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⚡ UC IRVINE RADIATION SAFETY NEWSLETTER ⚡

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Volume IV, #1 (Summer 2008)

Prepared and distributed by the staff of the Radiation Safety Division of EH&S

The purpose of this newsletter is to keep radioactive material users at UC Irvine informed regarding campus radiation safety policies and procedures including tips to improve safety. Visit the EH&S website (www.ehs.uci.edu) under "Radiation & Laser Safety" for more information.

YEAR-AROUND PROTECTIVE ATTIRE

With summer rapidly approaching, it is a good time to remind all radioactive material users of the need to wear adequate protective attire when working with radioisotopes. During summertime some people in research labs tell EH&S that they feel that it is too hot to wear the required protective attire. But it is much worse to have radioisotopes spilled onto your unprotected skin; thereby making your skin "hot" with radioactivity! Thus, it is required that you wear:

- **A buttoned labcoat** – If it is not buttoned, then splashes of radioisotopes would go directly onto your clothes and perhaps penetrate to your skin. An unbuttoned labcoat covers your arms and shoulders but it is almost worthless in covering the rest of the front of your body. *Always button up!*

- **Disposable gloves –** EH&S recommends that you wear either nitrile gloves or vinyl gloves. Both types are very good, they do not tear easily, and they have very good chemical resistance (nitrile gloves are a bit better in that regard). Latex gloves are acceptable but they are not a preferred type as they tear relatively easily, they are *very* slippery when wet, and they have borderline chemical resistance. Many commonly used organic solvents like acetone and some alcohols can dissolve latex.

- **Long pants or the equivalent** – EH&S wants you to cover as much of your body below the level of your labcoat as you can so that if radioisotopes are dropped and splatter, your legs will be somewhat protected. It is much easier to remove a contaminated pair of pants than it is to remove radioisotopes splattered onto your legs.

- **Enclosed shoes –** This implies shoes which cover your feet completely as opposed to sandals, flip-flops/thongs and high-heels which do not. In the past, EH&S has had to assist lab personnel in removing spilled radioisotopes from between their toes – don't let this happen to you!

CiBR-Trac [si·ber-trak]
Chemical Inventory, Biological & Radio-isotope Tracking system

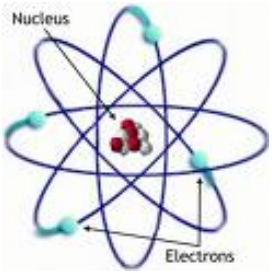
RADIOISOTOPE INVENTORY UPDATE REMINDER

EH&S requires that your radioisotope inventory in the online CiBR-Trac system be updated at least every 6 months. We send out reminders every January and July to all Principal Investigators (PIs) with Radiation Use Authorizations as we know that time can go by rapidly and it is very easy to forget to perform the updates. Some labs update their online inventories more frequently, but that is not required. The web address for CiBR-Trac is http://ucirvine.ecompliance.net/index.jsp.

It is not necessary for you to decay correct the radioactivity in your individual vials. That is performed automatically by the CiBR-Trac system when you save changes and print a hard copy of your updated inventory for your lab's radiation safety records notebook.

Often it is not the PI who updates the lab's radioisotope inventories – it is the lab manager, a senior technician, or a postdoc in the lab. New CiBR-Trac system users need to be approved by the PI as EH&S does not want unauthorized personnel accessing your research group's inventory. To get a login approval, go to the CiBR-Trac website above and click on the blue underlined "login request form" link.

If you have problems navigating through the CiBR-Trac inventory system, contact the EH&S Radiation Safety staff at 949-824-6200. We are always happy to assist you!



MEMORABLE QUOTE

""You should never bet against anything in science at odds of more than about 10 or 12 to 1"."

