

RUTGERS

Rutgers Environmental
Health and Safety

REHS News

September 2007, Issue 11

Welcome to the 2007 Fall edition of the REHS Newsletter. If you have a suggestion for a future EHS article, please feel free to contact us through the Safety Suggestion Link on our website at <http://rehs.rutgers.edu> or at 732-445-2550.



2007 Rutgers Safety Management Meeting
Dr. Anthony Broccoli, the keynote speaker, discussed climate change and its consequences.
Mail and Document Services received a Certificate of Excellence for a 100% reduction in injuries and illnesses for FY 2006.

National Preparedness Month Sept 1 - 30 <http://www.ready.gov/america/npm07/index.html>

National Farm Safety and Health Week Sept 16 - 22 <http://www.nsc.org/necas/>

Free Surplus Computer Pick-up

Consumer electronics (anything containing a circuit board) are regulated by the New Jersey Department of Environmental Protection (NJDEP) as universal waste and must be disposed of through Surplus and Material Services. To promote recycling and proper disposal of consumer electronics, Surplus and Material Services has eliminated any fees or charges for the pick up of these items from your department.

Consumer electronics include the following items:

- Computers
- Printers
- Fax Machines
- VCRs/DVD/CD Players
- Televisions
- Copy Machines
- Lab Equipment (must be free of contamination)
- UPS's – Uninterruptible Power Supplies (must be intact – if UPS batteries are leaking, contact REHS immediately)

To ensure the proper collection and disposal of these items, simply follow the procedures below:

- Complete a Surplus Disposal Request Form available at <http://www.material.rutgers.edu>. If a property

tag number is present on the unit, record this property tag number on the Surplus Disposal Request Form and indicate if the unit is working.

- Forward the Surplus Disposal Request Form to Material Services via fax to 732-445-2018 (attention Peter Shergalis) or as an email attachment to material@rci.rutgers.edu.



Surplus and Material Services has surplus computers available for sale through the university's surplus store. Additional information and computer pricing can be found at <http://www.material.rutgers.edu/surplussales.shtml>.

This program is limited to Rutgers University property, all personal computers from home must be managed through your

Inside this issue:

| | |
|--|---|
| Free Surplus Computer Pick-up | 1 |
| Home Fire Safety | 2 |
| Indoor Air Quality - Revised Standards | 2 |
| Cleaning Up Compact Fluorescent Lights | 3 |
| Drinking Water Quality at Rutgers University | 3 |
| Hazardous Waste Minimization | 4 |

Local Township and/or County recycling program.
Please feel free to contact Surplus and Material Services Department at 732-445-2255 for additional information regarding the pick up of surplus computers and consumer electronics.

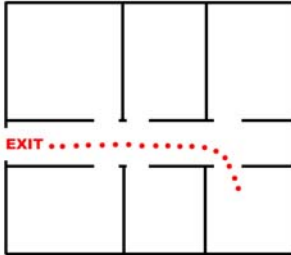
Ensuring the proper management of obsolete consumer electronics is part of the university's commitment to environmental stewardship. Additional information about the university universal waste program can be found in the waste management sections of the REHS Website at <http://rehs.rutgers.edu/>.

Home Fire Safety

Did you know that there is a fire in a home every 83 seconds? In 2005, there were 381,000 home fires resulting in 3,030 deaths and 13,300 injuries (NFPA). You can prevent fires in your home by following these precautions:

Preparedness is the best defense against home fires.

- Develop a fire evacuation plan for your home and practice your plan.
- Install smoke/carbon monoxide detectors on all floors and near/in bedrooms. According to NFPA, 74% of home fire deaths were in homes without smoke detectors or working detectors. Check with your local fire department for requirements and suggestions on placement.
- Ensure that you change your batteries in your smoke detectors every six months (daylight saving time).
- Install a fire extinguisher in your home and learn the proper way to use it (check with your local fire department on training classes). Call 911 first before attempting to use a fire extinguisher.



Cooking is the leading cause of home fires and injuries. More than half of all cooking injuries occurred while people were trying to extinguish the fire (NFPA).

- Do not leave the stove unattended when frying or broiling.
- Smother a pan fire with a lid or use an ABC rated fire extinguisher. Do not use water, it will spread the fire.
- Do not attempt to carry the burning pan outside as you may spread the fire or burn yourself.

