



SAFETY BUZZ

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FROM THE DIRECTOR

This is our 6th edition of the Safety Buzz, and it has grown to 6 pages (coincidence?). We enjoy preparing the Safety Buzz, and we have found that we have a lot of information to share with you. We try, and I believe that we do, provide information that has practical value to you as you work and learn at Georgia Tech, or is helpful to you and your family at home. Our lead article on hand washing is an example of this type of information. Hand washing is important at work, particularly if you are in a medical profession or deal with toxic agents, and at home in the preparation of meals and as we try to keep from getting sick.

Hand washing is the first line of defense in breaking the transmission of disease, keeps us from contaminating ourselves, and keeps us safe from food borne bacteria such as salmonella or trichinosis. Hand washing is a standard defense against the spread of disease in hospitals and doctors' offices. Where there is Avian Flu in some parts of the world, the World Health Organization advises hand washing whenever there has been contact with an infected or potentially infected bird. At work, hand washing removes contamination that can cause chemical poisoning or disease. There is increasing emphasis in food preparation regarding hand washing after handling poultry and pork products because of the possibility of salmonella (poultry) or trichinosis (pork) in these meats. Guidance on hand washing that I have seen emphasizes the following:

- Use soap and warm water.
- Dirt is removed by mechanical action (rubbing).
- It takes time.
- Drying can re-introduce dirt and germs.

Michelle Short's article, Hand Washing, provides a lot of excellent guidance regarding hand washing, why it is so important, how to clean your hands, and how to keep them clean when you dry.

Researchers face another form of disease transmission—puncture wounds or cuts from “sharps.”—and injury. Michelle Short's article, Sharps Safety, provides excellent information on what sharps are, how people can protect themselves, and how sharps are disposed of properly and safely.

Mike Hodgson, our new Fire Inspector, provides excellent information on using space heaters safely in Winter Heating. Because of space constraints, we had to eliminate Mike's discussion of carbon monoxide (CO) hazards produced space heaters fueled by kerosene, propane, or natural gas, but I welcome you to review the Fall 2005 edition of the Safety Buzz to read information on CO in the column, From the Director.

Our last article continues our chemical safety column, Get to Know Your Chemicals! This time, Debbie Wolfe-Lopez discusses the hazards of ethidium bromide, and how to properly handle this chemical. She also provides guidance on cleaning up spills.

Be safe out there,

Hand Washing

By Michelle Short

According to the Centers for Disease Control and Prevention (CDC), one of the most important steps you can take to avoid infection is to wash your hands.

You should wash your hands:

- Before, during, and after food preparation
- Before eating
- After using the restroom
- After handling animals or animal waste
- When hands are dirty
- If someone around you is sick, then all the time!

Before washing your hands you must consider several things.

For those individuals who wear latex or nitrile gloves:

- Remove all jewelry and other ornaments from hands and wrists
- Trim the fingernails and cuticles. Nails should be no longer to the finger tips to avoid puncturing gloves. Do not use false fingernails since contamination may occur from fungal growth between the false and natural nails.

All persons should:

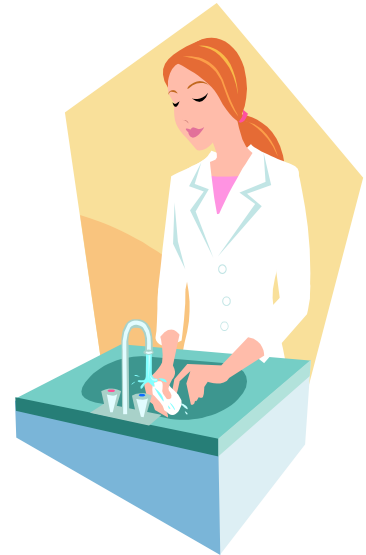
- Consider the sink, including the faucet controls, contaminated.
- Consider the paper towel dispenser contaminated
- Avoid touching the sink
- To keep soap from becoming a breeding place for microorganisms, thoroughly clean soap dispensers before refilling with fresh soap.
- To prevent chapping, use a mild soap with warm water; pat rather than rub hands dry; and apply lotion liberally and frequently.

The proper way to wash your hands to gain the most germ killing benefits:

- Dispense the towel if there is a towel dispenser (like most bathrooms on campus), but do not

rip the paper off just yet.

