

SAFETY GUIDELINES FOR VITICULTURE AND ENOLOGY TEACHING ASSISTANTS

As the TA for a V&E teaching laboratory class, you are not solely responsible for lab safety, but you are a critical link in its importance. You are the visible representative of the department to students, and you will be setting up experiments and equipment, and dealing with faculty and staff. It's up to you to set a good example by being aware of general lab safety and what is required in each lab, as well as reporting unsafe situations regarding conditions, students, equipment, etc. This packet will give you some guidelines for incorporating safety into your teaching and practice.

As the TA in a V&E lab class, it is your responsibility to inform the students of the potential hazards inherent in each laboratory procedure. It is also your duty to discuss with them how to safely work with the various chemicals and compounds as well as the equipment. The good news is, unlike other disciplines within biochemistry, chemical engineering, etc. – where a large number of extremely hazardous chemicals are employed - wine production and wine analysis tend to use very few really hazardous materials. However, this is not a reason to be lax on safety.

As TA, you must foremost supervise the student activities in the lab. This may be somewhat difficult for you if you are close to some of the students or if you feel others have more experience than you. So it's important to think about the safety needs before each lab exercise and detail what it is you want to emphasize. Never assume the students know the fundamentals of lab safety. Be explicit and deliberate in detailing the safety aspects of each lab, no matter how obvious it may seem to you. It's quite likely many of the students are hearing these things for the first time. Even if the students have heard it before, it is good practice to go over the safety aspects. You can not even begin to anticipate all the ways things can go wrong.

It is also your responsibility – as role model – to practice what you preach. Your commitment to safety will set the tone for the entire lab. Then, give the students what they need to work safely and encourage them to ask questions when they need help or more information.

Whenever the term 'safety' is used in this presentation, it is also assumed that the topics of environmental health and safety – as opposed to merely "personal safety" – are also included. As the Teaching Laboratory Manager, I will endeavor to discuss all of these concerns during weekly lab meetings, pointing out special hazards or procedures and appropriate precautions. Discuss with me any further concerns you may have at this time.

When you set up for the upcoming lab exercise, think about the safety needs and how you want to present this to the class. Put yourself in the shoes of a completely inexperienced student. We should never let anything in the lab class take precedent over safety.

Integrate safety into each lab lesson. Students who consistently ignore safety procedures or who constitute safety hazards themselves can be flunked or forced to drop classes.

Topics to be covered in the pre-lab lecture can be taken directly from the classroom safety guide lines, and can include:

- A general overview of safety hazards found in the lab
- Student's responsibilities for safety
- Dress and student possessions
- The use and availability of PPE – personal protective equipment, i.e., safety glasses/goggles and other clothing/equipment
- No eating, drinking, smoking
- No mouth pipeting – ever
- Procedures for spills, fire, earthquake, or injury
- Location of eyewash/shower station, fire extinguishers, and fire alarms.
- Use of fume hood
- Specific hazards of the upcoming procedure
- Waste disposal procedures
- Safe use of equipment
- How safety measures will be enforced, consequences if they are not followed

GENERAL SAFETY PRACTICES IN THE V&E LAB CLASSES

1. Know what you are working with and how to use it safely. Material Safety Data Sheets are available for all chemicals we use. These sheets are also commonly available on the internet. Find out about potential hazards and the appropriate safety precautions.
2. Make sure you have taken the appropriate UC Davis EH&S safety classes.
3. No eating, drinking, or smoking in the lab. This prohibition extends to gum chewing, hard candies, and water bottles.
4. No mouth pipeting – ever.
5. No hand – to – mouth contact including pen/pencil chewing.
6. No sandals or bare feet. No pets. No skates. No using skateboards.
7. Know the location of all safety exits for the lab and building.
8. Know where to locate the fire extinguishers and alarm pull boxes.
9. Know the location of the eye washes/safety showers and first aid kits. Remove any cups, glasses, sacks, etc., that are left equipment.
10. Know the location of the nearest phone to use in emergencies.
11. No horseplay in any lab.
12. Avoid unnecessary clothing, books, and papers in the lab.
13. Wash your hands before and after each lab session.
14. In VEN128, disinfect the bench before and after each lab session.
15. Wear the proper personal protective equipment. In VEN 128 – lab coats are required. In the past, they have been required in VEN123 and may be in the future. In VEN124 and 126, you should always wear clothes you can afford to ruin. Safety glasses must be worn during all VEN123 procedures. Goggles must be worn during any distillation, i.e., Ebulliometer, Cash Still, and Aeration/Oxidation. Rules may be changed to require goggles at all times in VEN123. Wear nitrile gloves when handling chemicals.
16. Keep your work area clean and organized. Only put essential books and papers on the lab bench. Backpacks and coats should be kept away from lab procedures.
17. Never pipet out of a primary reagent bottle. Label all secondary containers, including test tubes, volumetrics, etc.
18. Be familiar with compounds requiring the use of the fume hood.
19. Be familiar with compounds requiring special disposal. Discuss these during your weekly set up meetings.
20. Don't reach across a flame. Do not leave flames unattended. Be sure the flame is out before you leave.
21. Don't point test tubes or small mouthed containers at yourself or others.
22. Clean up solid spills. Clean up glass breakage and place in broken glass boxes. Never use your bare hands. Fill out breakage report. Do not use broken glass boxes for general waste or wine bottles. Notify lab manager or instructor of a mercury spill. Know the location of the mercury spill kit.
23. If gas cylinders are used, make sure they are properly secured.
24. Keep sinks clean. Chase juice or wine with copious volumes of water.
25. Never work alone in the lab.
26. Use common sense and respect your colleagues at all times.