



THE SAFETY GUIDE WIRE



University of Connecticut's Environmental Health & Safety Newsletter

September 2006

Chemical Safety -
[*Once Upon a Time....](#)

Occupational Safety -
[*Electrical Safety](#)
[*Respirator or Dust Mask?](#)

***Biosafety**
[Did you know?](#)



Autumn is a second spring when every leaf is a flower. **Albert Camus



~Chemical Safety~



Once Upon a Time....

No, this isn't going to be a *Fairy Tale*. Many researchers may have thought in the past, however, that warnings issued from this Department about the possibility that the EPA or DEP may show up and conduct hazardous waste inspections may have sounded like the Boy who Cried "**Wolf**".

On Monday, July 3, 2006, an Inspector from the State DEP showed up at my office. He stated that a formal Hazardous Waste inspection will be taking place, possibly over a two week period. We began in Chemistry, and hit EVERY building, as well as the Art studios, and non-laboratory workshops. First of all, note the date, it was the Monday before a major holiday. Inspectors can come any day they want to. Luckily, I came in that day. I thank all of you who took part in the inspection process for the most part; the Inspector saw that the University did have a good program in place for managing chemical waste. For the purpose of this article, however, I'd like to focus on the gaps that were discovered.

During the summer, many undergraduate laboratory classes are still being run and, wastes are being generated, albeit at a lower volume. Less waste does not translate into less attention to detail, as one Preparatory Lab found out. You still have to segregate waste, properly label it, and keep a cap on the container.

On the research side, the summer is a time when new laboratory workers appear on campus. Some are visiting for the summer, some are new graduate students, and some are undergraduates who have found summer employment opportunities doing research. Although I offered Lab Safety Training at the beginning of the summer, inevitably many could not fit it into their schedule, or did not know about it.

This can be addressed in two ways:

- 1) The PI for the lab has the responsibility to inform the new worker of the mandatory requirement for training. (I might add that the PI should set the example and attend more often than is noted on our Departmental Training Database)

Our Vision

To promote and maintain a safe and healthful environment by ensuring the highest level of environmental health and safety services for faculty, staff, students and visitors at the University of Connecticut.

2) The Principal Investigator can delegate a senior member of the lab to provide orientation on basic safety in the lab, and proper procedures for hazardous waste management. Every laboratory should have a trained "Chemical Hygiene Officer," someone who is familiar with safety procedures and the regulatory requirements noted on our web page <http://ehs.uconn.edu/Labsindex.htm>.

I'll end this by stating the obvious, the University's Research community is regulated by many laws and, whether you agree with them or not, they are the law. And ignorance of the law does not offer much of a defense.

Much of what you need to know is on our web site www.ehs.uconn.edu.

~Occupational Safety~

Electrical Safety

by: Rich Kula

Electricity makes life easier and helps us to perform many tasks. While we have become accustomed to electricity, we must still respect its ability to cause injury and death. Electrical systems, circuits, wires and equipment are safe to use only in the environments they were designed to be used in with their safety devices intact, e.g. insulation, enclosed cases, and safety systems.

When you touch a live wire and the ground, a tool, or a machine, you become a conductor of electricity. It doesn't take much electricity to be harmful; in fact, an electrical flow as little as 20 milliamps, under certain conditions, can be fatal (most household circuits can carry 15,000 to 20,000 milliamps). Why can such a small electrical flow have the potential to be fatal to a human being? In these situations, you cannot release your grip due to involuntary muscle contractions. **Refer to the chart below.**



Current In Milliamps

Effects Of Current Passing Through The Body

1 to 5	May not be felt - maximum harmless intensity
5 to 8	Sensation of mild shock, can let go at will
8 to 15	Painful shock, muscles contract, may still be able to let go
15 to 20	Painful shock, can NOT let go
20 to 75	Intense pain, breathing may be paralyzed
100 to 200	Ventricular fibrillation; holds unconscious victim to the circuit, could be fatal
200 or more	Heart stops, muscles contract intensely & could break bones, severe burns, breathing stops

To protect yourself from shocks, follow the guidelines listed below:

- Re-route electrical cords or extension cords so they don't run across the aisle/corridor, over pipes or through doors.
- Turn off and unplug equipment before removing the protective cover to clear a jam, replace a part, etc.
- Don't use an electrical outlet or switch if the protective



Our Mission

To provide comprehensive environmental health and safety services for the University community by developing and administering effective policies and procedures that prevent personal injuries and maintain regulatory compliance in the areas of biological, chemical, occupational and radiation safety, thereby supporting the University's mission of teaching, research and public service.

- cover is ajar, cracked, or missing.
- Use dry hands and stand on a dry surface when using electrical equipment.
- Remove any combustible materials, such as paper and wood from the area. Be sure flammable liquids and gases are secured away from the area when the appliance is in use.
- Never put conductive metal objects into energized equipment.
- Remove cord from the outlet by pulling the plug instead of pulling on the cord.
- Be sure extension cords are properly rated for the job and used only temporarily.
- Use extension cords with 3-prong plugs to ensure the equipment is grounded. Never remove the grounding post from a 3-prong plug so you can put it into a 2-prong plug.
- Don't overload extension cords, multi-outlet strips or wall outlets.

For more information on Electrical Safety go to our Electrical Safety Fact Sheet at: <http://www.ehs.uconn.edu/Fact%20Sheets%20and%20Chacklists%20index.htm> or call EH&S at 6-3613.

Are you or your employees using a respirator or dust mask in the course of your job?



If so, then the recently revised [University Respirator Policy](#) is a must read. In it, you can answer the following questions:



What steps do I need to take before I wear a respirator? - *See sections V. Medical Evaluations, VII. Training, and VIII. Respirator Fit*

Is the paper dust mask that I use in the lab or work area considered a respirator? – *See III. D. Respirator Types and Acceptable Use Criteria*

How do I select a respirator for my employees? - *See section III. Respirator Selection*

How do I make sure it fits properly? – *See section VIII. Respirator Fit*

What if my employees don't need a respirator, but only use it for comfort purposes? – *See section IV. Voluntary Use of Respirators*



The policy serves to clarify OSHA's intent on respirator use and is part of the continuing effort to provide a safe and healthful workplace for University employees. To sign up for respirator training, please see the [University Respiratory Policy](#) or [Respirator Policy Summary](#) for the necessary procedures. To sign up for voluntary use of dust mask training, or if you have any questions pertaining to respirator use, please contact [Val Brangan](#) at 486-2982.

~Biological Safety~

Did you know that Biosafety offers the following **training** of special topics upon request:

- ◆ Bloodborne Pathogens Awareness
- ◆ Autoclave Use and Monitoring
- ◆ Biosafety Cabinets and other Clean Air Devices (CAD)
- ◆ Biosafety Considerations in High Containment (BSL3) Labs
- ◆ Tuberculosis Awareness



Please call EH&S at 486-2436 or 486-3613.



Do you need to register for **Radiation, Biological, Occupational** or **Chemical Safety training**? Check our Laboratory Training and Occupational Health and Safety training **checklists** at

<http://www.ehs.uconn.edu/training/schedule/labtrain.htm> or

<http://www.ehs.uconn.edu/training/schedule/occutrain.html>

If you do, please register on-line at <http://www.ehs.uconn.edu/training/> for any training that you may need.

For any questions, please call the main number at 486-3613.