- Wet your hands and wrist
- Dispense soap and work into a lather. Use regular soap for general activities, antibacterial soap for laboratory and medical settings where antiseptic hand washing is required.
- Rub together all surfaces of your hands for at least 15 seconds. Soap helps the surface tension of water to carry dirt from your hands; cleaning is accomplished by rubbing the dirt from your skin so that the soap and water will carry the dirt from your hands. If this seems too long, just think, if you were visiting the Intensive Care unit of the hospital, you must wash your hands for approximately 2 minutes!
- Rinse your hands, making sure to point your hands downward so all the dirty water will run down and into the sink.
- DO NOT TURN THE FAUCET OFF YET.
- Dry hands completely with the paper towel you have just ripped off the dispenser.
- Take the used paper towel and now turn off the faucet.



Note: When hand washing facilities are not available at a remote work site, use an appropriate antiseptic hand cleaner or antiseptic towelettes. As soon as possible, rewash hands with soap and running water.

What to Avoid:

- Don't use a single damp cloth to wash a group of children's hands.
- Don't use a standing basin of water to rinse hands.
- Don't use a common hand towel. Always use disposable towels.
- Don't use sponges or non-disposable cleaning cloths unless you launder them on a regular basis, adding chlorine bleach to the wash water.

**REMEMBER
THAT
GERMS
THRIVE ON
MOIST SUR-
FACES!**

Sharps Safety

By Michelle Short

Sharps safety is not only a matter of concern for those universities with medical centers, but also large research universities like Georgia Tech. Researchers on campus use needles for various experiments, but all needles carry potential risks.

What is a sharp?

A sharp is anything encountered in the lab that can be anticipated to penetrate the skin or any part of the body and result in an exposure incident. Sharps can include needle devices, scalpels, lancets, broken glass, broken capillary tubes, and broken pipettes.

Sharps can become contaminated with several bloodborne pathogens, including Hepatitis B, Hepatitis C, and AIDS. These viruses can be present in not only blood and saliva, but also unfixed cells, tissues or organs from animals known to be infected. Some cells, tissues, or organs might have not been screened for these diseases, so precautions should be taken no matter what material you are handling.



Other than the bloodborne pathogens, you don't want to become infected with some of the contents that the needles hold.

To prevent accidental needle sticks and other injuries from sharps, caution should be taken to only use these instruments only when there is no alternative. Needle-locking syringes should be used to prevent exposure to sprays and aerosols. General precautions follow:

- Do not recap a used needle
- Do not point a used needle toward any part of your body
- Do not remove used needles from disposable syringes by hand
- Do not bend or break used needles by hand
- Promptly dispose of all sharps in appropriate

containers

- Place sharps containers within easy reach of work stations
- Never fill containers more than 3/4 full
- Use a size and shape container that will allow the sharp to freely and completely enter the container
- Close and seal the top of containers before setting out for pick up

After sealing the container, dispose of by putting in a biohazardous waste box for pickup by EH&S.



New Employees

EH&S welcomes two new employees this year. Therrell Hall and Michael Hodgson. Therrell is a Hazardous Materials Specialist II and Mike is a Fire Inspector. If you see them on campus, be sure to welcome them.

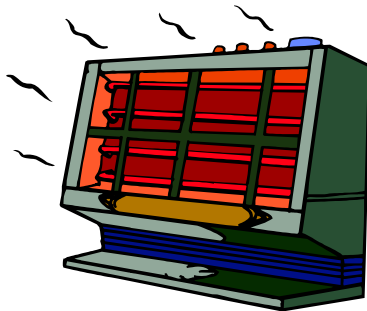


Space Heaters

By Mike Hodgson

Many of you have, by now, received a heating bill that is much higher than ever. You might consider getting a space heater to help reduce those heating costs. Space heaters are excellent spot heaters but they can present some dangers.

A space heater is a self-contained, free standing air heating appliance intended for installation in a space being heated and not intended for duct connection. The U.S. Consumer Product Safety Commission estimates that more than 25,000 residential fires every year are associated with the use of room (space) heaters. More than 300 persons die in these fires each year. An estimated 6,000 persons receive hospital emergency room care for burn injuries associated with contacting hot surfaces of room heaters, mostly in non-fire situations.