Ernest Rutherford (1871-1937); British physicist who pioneered the orbital theory of the atom

RADIATION DOSIMETER RINGS FOR ^{32}P USE

It is a common misconception that all persons who work with ^{32}P – regardless of the quantity used – need to be issued radiation dosimeter rings by EH&S. **Actually, only persons who handle individual vials containing 10 mCi or more of ^{32}P are required by EH&S to wear dosimeter rings.** If personnel are using 5 mCi of ^{32}P or more in an experiment, wearing a dosimeter ring is not a bad idea, but is not required unless at least 10 mCi are used.

EH&S has been monitoring ^{32}P users since the mid-1960s. *Our historical data have demonstrated that people who handle low quantities of ^{32}P (less than 5 mCi at a time) do not normally get detectable radiation doses on their rings.* Thus, if you are working with low quantities of ^{32}P, wearing a ring badge would not be useful for you as essentially no dose would likely be measured.

Some things to keep in mind regarding radiation dosimeter rings are:

- The rings need to be worn inside of the protective glove. If you contaminate a ring by wearing it outside of the glove, the ring will be accumulating radiation dose even when you are not wearing it. Thus, it is not a valid measure of your dose.

- Store ring badges well away from sources of radiation so they are not exposed when you are not wearing them.

- If you suspect that you have contaminated a ring with radioactivity, or if you lose a ring, notify EH&S immediately.

- A ring is only to be worn by the individual to whom it is assigned *(the person's name is on the ring's label*). Do not share your ring with others in your lab.

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RADIATION SAFETY RECORDS

EH&S is often asked how long it is necessary for a lab to retain its radiation safety records (wipe test results, radioisotope shipment receipt logs, etc); the answer is for **3 years**. Some labs have kept their radiation safety records going all the way back into the 1970s. If labs want to do this, that is fine but only the records for the past 3 years are required to be retained.

RADIOISOTOPE SHIPMENT DELIVERY ADDRESS

Please keep in mind that all radioisotope shipments placed for a UC Irvine main campus lab must be sent to the following address:

UC Irvine
EH&S/Radiation Safety
Attention: *{Name of PI here}*
4600 Health Sciences Road
Irvine, CA 92697-2725

Note that the EH&S Services Facility was previously listed with a *Bison Avenue* address – that was recently changed when the street running past our building was renamed *Health Sciences Road* (it is an extension of Health Sciences Road on the other side of Bison Avenue, which goes to the Medical School area).

If a radioisotope shipment is mistakenly delivered directly to your lab, contact EH&S Radiation Safety immediately (949-824-6200). We need to log the shipment into the campus' radioactive material inventory and check to make sure it is not contaminated. Do not open and use the shipment without first notifying us!

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ESTABLISHING CLEAN AREAS

Clean areas are labeled areas in research labs in which food and beverages may be safely stored and consumed. The reason it is safe is because clean areas are required to be free of radioactive materials, chemicals, biological agents, and anything else which could be hazardous. *Always make sure that your clean areas are well isolated from areas in which hazardous materials are used either by distance (at least 3 feet away) or by use of a physical barrier (e.g., a tall sheet of Lucite).* The goal is to make sure the clean areas cannot become contaminated by hazardous materials generated/splattered/spilled in the work areas.

All clean areas must be clearly marked with EH&S-provided clean area signs. If you need some, contact EH&S Radiation Safety at 949-824-6200.

MEMORABLE QUOTE

"An expert is a man who has made all the mistakes which can be made in a very narrow field."

Niels Bohr (1885-1962); Danish physicist renowned for his contributions to Quantum Mechanics

RADIATION SAFETY PART II QUIZ

There is now a short (5 question) quiz at the end of the Radiation Safety Part II class (the new and improved version of what was once termed the *Radiation Safety Seminar*). At least one question is included related to each of the presentations given in the class. Persons who pay close attention during the class should have no problems in passing the quiz. The class handouts also include copies of all of the slides presented and a *UC Irvine Radiation Safety Factsheet* which may be used as references while taking the quiz.

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☞ **If you have any questions about radiation safety, please contact EH&S at 949-824-6200. We will be happy to assist you with any radiation safety-related matter!**