ENVIRONMENTAL HEALTH & SAFETY

January 2007 Volume 9, Number 1

EH&S MISSION STATEMENT

The Medical College of Georgia Environmental Health and Safety Division (EH&S) provides environmental safety services to staff, patients, students, and visitors.

The six sections of EH&S, Administration, Environmental Health and Occupational Safety, Biological Safety, Chemical Safety, Fire Safety, and Radiation Safety help to ensure full compliance with all local, state, and federal laws.

We strive to continually improve the level and quality of services provided through creativity, teamwork, and innovation.

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THE DIRECTOR'S CORNER

Submitted by: James S. Davis, Ph.D., CHP, Director, EH&S

EPA Region 4 College and University Sector Initiative Program

In 1999, regional offices of the U.S. Environmental Protection Agency (EPA) began to notify colleges and universities throughout the country of a new compliance initiative targeting higher education. Letters have been sent to college and university presidents including the President of the Medical College of Georgia. These letters announced EPA's intent to conduct inspections. If violations are discovered, EPA warned that enforcement proceedings would commence, with assessment of monetary penalties against those found to be in non-compliance. The EPA further stated "EPA is committed to holding educational institutions to the same high standards that we all expect of private industry...colleges and universities that have not made a real commitment to environmental compliance are taking a significant risk."

Subsequent EPA inspections have led to numerous fines of varying magnitude:

- University of Hawaii, $1.8 million
- Boston University, $253,000 in fines and $500,000 in community projects
- Yale University, $69,000 in fines and $279,000 in environmental projects
- Medical University of South Carolina, $49,999
- University of New Hampshire, $49,000 and $147,000 in campus environmental projects
- Lincoln University, $45,000
- University of Virginia, $24,490

Perhaps even more troubling is the potential for fines and/or incarceration of institutional employees who knowingly violate the law. Individual departments, laboratories, and research areas have been penalized for the improper use, handling, storage, and disposal of hazardous materials. The following are the most common violations cited by the EPA:

- Open containers of hazardous chemicals
- Unmarked, unlabeled, or improperly labeled hazardous chemicals
- Improper segregation and storage of chemicals
- Outdated chemicals
- Improper disposal of hazardous waste
- Inadequate chemical safety training

Protect yourself, your staff, your Department and MCG from penalties. To ensure your lab is EPA compliant, ask yourself the following questions:

- Have all lab personnel completed the Basic Awareness Right to Know (RTK) training at least once since they have been at MCG?
- Have all lab personnel completed Chemical Specific RTK Training and Hazardous Waste Awareness RTK training this calendar year?
- Has your lab had a successful audit this year? If not, you can self-audit using the "Laboratory Self-Review Checklist" or call the Chemical Safety Officer at 1-2663 to request a courtesy audit.

Links to all required training and the Self-Audit Checklist can be accessed from http://www.mcg.edu/services/ehs/chemsafe/chemsafe.htm.

LABORATORY CHEMICAL SAFETY ASSESSMENTS

The Chemical Safety Office (CSO) completed audits of all MCG laboratories between July and December 2006. Significant improvements were documented during this round of audits compared to audits conducted in 2005. On the average, approximately 20% of all PIs had no deficiencies in 2005 compared to approximately 80% who had no deficiencies in 2006. This turnaround is symptomatic of the level of attention to safety detail and awareness that PIs and Lab Workers are paying to our institutional safety program. The following is a list of all PIs who had no deficiencies during the most recent audit of their lab. A copy of these "No Deficiencies" audit reports were provided to the respective Department Chairs. The CSO applauds your efforts. The CSO can be reached at 1-2663.

Molecular Chaperone
Cashikar, Anil G.
Horuzsko, Anatolij
Kaminski, Joseph
Mivechi, Nahid
Moskosidis, Dimitrios
Takayama, Shinichi

Cell Biology & Anatomy
Adams, David
Atherton, Sally
Dong, Zheng
Hamrick, Mark
Hill, William David
LeMosy, Ellen K.
Schoenlein, Patricia
Sickles, Dale W.
Smith, Sylvia
Sohal, Gurkirpal
Wrenn, Robert

Dental Oral Rehab
Wataha, John C.
Whitford, Gary

Ophthalmology/Research
Ambati, Balamurali Krishna
Liou, Gregory I.H.

Georgia Research Pathology
Giri, Judith

Physiology
Dorrance, Anne M.
Inscho, Edward
Kruzich, Paul J.
Rainey, II, William E.
Schreihofer, Ann
Schreihofer, Derek
Wang, Mong-Heng
Webb, R. Clinton

Vascular Biology Center
Black, Stephen M.
Caldwell, Ruth B.
Catravas, J. D.
Imig, John
Lilly, Brenda J.
Marrero, Mario
Pollock, David
Pollock, Jennifer

CBGM
Adam, Bao-Ling

Cancer Research Center
Bhalla, Kapil N.