Smoking is the leading cause of fire deaths. Do not smoke in bed or while lying down.

Candle use, heating equipment and electrical wiring are other common causes of home fires.

- Do not leave candles burning when you are not at home or are leaving the room.
- Ensure candles are placed in an appropriate holder and away from curtains, paper, and other flammable materials.
- Place portable heaters away from flammable materials, purchase heaters that



automatically turn off when tipped over, and avoid using kerosene heaters indoors.

- Maintain a clear area, at least 3 feet, around your boiler and hot water tank.
- Have your boiler and hot water tank checked or serviced yearly.
- Maintain your laundry equipment and room free of lint. Check/clean the exhaust duct.
- Homes with older wiring have greater risk of fires. Consult an electrician if you have concerns about the wiring in your home.
- Use outlets sparingly and avoid overloading outlets. Have an electrician install additional outlets, if needed.
- Avoid the use of extension cords and do not run them through wall or floor openings, under carpets or through doors. Ensure that the extension cord you are using is sufficient for the type of equipment (check the rating on the cord) and is Underwriters Laboratories (UL) listed.

For more information on home fire safety, please visit:

The National Fire Protection Association (NFPA) at <http://www.nfpa.org>
The National Safety Council at <http://www.nsc.org/library/facts/fires.htm>
The American Red Cross at <http://www.redcross.org/services/hss/tips/firetips.html>

Indoor Air Quality (IAQ) - Revised Standards

New Jersey Public Employees Occupational Health and Safety (PEOSH) recently published revisions to the 1997 Indoor Air Quality (IAQ) Standard (N.J.A.C. 12:100-13).

The following is a summary of the changes:

- Develop a written program on how you will comply with the IAQ Standard.
- Employers are required to identify a "Designated Person" who:
 - Must have thorough knowledge of and ensure compliance with the standard;
 - Receive and respond to employee complaints; and
 - Communicate requirements of standards to appropriate departments and university community.

The following is the list of designated

individuals at the university:

- Anthony Calcado, VP Facilities & Capital Planning (NB).
- Steven Dubiago, Assoc. Director Housing Operations (NB).
- James Vernere, Facilities Supervisor Dining Services (NB).
- Andrew Witek, Director Facilities Maintenance Services (Newark).
- Bernard DelGuidice, Director Facilities Services (Camden).

The Standard also requires employers to:

- Establish and follow a PM schedule for Heating Ventilation and Air Conditioning (HVAC) systems (in accordance with manufacturer's recommendations or industry standards).
- Ensure damaged components are repaired/replaced promptly.

- Perform periodic visual inspections of the components of the HVAC system.
- Identify potential sources of contamination affecting outdoor air intakes.
- Ensure renovation/construction projects do not negatively impact IAQ in occupied areas.
- Promptly investigate employee complaints about IAQ.
- Maintain records.

REHS will assist in Indoor Air Quality investigations and work with complainants and maintenance personnel to identify and address IAQ issues. If you have questions regarding the IAQ Standard or issues related to Indoor Air Quality, please visit the REHS website at http://rehs.rutgers.edu/lslab_iaq.htm or contact us at 732-445-2550.

Cleaning Up Compact Fluorescent Lights (CFLs)

Concern about mercury in compact fluorescent lights (CFLs) has recently become an issue based on articles in several magazines and newspapers about potential exposure and clean up costs.

If cleaned up immediately following simple precautions, the breaking of a CFL would not present a significant health hazard. In fact, the broken glass would present a greater hazard. You do not have to hire an environmental clean up company to clean up a broken CFL.

CFLs do contain a small amount of mercury (approximately 5 milligrams). This is approximately the size of the tip of a ball point pen. There are other sources of mercury in your home that contain significantly more mercury than CFLs (2x - 500x more mercury). This includes fluorescent light tubes (approximately 12 milligrams for 4' tube), thermostats (approximately 3,000 milligrams) and fever thermometers (approximately 500 - 1,500 milligrams).

