



UW-Madison Safety Department

Safety First

Vol.1 No.1

Fall 2004

Positive Changes

Welcome to the first unified Safety Department Newsletter. As we enter the academic year, we are well underway on the work plan developed from last year's internal and external reviews of the department. This combined format was encouraged by our reviewers. We welcome your comments, whether supportive or critical.

A new newsletter is only one of the changes in the Safety Department. We are now governed by an executive team of Associate Vice Chancellors consisting of Alan Fish, Susan Riseling and R. Timothy Mulcahy representing facilities, protective services and research policy respectively. But more important to you, we are making significant changes in our operations.

We are increasing learning opportunities to help you learn more about safety practices and meet the requirements of government regulations. We are listing all our classes and seminars in the Office of Human Resources Development Course Catalog available through www.ohrd.wisc.edu and www.myprofdev.wisc.edu. Of course, we will continue to list the courses on www.fpm.wisc.edu/safety

We are rearranging our services to accomplish more on each visit and reduce the number of times we must intrude on your work. The first step came during the summer when we combined collection of chemical and radioactive waste.

We have updated our web site with a UW look and a friendlier feel. An improved telephone system is coming. Meanwhile, we have created our own cross-referenced "Yellow Pages"



The Staff of UW-Madison's Safety Department.

to help you find the right contact person. You can find the yellow pages on our web site or contact the office if you'd like a paper copy.

We have added strength in occupational health and biological safety and we hope to add strength in chemical safety. We are strengthening coordination among the safety committees to improve information exchange and help streamline their work.

Currently I am on a three month assignment in Washington, DC, working with the EPA on problems surrounding the management of chemical waste in colleges and universities. I believe we are getting close to some real reforms after 25 years of working under regulations and policies designed for industrial plants that are inappropriate for laboratories.

Next spring, after fifteen years of service, I will be stepping down as your Director of

Safety. I have been privileged to help the staff of the Safety Department grow to meet new challenges here and to advance in the profession. We moved administratively out of Physical Plant; we designed and occupied a modern, safe facility. In addition to the professional growth of our current staff, our distinguished alums include four regulatory inspectors, a consultant and three directors.

I will be back in Madison after Thanksgiving. I'm not saying good-bye yet; we've just begun another year of challenges and accomplishments.

—Dave Drummond

Safety First Contributors

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Safety Reigns Supreme at the Chemistry Department

Kathy Paige

With construction underway last fall and the annual fire drill just around the corner, Inorganic and General Chemistry Lab Director, Gordon Bain felt he needed to reevaluate the emergency evacuation plan for the Chemistry Dept. "Last year we had Johnson Street under construction and the Building Manager, Tom Foseid, and I knew we couldn't dump 100 people out of the south exit with no where safe to stand, Bain said."

Bain said he knew they needed to take a look at how many people were in each area of the nine-story Chemistry building and figure out a way to get everyone out safely. Bain said he and Foseid decided that they needed to come up with primary routes and secondary routes of evacuation. He said you never know what part of the building will be consumed with smoke or fire, and he wanted everyone to be aware of an alternative plan for escape. "We felt there needed to be a secondary route in case you can't get to the primary route or it is blocked by who knows what."

Bain knew there was potential for a bottle neck in the north stairwell of the building. During the fire drill in the fall of 2004, Bain stood and watched everyone come down and when it backed up, he directed everyone else to a secondary exit. "I feared this area would jam up, so I wanted to watch it first hand and make the adjustment."

Bain says the Chemistry Building now has the evacuation plan in writing for everyone to see. The plan details the

