overall exam/homework scores.

#### **Outside Resources:**

Material Safety and Data Sheets - <http://www.msds-online.com/msds-search>

Chemical Information - <https://www.sigmaaldrich.com/united-states.html>

<http://www.cas.org/content/chemical-substances>

IUPAC Nomenclature - <http://www.acdlabs.com/iupac/nomenclature/>

General Info - [http://chemwiki.ucdavis.edu/Wikitexts/UC\\_Davis/UCD\\_Chem\\_118B](http://chemwiki.ucdavis.edu/Wikitexts/UC_Davis/UCD_Chem_118B)

#### **How to write Formal Reports:**

Formal reports are meant to act like research papers and so have specific sections and requirements for each section. Research papers are meant to both be specific and brief, but to also make finding certain information simple. So while the language in formal reports may be blunt rather than descriptive, it also can seem repetitive to those not used to reading scientific papers.

Formal reports should be typed, single-spaced and no more than three pages (two should be sufficient in most cases) including diagrams and succinct. Any diagrams that are necessary can be written in by hand before turning in your report or you can use a chemistry drawing program if you have access to one (ChemDraw and MarvinSketch are common). There is no need to purchase a drawing program for this course. Diagrams should NOT be downloaded from the internet and copied into reports. (Uncited materials are plagiarism!).

All reports should include the following information:

#### **Purpose/Abstract:**

1-2 sentences describing the intentions of the experiment. What is the goal, what hypothesis is tested, in many cases also includes the basic conclusion.

#### **Procedure:**

You do not need to write step by step procedures, but the actual procedures used should be referenced (lab manual, text book etc.). You should describe each test used, what each tests for, what reaction occurs (with a full diagram), what indicates a positive test and a negative test. Cite references to the text or other sources you use.

#### **Results:**

Summarize the results of each test (positive or negative), IR analysis, and what that indicates. Tables are useful here, but not required. **STATE YOUR UNKNOWN LETTER/NUMBER!**

**Discussion:**

Explain your test results and provide the possible identities of your compound from the given data in the lab manual. What does each result indicate about functional group or substance identity? Explain the logic you used to narrow down the choices. You should be able to narrow down to no more than 3 choices per unknown, and in most cases you should be able to pick one as the best fit. **STATE YOUR UNKNOWN LETTER/NUMBER AGAIN.**

**Conclusion:**

Summarize your test results and conclusion. Connect this to the purpose and state how the experiment fulfilled the purpose as stated. 4-6 Sentences should be sufficient. Restate your final conclusion on unknown identity with unknown number/letter.

Proper spelling and grammar are factors (if your reader cannot understand your sentence, they cannot understand your science!). Please turn in formal reports, report sheets and post-lab questions together. Formal reports (and associated report sheets and questions) are due at the beginning of lab **2 weeks** after completion of the experiment unless otherwise noted.