People can also be exposed to mercury through the environment. This in-

cludes exposure through naturally occurring degassing from the earth, release from power plants, industrial contamination and food consumption (especially fish where, through chemical changes, the mercury is transformed into methyl mercury, a more toxic form of mercury than the type in CFLs).

If a CFL should break at the university, follow the EPA clean up and disposal recommendations found at the following link, <http://www.epa.gov/mercury/spills/index.htm#fluorescent>. The waste must be placed in a sealed plastic bag, stored in a sturdy box, labeled with the Rutgers Universal Waste label, and marked as "Broken Lamp for Disposal". This waste must be disposed of through the university approved universal waste vendor.

If a CFL should break in your home, follow the EPA clean up and disposal recommendations found at the following link, <http://www.epa.gov/mercury/spills/index.htm#fluorescent>. Small children should be kept from the area until cleaned. If possible, the area should be ventilated (open a window, use a fan).

Broken bulbs should be placed in a sealable plastic bag for disposal. To help protect our environment, broken and burned out CFLs or any other items containing mercury should be disposed of through your county's recycling efforts or hazardous waste drop off locations.



For more information, please see the EPA fact sheet at the following link, http://rehs.rutgers.edu/pdf_files/MercuryInCFLs.pdf. If you have questions or require additional information, please contact REHS 732-445-2550.

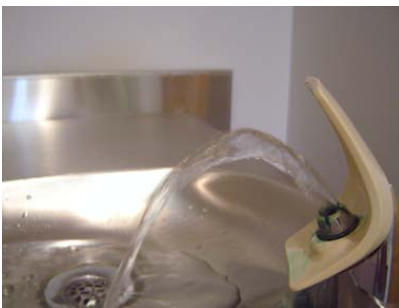
If cleaned up immediately following simple precautions, the breaking of a CFL would not present a significant health hazard.

Drinking Water Quality at Rutgers University

Rutgers University obtains drinking water from both public water utilities and from on-site wells. The large campuses in New Brunswick, Newark and Camden are all on public water utility supplies. Many of the university research farms, stations and private dwellings obtain their drinking water from on-site wells. Regardless of the source of water, the university maintains analytical results to document water quality.

Each public water utility is responsible to treat water to ensure water quality prior to distribution. Water quality analytical data is provided to the university by the various water utilities. If a problem arises with public water quality, the utility must notify the users. This has happened in the past when the local water utility cautioned communities to boil water prior to drinking. This can be caused by events such as a water main break or hurricane. If this were to happen, the university community would be informed through the established communication procedures (i.e. website, email, etc.).

The university must ensure safe drinking



water for the locations which obtain drinking water from on-site wells. For these locations, we must comply with the NJDEP Private Well Testing Act. Rutgers Environmental Health & Safety Department (REHS) coordinates and manages the sampling of these wells. REHS has compiled a database of all the private potable wells owned by Rutgers University. The database contains the following information:

- Specific location of drinking water wells
- Treatment system (if applicable)
- Laboratory certification
- Test dates
- Analytical results
- Recommendations

The database is monitored frequently to maintain current and accurate records of scheduled testing dates and analytical results. Furthermore, only NJDEP certified laboratories are contracted to conduct well testing. These laboratories are required to provide immediate notification to the specific facility and the NJDEP if analytical results indicate well contamination.

If you are interested in having your home well water tested, the Rutgers Cooperative Extension has an extensive list of laboratories for testing well water in New Jersey at http://www.water.rutgers.edu/Fact_Sheets/fs343.pdf. For homeowners with "city water", you can contact your local water utility for water testing results.

Additional information about drinking water can be found on the Rutgers Cooperative Extension website at http://www.water.rutgers.edu/Fact_Sheets/fs434.pdf. If you have questions regarding water quality at the university, please contact Sue Dickison and/or REHS at 732-445-2550 or dickison@rehs.rutgers.edu.