IMMAG
Brann, Darrell
Chew, Catherine S.
Du, Quansheng
Dynan, William
Kozlowski, David
Layman, Lawrence
Lee, Jeff
Li, Huashun
McCluskey, Lynette
McNeil, Paul
Phillips, Andrew C.
Podulso, Shirley
Shi, Xingming
Stoppler, Hubert
Takeda, Yoshihiko
Wakade, Chandramohan

Immunotherapy Center
Koni, Pandelakis
Mellor, Andrew
Munn, David

Lab Animal Services
Rodriguez, Nancy

Pathology, Department of
Daaka, Yehia

Surgery Research
St Louis, James
Wang, Thomas N.

Pharmacology & Toxicology
Barman, Scott
Buccafusco, Jerry
Caldwell, Robert W.
Dimitropoulou, Christiniana
Johnson, John A.
Lambert, Nevin
Lewis, Deborah
Prasad, Balakrishna
Redmond, Lori
Rudic, Dan
Terry, Jr., Alvin V.
White, Richard

Synapses & Cognitive Neurosciences Center
Blake, David
Kirov, Sergei

Written by: Ken Erondu, Chemical Safety Officer

ARE YOU MOVING A RADIOACTIVE USE LAB?

It can be a real hassle to have to relocate a laboratory. The Radiation Safety Office (RSO) would be glad to help you with this sometimes hectic activity.

There are several things that must be done during the movement of a radioactive material laboratory that are mandated by State law. The license that the State issues to MCG allowing us to use radioactive materials requires several activities. If these requirements are not met, MCG is out of compliance with its radioactive materials license and in violation with State law. The RSO knows what these requirements are and can help you to maintain compliance with our license and with State law.

First, before any move of laboratory or equipment from a radioactive material use area, contact the RSO @ 721-9826.

Second, the RSO will conduct a close-out survey of the old lab area. We will make sure it is no longer contaminated and remove the postings from the area.

Third, if there is equipment that needs to be removed from a radioactive use area, the RSO will make sure that it is no longer contaminated and tag it so that it may be moved or turned in to Property Control for disposal.

Fourth, if you are moving into a new laboratory and wish to use radioactive material there, the RSO will prepare the new laboratory by posting required signage and enter the new location into the proper databases. A new RSO laboratory notebook will be prepared for the lab personnel.

With the RSO assisting with these activities, time is saved, confusion is lessened, and expenses are kept to a minimum. Security of sources and compliance with State law is also ensured.

LET US HELP YOU!!

Written by: Douglas Watson, Deputy Radiation Safety Officer

CHEMICAL WASTE HANDLING IN THE LABORATORY

An integral part of conducting research is getting rid of the waste. It may be as simple as triple rinsing a container, or as intricate as extracting the hazardous material from the final product. In all instances the procedure is controlled by federal, state, local, and institutional regulations. The following is offered as a guideline:

Identifying Waste

If a chemical has no further use because it has expired, become contaminated, or does not have any useful purpose, it should be turned in to the Chemical Safety Office (CSO) for disposal. There is also administrative waste in which a controlling agency declares a chemical abandoned in place (no longer used, but left on the shelf to collect dust). Waste minimization is discussed later.

Of particular concern is any material that has hazardous characteristics, i.e. is toxic (will make someone sick or worse), flammable (will burn), corrosive (has a pH less than 2 or greater than 12.5*), or reactive (reacts violently with water or air, is an oxidizer, forms peroxides, rapidly decomposes when heated, or forms explosive mixtures). If the waste generated has any constituent that falls into one or more of these categories, then the waste is hazardous and must be disposed of through the CSO.

Collection

All wastes must be collected in suitable (compatible with hazard of chemical) sealed containers which must remain closed except while adding contents.

If the integrity of the original container is not adequate (evidence of cracks, bulge, or material not compatible with its content) the container and contents must be placed in another container and prepared for disposal. When setting up to run an experiment for which waste will be generated, choose a suitable container and place a "Hazardous Waste" label on the container with the contents and their percentages listed and a start date of accumulation. Do NOT use a 3 part "Hazardous Waste Tag" for this purpose. Labels are available from the CSO by calling 1-2663. Do not co-mingle waste streams from different experiments.

Storage

The waste container should be placed in secondary containment in a designated place for waste. Flammables should be stored in the flammable cabinet.

Avoid accumulating quantities greater than 5 gallons or longer than 1 year.

Hazardous Waste Labels/Notification

The EH&S Assistant database contains the Waste Pickup element that can be used to identify and label waste, and at the same time notify EH&S that the waste is ready for pickup.

A step-by-step procedure manual is available online at: http://www.mcg.edu/services/ehs/chemsafe/hazmatdisposproc.htm.

The step-by-step procedure to accomplish this is located online at: http://www.mcg.edu/services/ehs/chemsafe/PDF%20files/MCG%20CS%20Assist%20User%20Manual8-06.pdf, pages 23-26.

Hazardous Waste tags may still be used as an alternative to the database procedure. Instructions on using the waste tags are found online at: http://www.mcg.edu/services/ehs/chemsafe/hazmatdisposproc.htm.

