RADIATION R

UW - Madison Safety Department **Radiation Safety Program**

30 N. Murray St. **262-8769** **November 2000**

http://www.fpm.wisc.edu/safety **NRC License: 48-09843-18**

CORD Holiday Hours

CORD will be closed the following days in November and December: November 23, 24; December 23, 2000 through January 1, 2001. Telephone orders will not be taken, however we will process orders received via our web page (www.fpm.wisc.edu/safety) and deliver the material when received. (Note that vendors will also be closed several of these seasonal days; e.g., shipments on December 22 and December 29 are for delivery the following Tuesday).

Training Schedule

The training schedule from 1 November through 31 March includes two morning (8 AM) classes at Union South (16 Jan, 1 Feb). The remainder of the classes are held at Union South beginning at 12:30 on November 3, 9, 15, 27; December 7, 13, 19; January 4, 9, 19, 26; February 7, 13, 19, 28; and March 8, 14, 20, 26. There is no signup; merely show up on one of the class dates, booklets can be picked up at room 19, Biochemistry from 11 - 2:30. (See "Annex Holiday Hours"). The quiz is given the last hour of the class (usually beginning about 3:45 PM).

Pregnancy Surveillance

Epidemiological studies have suggested that the embryo/fetus is more sensitive to effects from high (> 10 rem) radiation doses than adults. Thus, lower radiation dose limits apply to the fetus of a pregnant radiation worker than to the adult worker: 500 mrem for the fetus versus 5000 mrem for the adult. In addition, the NRC mandates each licensee to have a pregnancy surveillance program.

The University's Pregnancy Surveillance Program is a voluntary program. Together with the pregnant worker, the Safety Department will review her radiation exposure history, her lab's workload (type and quantity of radionuclides), and, if appropriate, provide suggestions to reduce exposure to ALARA and well below the 500 mrem limit.

To inquire into this program or if you have questions, call Leola at 2-9180 or send her an e-mail at:

ldekock@fpm.wisc.edu

NRC Inspection

Expect one within the next 2 - 4 months. The NRC must conduct an inspection of the University's research license annually. Their last inspection was December, 1999. What is it that inspectors check on?

1. ***Security and Surveillance***. The inspector(s) walks the halls of selected buildings checking rooms that are posted "Caution - Radioactive Materials." If a door is open, they look in the room to see if it is occupied. If a door is shut, they check the knob to see if it is locked. If unlocked, they open the door and check to see if the room is occupied. If a posted room is unoccupied, the inspector walks in and, using a GM survey meter, checks for radioactive material. If a significant quantity is found unsecured, a violation may be issued for that incident.

2. ***GM survey meters***. The inspector may walk through a lab. Usually, whenever they see a survey meter, they pick up the meter and check calibration dates. If a meter is one day out of calibration, that is a potential violation. Normally 1 or 2 overdue meters of the 500 we calibrate may be acceptable; but if several out-of-calibration meters are found in one area, a violation is certain.

3. ***Training***. Radiation workers may be asked to demonstrate their knowledge of using survey meters. When the clinical labs were inspected, the inspector asked one worker to show how they would use a GM survey meter to check for radioactive contamination. Remember: (1) check batteries, (2) meter check source and verify +/- 20% response, (3) insure any protective (i.e., red) caps are off the GM tube (cling wrap will reduce detectability of ^{35}S to about 0.5 - 1% and make a background measurement in a low-background area, (4) meter within 1 cm of the surface of interest. Action level with a survey meter is 650 cpm above background. Regardless, when using radioactive materials, you should have a meter nearby and use it periodically to monitor your hands and to check your hands and work area when your work is finished.

4. ***Inventories***. If the inspector pointed to a stock vial in your refrigerator, you should be able to find the inventory sheet and state how much radioactivity remains in the vial.

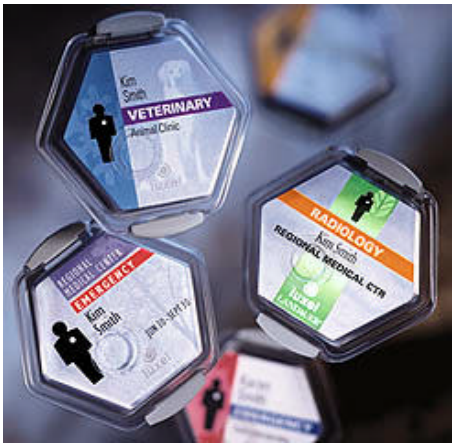
5. ***No food or drink***. Remember a laboratory is a potentially hazardous workplace. The goal is to insure no worker accidentally ingests a potentially hazardous compound (not just radioactive material).

6. ***Routine Surveys***. Make sure you have all your monthly surveys. The UW is committed to required meter and wipe surveys monthly. Survey meters should be used to check for contamination whenever radioactive materials are present, but this survey need not be documented.