Hazardous Waste Minimization at Rutgers

Rutgers University is required by the United States Environmental Protection Agency (USEPA) and the New Jersey Department of Environmental Protection (NJDEP) to minimize the generation of hazardous waste. Minimizing hazardous waste improves workplace safety, promotes environmental stewardship and reduces costs. Our hazardous waste minimization program is focused around the following six activities:

Chemical Reuse Program – REHS has implemented a chemical reuse program where unopened virgin chemicals that are no longer needed or are being disposed of as waste, are collected, stored and

offered for reuse within the university. There is no cost for participation in this program, which can be done in the following ways:

- Donate unwanted chemicals for redistribution
- Request an available chemical to be delivered to your lab
- Post a "Chemicals Wanted" request

For more information regarding the chemical reuse program or to view the list of available chemicals please visit the REHS website at: Laboratories - http://rehs.rutgers.edu/lseenv_reuse.htm, Maintenance - http://rehs.rutgers.edu/ms_env_reuse.htm, or Art - http://rehs.rutgers.edu/art_env_reuse.htm.

Inventory Control – Departments are encouraged to purchase only the chemicals they need and in quantities that will be used in the near future. Properly rotating stock can ensure older chemicals are used before newer chemi-



icals, which prevents exceeding chemical expiration dates and container deterioration. Centralized purchasing of chemicals and products within a department or laboratory can prevent duplicate orders. For more information regarding inventory control please visit the REHS website at: http://rehs.rutgers.edu/lseenv_minimize.htm

Substitution – By substituting hazardous materials with "green" or less hazardous chemicals, we improve safety, minimize exposure and produce waste which is more environmentally friendly. For more information regarding chemical substitution and a list of example substitutions please visit the REHS website at: http://rehs.rutgers.edu/lseenv_minimize.htm

Micro-Scale Chemistry – Micro-scaling is a waste minimization technique that can be utilized effectively in organic chemistry laboratories. The Rutgers Chemistry Department has demonstrated environmental stewardship by utilizing this technique. This concept uses smaller amounts of chemicals initially, which results in lesser amounts of hazardous waste being generated. For more information regarding micro-scale chemistry please visit the REHS website at: http://rehs.rutgers.edu/lseenv_minimize.htm

Mercury Thermometer Exchange – REHS manages a mercury thermometer exchange program, where researchers can exchange their existing mercury thermometers for alcohol thermometers at no cost to their department. This results in using less mercury and greatly minimizes the likelihood of mercury exposures and spills in the laboratory. For more information regarding the mercury thermometer exchange program please visit the REHS website at: http://rehs.rutgers.edu/lseenv_merc.htm



Acid/Base Neutralization - can be incorporated into the final step of a laboratory procedure to bring waste to an appropriate pH between 5 and 9. The waste to be neutralized must not contain solvents, heavy metals or exhibit other hazardous characteristics such as flammability or toxicity. This is described in the Waste Treatment and Drain Disposal section of our Hazardous Waste Disposal Policy/Procedures which can be found at <http://rehs.rutgers.edu/>

[pdf_files/hazwaste_disposal.pdf](#).

Other methods of hazardous waste minimization include recycling and beneficial reuse:

- Recycling can be accomplished by re-distilling or filtering used solvents to remove contaminants.
- Beneficial reuse is using a waste material as virgin material, such as reusing acetone or ethanol to dry glassware.

Additionally, some vendors will take valuable waste-like materials and reprocess/resell them as usable materials.

If you are using these methods or plan to in the future, please notify REHS so we can include your efforts into the university's waste minimization program.

Waste minimization improves safety in your work areas, minimizes exposures, benefits the environment and, in many instances, offers financial rewards. Please contact Mark Kelly of REHS at 732-445-2550 with any questions you may have regarding hazardous waste minimization at Rutgers.

Fast Facts for Hazardous Waste at Rutgers in 2006

- Audited over **1300** laboratories/research stations/farms for hazardous waste compliance
- Audited **38** universal waste storage locations
- Installed silver recovery units in Waksman to reduce generation of hazardous waste by **1,000** pounds per year
- Fuel blended **6,124** gallons of solvent waste
- Neutralized **847** gallons of aqueous acidic waste
- Reclaimed **165** gallons of mineral spirits from MGSA
- Processed **1,160** gallons of photographic fixer solution
- Reused **1,897** pounds of chemicals through our Chemical Reuse Program
- Recycled **3,230** pounds of lead
- Recycled **1,400** gallons of oil
- Managed **45** shipments of hazardous materials
- Performed **1,738** hazardous waste pickups
- Managed disposal of **175,414** pounds of hazardous waste

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