Waste Minimization

The quality of research is directly dependent upon the quality of the material used in the research. Do not compromise the integrity of research by using expired or contaminated chemicals. Waste minimization steps include:

First, determine if a less hazardous chemical can do the same job as a more hazardous one.

Second, buy only the quantity that is intended to be consumed. Avoid the temptation of buying the "giant economy size." Frequently, the expense of disposal is greater than the cost of purchase.

Third, avoid the possibility of having chemicals declared "abandoned in place" by deciding if a chemical is necessary to carry out current research, or at least if it can reasonably be expected to be used within the next 6 months. If the answer is "No," then determine if it is stable. If it is, offer it to the CSO for transfer to another researcher. If it is not stable, then turn it in for disposal.

The CSO will come to the laboratory and sort the chemicals, separating those chemicals that may be disposed down the drain versus those that have to be labeled and disposed of by professional waste carriers.

EH&S can assist you in locating a small quantity of a chemical if it is needed. Please call EH&S at 1-2663 to locate the chemical in another inventory.

In Laboratory Disposal

No chemical or waste may go down the drain without written express permission from EH&S.

Special wastes

If the laboratory uses formalin, ethidium bromide, or osmium tetroxide, please contact EH&S for special handling procedures.

In conclusion, EH&S encourages retention of only those chemicals needed for your research. Remember, chemical and waste handling practices must comply with federal, state, local, and institutional regulations. No chemicals may be disposed of down the drain without explicit written permission from the Chemical Safety Office!

Written by: Tim Nelken, HazMat Officer

*only material with pH between 6-9 and not having any other hazards may be disposed of in the sewer system.

Environmental Health and Safety News
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OFFICE PROPERTY FIRES

Thousands of fires occur at office properties every year in the United States, resulting in injuries, deaths and millions of dollars in direct property damage. Office properties include business offices, banks, veterinary or research offices, engineering, mailing firms and post offices. The leading cause of these fires is electrical distribution equipment.

FACTS & FIGURES:

- An estimated 5,500 office property structure fires were reported in 1999, resulting in five civilian deaths, 62 civilian injuries and $147 million in direct property damage.
- Since 1980, structure fires in office properties fell 48% from 10,600 in 1980 to 5,500 in 1999. From 1998 to 1999 structure fires in office properties rose 8% from 5,100 in 1998.
- Electrical distribution equipment caused 23% of office structure fires in 1999. Intentional fire setting (16%) ranked second.
- From 1994 to 1998, 54% of fires in office properties occurred in facilities with smoke detection equipment. Automatic fire suppression systems were present in 25% of these fires. The average estimated direct property damage was more than twice as high when no automatic suppression system was present.
- In 1999, 18% of office property fires started in offices themselves; 6% started in the kitchen; 6% started on an exterior wall surface; and 5% originated in the attic or ceiling/roof assembly or concealed space.
- In 1999, an estimated 5,400 outside and other fires in or on office properties caused two civilian injuries and $900,000 in direct property damage.
- The 1,100 vehicle fires on office properties in 1999 caused seven civilian injuries and $3.1 million in direct property damage.

FIRE SAFETY TIPS:

- Be prepared.
- Read your building's evacuation plan.
- Count the doors or desks between your work area and the nearest exits.
- Know at least two ways out of your work area and participate in regular fire drills.
- Post the MCG Police/Emergency number by your phone.
- Know where the fire alarms are located and learn how to use them.

article continued...

- Know where the fire extinguishers are and how to use them.
- Never ignore a fire alarm.
- If you must escape through smoke, crawl low on your hands and knees keeping your head one to two feet above the floor where the air is the cleanest.
- If you have a physical disability, make sure your employer includes your specials needs in evacuation plans.

Modified by: Jimmy Murray, Safety Manager

Source: NFPA's U.S. Fire Problem Overview Report

2007 TRAINING FOR SHIPPING INFECTIOUS SUBSTANCES, DIAGNOSTIC SPECIMENS, AND/OR DANGEROUS GOODS

Federal regulations require anyone who offers for transport, transports, or handles for transport hazardous materials to be a trained person (49 CFR Part 172 - Subpart H). Certification is mandatory every two years. An interactive training CD is available through the Division of Environmental Health and Safety for employees who ship infectious substances, diagnostic specimens and/or dangerous goods. Please call ext. 1-2663 to pick up a training CD packet or for further information.

Written by: Kimberly Garland, Office Specialist

RTK Online Training
University System of Georgia

All MCG employees are required to take the Right to Know (RTK) Basic Awareness training upon employment. This is mandated by the Board of Regents. The on-line training program is designed to educate University System of Georgia employees to properly recognize and work safely with hazardous materials.

If you have not taken Basic Right To Know since employment with MCG, please take approximately 15 minutes to complete the online training at http://www.usg.edu/ehs/training/rtkbasic. If you come into contact with chemicals, other hazardous materials, human body fluid or tissue, you must complete the Chemical Specific, Hazardous Waste Awareness, and Blood borne Pathogens annual training as well. For more information, please contact Ken Erondu, ext. 1-2591.

Written by: Ken Erondu, Chemical Safety Officer