

## EHS Chemical Exchange Program

EHS maintains a Chemical Exchange program, in which people can exchange unwanted chemicals with others on campus. The chemicals or products must be unopened, unused and have not expired. If you have chemicals that you no longer need, please contact EHS to pickup these items. If you are looking for any chemicals for use, please visit the EHS web-site for a list of available chemicals.

## Mercury Reduction Policy

UT Knoxville has a Mercury Reduction Policy and the goal is to reduce the non-essential uses of elemental mercury or mercury-based compounds by 90% on the UTK campus by 2015. Mercury is harmful to humans and the environment. Believe it or not, **the typical household mercury thermometer contains enough mercury in it to contaminate a 20-acre fish pond!!** One way to minimize mercury is to replace mercury thermometers with alcohol-based thermometers. For more information on this policy, and for more ideas on mercury substitutions and reductions, please visit the EHS web-site.

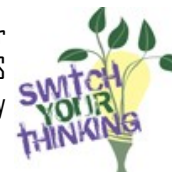


## Shut the Sash Campaign

EHS, in cooperation with the Office of Sustainability, initiated a "Shut the Sash" campaign last year. This campaign encourages anyone who uses a fume hood in a laboratory to make sure the sash is down when the fume hood is not being used.

## Environmental Health and Safety Energy Conservation Efforts

Environmental Health and Safety has made their own efforts to conserve energy on campus. EHS encourages all departments to conserve energy and Make Orange Green!



Some Energy Conservation Efforts we have made include:

- Installed programmable thermostats
- Turn off lights when not in room
- Turn off power strip at the end of the day
- Turn off computers at the end of the day
- Wrapped water heaters with insulating jackets
- Lowered water heater temperatures
- Replaced incandescent bulbs with CFL
- Installed weather stripping along exterior doors.
- Turn off lights to the extent feasible during daylight hours
- Follow the UT Energy Conservation Policy – lower thermostats in the winter and raise in the summer
- Provided training for staff on the energy conservation policy
- Unplugged unnecessary equipment
- Walk to locations on campus as opposed to driving

In addition, Environmental Health and Safety is actively involved in several committees on campus that encourage and promote waste minimization. These include the Campus Committee for the Environment (CCE) and the Environmental Compliance Team (ECT).

## University of Knoxville Environmental Health and Safety

# Waste Minimization and Energy Conservation



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<http://web.utk.edu/~ehss/>



Save Energy. Be Safe.  
**Shut the Sash**  
If left open, a fume hood uses enough energy to power 3.5 average-sized homes!  
Turn off fan (if possible) and close sash when not in use.



Questions? Contact EHS at  
974-5084 (UTK)  
974-1133 (UTIA)  
[safety@tennessee.edu](mailto:safety@tennessee.edu)



## What is Waste Minimization?

**Waste minimization** is defined as any action that decreases or eliminates the generation of hazardous waste to the extent that it is economically and technically feasible. The U.S. EPA requires entities that generate hazardous waste to make efforts to minimize the volumes of hazardous waste that are generated as much as possible.

There is a hierarchy in which the EPA recommends how waste should be managed:

- Source Reduction (Pollution Prevention) is the most desirable method of waste minimization, which reduces the impact of chemical wastes on the environment to the greatest extent. This is an activity that reduces or eliminates the generation of chemical waste at the source.
- The next most desirable approach is waste minimization through recycling. When a waste material is used for another purpose, treated and reused in the same process, or reclaimed for another process, this is called recycling.
- The least preferred minimization method is treatment and land filling. The most common treatment that can be performed in laboratories is elementary neutralization. Other kinds of treatment may involve chemical, physical or biological methods.



### What are the Benefits of Waste Minimization?

Implementing a waste minimization plan benefits everyone at UT Knoxville and the community by:

- \*Lowering waste disposal and compliance costs
- \*Reducing long-term liability for disposal
- \*Reducing costs of chemical purchases
- \*Reducing health and safety hazards
- \*Promoting environmental awareness
- \*Preventing pollution and conserving resources

## What can you do to minimize hazardous waste on campus?

UT Knoxville make every effort to minimize volumes of hazardous waste whenever possible. In cases where hazardous waste must be generated, we recycle, recover or incinerate the waste and ensure it is being properly disposed.



There are things you can do to minimize hazardous waste generation on campus:

- Clearly label all containers of hazardous waste.
- Maintain an up-to-date chemical inventory.
- Substitute hazardous chemicals with non-hazardous chemicals.
- Avoid mixing hazardous chemicals with less, or non-hazardous chemicals (dilution)
- Reduce scale of processes so less waste is generated.
- Purchase only the quantity of chemicals or products that you need
- If you have unwanted chemicals and products, or are looking for chemicals, check with the EHS chemical Exchange Program.
- Include the topic of waste minimization in student and employee training.
- Ensure that good housekeeping practices are being followed and clean up spills immediately.
- Gear equipment and instruments to generate the least amount of waste.

## More Ideas on Waste Minimization

Please visit the EHS web-site for waste reduction ideas, including: a document listing 101 Ways that you can minimize waste in the laboratory and the American Chemical Society's Less is Better Guide to Minimizing Hazardous Waste in labs. In addition, there is an Art and Theater Hazardous Waste Management Policy listing ways that hazardous waste can be minimized in these areas.



If you have any ideas about ways to minimize waste on campus, please contact EHS. We appreciate any ideas and feedback.

### More Information on Waste Minimization

For more information on waste minimization, visit the following web-sites:

**Environmental Health and Safety:** <http://web.utk.edu/~ehss/>

**Office of Sustainability:** <http://environment.utk.edu/index.html>

**EPA Waste Minimization web-site:** <http://www.epa.gov/epawaste/hazard/wastemin/index.htm>

**EPA Pollution Prevention web-site:** <http://www.epa.gov/p2/>