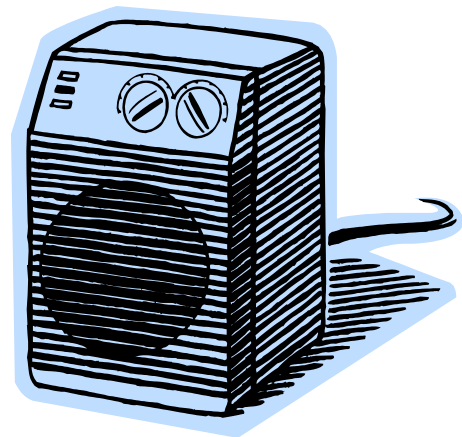
General Suggestions for All Space Heaters

- Select a space heater with a guard around the flame area or the heating element. This will help keep children, pets, and clothing away from the heat source.
- When selecting a heater, look for one that has been tested and certified by a nationally recognized testing laboratory. These heaters have been determined to meet specific safety standards, and manufacturers are required to provide important use and care information to the consumer.
- Buy a heater that is the correct size for the area you want to heat. The wrong size heater could produce more pollutants and may not be an efficient use of energy.
- Read and follow the manufacturer's operating instructions. A good practice is to read aloud the instructions and warning labels to all members of the household to be certain that everyone understands how to operate the heater

safely.

- Keep the owner's manual in a convenient place to refer to when needed.
- Keep children and pets away from space heaters. Some heaters have very hot surfaces. Children should not be permitted to either adjust the controls or move the heater.
- Don't use fuel fired heaters such as kerosene, propane, or gas fired heaters, without proper ventilation. They produce a lot of carbon monoxide that can kill silently.
- Do not use fuel fired space heaters when sleeping or in rooms occupied by the sick or infirmed.
- Never use or store flammable liquids (such as gasoline) around a space heater. The flammable vapors can flow from one part of the room to another and be ignited.
- Be aware that mobile homes require specially designed heating equipment. Only electric or vented fuel-fired heaters should be used.

Place heaters at least three feet away from objects such as bedding, furniture, and drapes. Never use heaters to dry clothes or shoes. Do not place heaters where towels or other objects could fall on the heater and start a fire.



Toys for Tots

The EH&S department's 2nd annual Toys for Tots campaign was a success. We collected over 50 items for needy children in the Atlanta area. Sergeant Timothy James from the Naval Air Station collected the toy donations on December 15th. Thank you to all who participated in this wonderful event. EH&S hopes to continue this tradition for years to come.



TRAINING

EH&S provides safety training dealing with fire and life safety, chemical and laboratory safety, CPR, defensive driving, biological safety awareness, and bloodborne pathogen training. Please contract EH&S for more information.



Upcoming Events/Holidays

MARCH

St Patrick's Day- 17th

APRIL

Day light Savings Time- 2nd

Easter- 16th

Earth Day- 21st

Administrative Professionals Day- 26th

MAY

May Day- 1st

Cinco de Mayo- 5th

Mother's Day- 14th

Armed Forces' Day- 20th

Memorial Day- 29th



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**In Case of
Fire:
Call GT
Campus Police
at 894-2500
or if Off-
campus, call
911**

Get to know your chemicals!

Adapted from "Chemfacts," written by Debbie Wolfe-Lopez

Now, that everyone learned about mercury in our Fall 2005 issue, this edition will focus on Ethidium Bromide. This chemical has been used for years as a nucleic acid stain. The material fluoresces a red-orange color under ultraviolet light and with increased fluorescence when bound to double-stranded DNA. It is available in an odorless, dry powder or soluble, aqueous solution. The powder form appears dark red in color.

Ethidium Bromide powder is an irritant to the upper respiratory tract, eyes, and skin. It is also a strong mutagenic. There is no evidence of human carcinogenicity or teratogenicity.

Personal Protection

Always wear a lab coat, chemical splash goggles, and nitrile gloves. When you leave the lab, take off the personal protective equipment (PPE) and store it in the lab.

Handling Procedures

The powder is as much a hazard as the liquid, particularly by inhalation, so use caution when working with the powder form. Whenever possible, this material should be purchased in sealed rubber capped vials so that it can be hydrated by injecting water through the vial cap without opening the vial. If it cannot be purchased as described above, weigh out on draft-protected balance. Also, clean up around the balance after you are done.

Spill Procedures

Check for spills with UV light (EB fluoresces orange.) If a spill is detected, clean up with *soap and water*, then recheck the area with the UV light. After clean-up, dispose of all spill clean-up material (paper towels, gloves, etc.) as hazardous waste.

Before you purchase or start working with Ethidium Bromide, call EH&S for a Hazard Assessment.

EH&S will

- Review the toxicological data for the material.
- Survey your work area.
- Review your SOPs for work with Ethidium Bromide.
- Review the training records for all those in the lab.
- Test engineering controls, as appropriate.
- Test safety equipment, as appropriate.
- Provide recommendations for PPE.
- Determine if medical surveillance is needed.

Additional resources regarding Ethidium Bromide, including links to other sites, can be found on our webpage, under the tab "ChemFacts."

