**RESEARCH LAB SAFETY EXERCISE**

**PART I: LAB ACCIDENTS IN THE NEWS**

Groups of you are assigned a news article regarding a lab accident that occurred at a university.  Please read the article, meet with your team, and divvy up the task to briefly describe to the rest of the class what happened in the incident and address the questions that follow. The group presentation/discussion is expected to be informal. Each group will be allotted 15 minutes.  
  
GROUP 1.   
<http://cenblog.org/the-safety-zone/2011/01/explosion-from-aqueous-hydrogen-peroxide-and-acetic-anhydride/>   
  
GROUP 2.

<http://pubs.acs.org/cen/science/87/8731sci1.html>  
   
GROUP 3.   
[http://cen.acs.org/articles/88/i34/Texas-Tech-Lessons.html](http://cen.acs.org/articles/88/i34/Texas-Tech-Lessons.html?h=-798756451)

GROUP 4.   
[http://cenblog.org/the-safety-zone/2014/07/more-details-on-the-university-of-minnesota-explosion-and-response/](http://cenblog.org/the-safety-zone/2014/07/more-details-on-the-university-of-minnesota-explosion-and-response/" \t "_blank)

GROUP 5.

<http://www.nhregister.com/articles/2011/04/13/news/doc4da58c22c4b1f135149346.txt?viewmode=fullstory>

Issues to address in your presentation/class discussion:

a) What occurred?

b) Generally, to the best of your knowledge given the information provided on this incident, why did this accident occur during this synthesis/procedure, and not previously?

c) How could this accident have been avoided and what safety protocols/protection should one take when conducting this type of laboratory work?

d) Are any of these safety protocols relevant to what any of you have done/are doing in the Chemistry Department here?

**PART II: SAFETY ISSUES PERTAINING TO YOUR RESEARCH PROJECT**

Please look up a Material Safety Data Sheet (MSDS) for three chemicals that you will be using in your research project.  [Note: a changeover is underway and the name is being changed to SDS, which will serve the exact same purpose as a MSDS.] There are quite a few sources for MSDSs; here is a site that gives a list and description of many different MSDS websites where you can begin your search:  
http://www.ilpi.com/msds/index.html  
  
Then write up the following:

1. Note the key hazards with each chemical listed in the MSDS.

2. List at least three things that could go wrong with these three chemicals you are using in your research and/or with your experimental procedures.  Regarding each potential accident (envision a worst case scenario), describe what you would do if an accident happened.  For example, if you are working with a flammable material and it caught fire, is there a fire extinguisher close to your work station?  If so, is it the correct type of fire extinguisher?  (What ARE the different types of fire extinguishers?) Note changes that should be made to your work space before your begin your work.