7. ***Special surveys***. Our license requires a formal survey whenever a lab uses stock vials containing more than 1 mCi of ^{45}Ca, ^{125}I or more than 10 mCi of ^{32}P, ^{33}P, ^{35}S, ^{51}Cr. This is based upon the potential internal dose and activity. Some radionuclides contribute a greater dose to critical internal systems (e.g., bone, thyroid) than others; these require greater constraints than other radionuclides.

8. ***Radiation badges***. The NRC requires workers to wear a badge when the potential dose exceeds 10% of the allowable limit. At the UW this is essentially if you may work with 1 mCi or more of ^{32}P, ^{86}Rb, ^{51}Cr, or ^{125}I.

New Radiation Badges? Not Yet!



You know I have been telling you that we will be getting new dosimeters; that initially we had hoped to change over on 1 October. That did not happen.

So, what is this new type of radiation badge? Our vendor sold its client list, but not the dosimeters, to another vendor, Landauer, Inc. The dosimeters you are receiving now are Landauer dosimeters. This vendor is very professional and we have contracted dosimetry with them for nearly 10 of the past 15 years. In fact, they are the best commercial dosimetry vendor in the US. Unfortunately they were not always the lowest bidder on our contract and the University experienced a wide variety of vendors.

Thus, in October, 1999, the University's Medical Physics Department successfully lobbied to operate the dosimetry program in its Radiation Calibration Lab. This change will take place about 1 January, 2001. So, expect yet another change.

NEN "Other" Fee

Some of you who order NEN items may notice that your CORD invoice includes a $2 charge under "Other." Without notifying CORD, last year NEN began tacking on a $5 processing fee to shipments. UW contracting personnel discussed this fee with NEN, the conclusion was that NEN would continue to collect the processing fee, so CORD tacked on an additional $1 charge to every order. This year NEN increased the processing fee to $10. The fee is levied each day CORD orders from NEN regardless of the number of orders. To help absorb the $50 per week charge, we decided to collect a $2 "Other" fee on each NEN order and hope that we can break even in the long run.

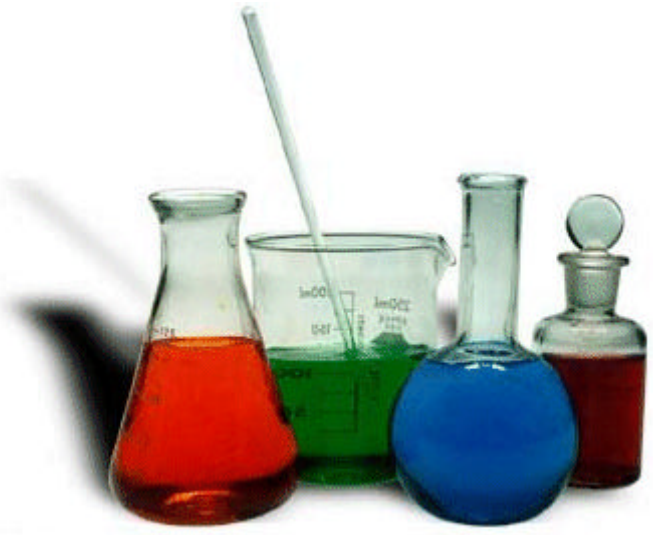
Winter Weather

Winter in Wisconsin is cold. Although many of our waste cabinets are inside buildings, several of the waste cabinets are still located outside (e.g., CSC, Babcock, etc.). Aqueous liquids freeze rapidly below 32°F (0°C) and Wisconsin often experiences -20°F (-29°C) temperatures. To prevent your liquid waste from freezing and breaking the container, fill containers only ¾ full and place liquid wastes in outside cabinets between 11:30 AM and 12:30 on the pickup day (Monday and Wednesday). Safety begins the radioactive waste collection at 12:30 PM.

Annex Holiday Hours

The Annex, Room 19 Biochemistry will be closed Friday, December 22 through Tuesday, January 2, 2001. Call 2-8769 to make an appointment.

Expanded Surveys in Some Labs



When we come to your lab to do the radiation safety survey, we may be asking you a few more questions than usual. In an effort to comply with the OSHA laboratory standard, 29 CFR 1910.1450 as well as Environmental Protection Agency requirements for laboratory training, we will ask you to complete a survey pertaining to chemical safety in the laboratory. We are interested in, among many other things, whether you have a Chemical Hygiene Plan for your laboratory, whether you have chemical safety references (*MSDS, Chemical Safety and Disposal Guide*), whether you're wearing proper protective attire, etc. This survey is not meant to be a "police action". We are merely trying to help you help us get in compliance with the many rules we need to follow, as well as helping each other to provide a safer workplace for all. Please use this survey as an opportunity to ask any questions you have about laboratory and chemical safety.

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