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Lab Safety

Spectrum

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UW - Madison Safety Department
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Chemical and Radiation Protection
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Chemical and Radiation Protection

Like United & TWA; AOL & Time Warner, etc., the Chemical and Radiation Safety groups of the Safety Department have merged, creating the Chemical and Radiation Protection (CARP) section. Like the big guys, this merger benefits not only the Safety Department, but also all researchers on campus. No longer will you need to call chemical people and then call radiation people; one call will do it. We have spent 4 months cross training our personnel; they are confident and optimistic about this joint venture. While it is true that individually some of our personnel will be weak in some areas, over time they will improve and they know where to go for help.

With this merger, we will redirect our attention to the campus. It has always been my belief that there are no hazards in the Safety Department. There are lots of potential hazardous substances, but they are so well controlled that safety is not an issue. Thus, I have directed our specialists to go out on campus and assist researchers. Many of you have already seen this redirection; our radiation people have expanded their periodic lab audits to address certain laboratory safety issues. We will now expand this program, placing emphasis on two major compliance areas: Occupational Safety and Health Act (OSHA) and Environmental Protection Agency (EPA).

Those who have grants must certify that they comply with all applicable Federal and State rules and regulations. Often they FAX the certificate to Safety for my signature. If the lab uses radioactive material I verify that radioactive authorization paperwork is in order. Additionally I check our chemical safety files to ascertain they comply with the OSHA Laboratory Standard. The goal of this requirement is to insure that exposure of workers is kept well within allowable limits and that the research lab will not emit hazardous substances into the environment. Our merger will allow me to put more Safety Department assets at your disposal to achieve this compliance. Let's spend a few minutes looking at these issues.





OSHA Lab Standard

The goal of the OSHA Lab Standard is to keep personnel exposures to hazardous chemicals below prescribed limits. This is accomplished by having a Chemical Hygiene Plan, an appointed Chemical Hygiene Officer to manage the plan and to train and document training of lab personnel. There is a blank Chemical Hygiene Plan on the Safety Department's Web page (<http://www.fpm.wisc.edu/chemsafety/forms.htm>) in both Word and PDF formats that you can print and complete. The good thing about the chemical hygiene plan requirement is that if you are doing routine biotechnological research, you merely have to specify that you are following the Safety Department's Chemical Safety and Disposal Guide. You do not need to include procedures, etc., the Guide already includes safe work practices.

Furthermore, I believe that it is unproductive for every lab to create their own Chemical Hygiene Plan, appoint a Chemical Hygiene Officer and document training for all lab personnel. The best and most economical way to comply is to have a single departmental Chemical Hygiene Plan with a single Chemical Hygiene Officer. If any lab within the department is doing procedures, the safety parameters of which are not covered by the Chemical Safety and Disposal Guide, that lab can complete an annex to the Chemical Hygiene Plan. This will insure that all labs within a department are covered by a chemical hygiene plan. There is no requirement that each lab have its own plan. Some activities on campus (e.g., USDA, UW Hospital and Clinics, State Labs, etc.) have a single plan for all laboratory / research groups within their scope of authority. Other departments could easily follow suit. Please contact us if you have questions about completing a chemical hygiene plan, appointing a Chemical Hygiene Officer, training, etc.

Because a departmental program is the most cost-effective option, I will have CARP personnel conduct a training class which will satisfy the initial training required by the OSHA Lab Standard. Beginning 28 February, this training will be held from 9:30 - 11 AM at Union South on the same day Radiation Safety Training is held. It will consist of a 90 minute presentation followed by a quiz (probably from about 11 - 11:45 AM) and the presentation of training certificates. The certificate can be used by labs, department, etc., to document that the individual has received the OSHA-required basic Chemical Safety Training. Obviously research labs will still need to apprise workers of the locations of hazardous compounds in their area (which they already do) and labs which are doing procedures not covered by the department's / lab's basic Chemical Hygiene Plan would need to train and document training for persons participating in that non-routine research. Look to our Web page to see the training schedule. We would also be happy to conduct the same training within your department. After all, we are here to serve you.

Lab Safety Spectrum is published by UW Safety Chemical and Radiation Protection (CARP) four times per year. It is intended to inform you of chemical and radiation-related regulatory and procedural changes, as well as serve as radiation safety annual refresher training as required by 10 CFR 19.12

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EPA Requirements

The basic goal of the EPA is to protect the public and the environment from injury due to hazardous chemical use. Hazardous chemicals can reach the environment either as gases / vapors or through the sewer system. Thus, a key component of EPA's guidance is to reduce air emissions by capping containers (this also reduces the risk of spills from overturned containers). Additionally, label all chemical containers to insure the substance will be handled and disposed of properly. Section G of the Chemical Safety And Disposal Guide discusses disposal. Some compounds can be processed and disposed as nonhazardous waste within the lab (e.g., neutralization and sewer disposal of acids). The Safety Department will come to your lab and collect other hazardous compounds during our routine On-Site Hazardous Material Management pickup. We could also make a special trip to your lab to remove large quantities of chemicals which have been stockpiled over the years.

Waste Issues

Because University research generates literally tons of waste, we are not able to combine waste collection efforts. Therefore, waste collection will continue on the current schedule. Radioactive waste on Monday and Wednesday afternoons, beginning about 12:30 PM. Animal carcasses on Wednesday and Friday mornings, beginning about 8:30 AM. Surplus and waste chemicals on Tuesday except the Chemistry Department. You can connect to our web page and place your request:

Radioactive: <http://www.fpm.wisc.edu/safety/Radiation/pkup.html>

Animal: <http://www.fpm.wisc.edu/safety/Radiation/pkup.html>

Chemical: <http://www.fpm.wisc.edu/chemsafety/forms.htm>

We also have a wide variety of surplus chemicals for redistribution. These consist of chemicals collected on the weekly run which are unused, still in the original container and usually factory sealed. They are free and will be delivered at no charge. Check <http://www.fpm.wisc.edu/chemsafety/> or call Greg Zukowski at 5-5519 for a current list.

Radiation Dosimetry Changeover

There have been delays, we now anticipate the change date to be 1 April. When that occurs, the Radiation Calibration Lab (RCL) will distribute radiation badges. We believe the program will operate in the following manner:

1. Worker completes an application and sends to Safety (no change).
2. Safety verifies information and instructs the RCL to issue dosimeter(s).
3. About 5 days before the changeover period begins, the RCL will bring new dosimeters to the departmental point of contact (i.e., badge group leader).
4. After waiting about 2 weeks for the group leader to complete the exchange, the RCL will collect the previous period's dosimeters from the group leaders and process them (the change on 1 April will be slightly different because Safety will need to send the Landauer dosimeters to the vendor).

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One major issue we still need to define is late / lost badges.

Dosimeters are expensive. A body badge is \$38.00, a ring is \$17.00. The RCL purchased 2 dosimeters per person. A non-returned badge must be replaced and the replacement reissued. If the person is getting monthly badges (e.g., nuclear reactor, x-ray, etc.), this must be done within about 10 days. If the person is getting a quarterly badge (e.g., research labs), this must be done within 50 days. Thus, the RCL will need to set a "late" period, after which the badge is considered "lost" and the badge group is charged for dosimeter replacement. There are not a lot of lost badges for most research groups, about 1%. We have been lax with the previous service because the vendor's accountability of badges was poor. This will not be the case with the RCL. They will do a professional job of providing dosimetry to our radiation workers.

Training Class Schedule

As noted above, starting 28 February, there will be a Chemical Safety Training class beginning at 9:30 (with a quiz about 11 AM) on the same day as the radiation classes. The training schedule from 13 February through 30 June (all classes are held at Union South beginning at 12:30) February 13, 19, 28; March 8, 14, 20, 26; April 5, 12, 18, 24; May 1, 11, 17, 23, 29; and June 5, 11, 22. There is no sign-up; merely show up on one of the scheduled class dates. Booklets and schedules can be picked up at room 19, Biochemistry from 11 - 2:30. The radiation quiz is given the last hour of the class and usually begins about 3:20 PM.

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