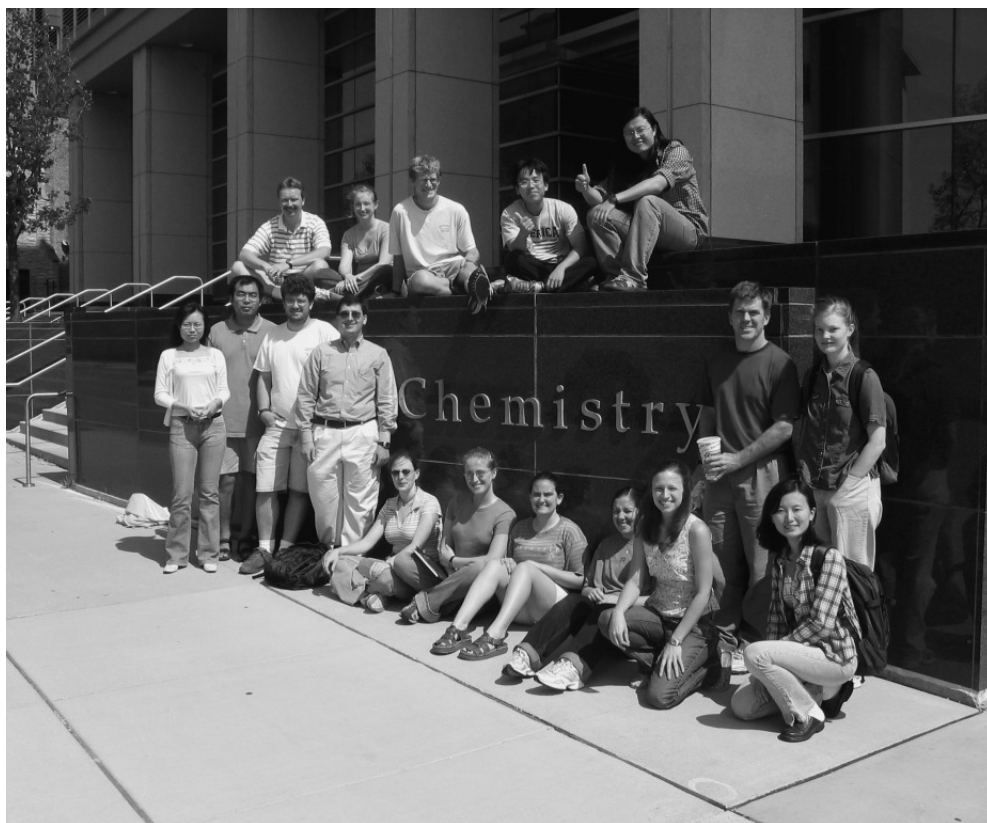
primary and secondary routes of escape for every area in the building. "The directions are simple, if you are coming down from floors 3-9 and your primary route is jammed leave by the clearest exit," Bain said.

In addition to the new and improved evacuation plan, Bain has also organized CPR certification training for all the Teaching Assistants (TAs) and Lab Supervisors in the Chemistry Department. Bain said that the Chemistry Department offered this training 8 years ago and many of his TAs expressed interest in being certified. "I was in the midst of helping with the certifications of fellow Cub Scout leaders and I had researched

information for them so then I just went ahead and organized the training for the Chemistry Dept," Bain said.

The 73 employees were certified by CPR instructors, Kathern Paige from the Safety Dept. and Sgt. Mike Newton from the UW Police. If you or your department needs help upgrading your evacuation plan call the UW Police at 265-4852 or for CPR training information contact Kathern at 265-5524 or Mike at 263-1558.

The Safety Department and the UW Police commends Gordon Bain, Tom Foseid and the entire Chemistry Department on their commitment to Safety.



Gordan Bain (upper left) and the sixth class of TAs recently certified in CPR.



The Basics of Risk Assessment

Anyone can conduct a risk assessment. The framework for points to consider that we routinely use in the Office of Biological Safety to evaluate the conduct of research can be applied to most any situation. It comes down to identifying the dangerous things, determining whether and how they could get to you, deciding what you can do to protect yourself, and then finding a way to make the situation safe enough.

How do you know if dangerous things are present in a situation? There may be hazard signs posted, like the universal biohazard symbol which tells you that there is a risk of exposure to an infectious agent in that area. In other situations, you may need to receive instructions from the personnel who know the materials that are used in the affected space. There will be uncertainty in some situations about the presence and/or nature of the hazardous materials. It is not feasible to conduct tests to determine if a hazardous material is present. In most situations, some basic precautions will provide adequate protection.

The presence of a dangerous material does not necessarily mean that it will cause you harm. There has to be an exposure via skin contact or penetration, mucous membranes, ingestion, or inhalation. Basic precautions such as wearing gloves, protective clothing, and eye protection, using caution when handling hazardous equipment, and washing your hands, provide protection from these routes of exposure, except for the inhalation hazard. The problems posed by inhalation exposure can often be prevented: avoid creating the aerosol, use containment equipment if the aerosol cannot be prevented, or, as a last resort, use respiratory protection. Be sure to consult Bill Deppen or Tom Kenney if you determine that respiratory protection is required since it is critical that you get the right kind of mask to suit the hazard, that you are medically cleared to wear it, and it fits your face.

The decision about whether a given situation is safe enough involves a judgment call. This institution has an obligation to provide a safe environment for workers. The Safety Department can assist you in determining whether a given situation is reasonably safe.

Risk Assessment - Points to Consider

- Identify hazardous materials and procedures.
- What might happen?
- How likely is it to happen?
- How serious are the consequences?
- Identify possible exposures (who and how).
- Consider interaction of materials, procedures, facilities, and personnel
- Consider mitigating procedures.
- Consider worst case scenarios.
- Caveat: familiarity affects perception of risk.

Occupational Health



Safety Department Training Continues to Expand

The Safety Department will be expanding on the training programs offered to the University community in the winter of 2005. The addition of new courses and the frequency in which the courses will be offered is currently being reviewed. An outline of current safety training programs is shown below and a new revised list will be available on our website and included in our winter issue of Safety First.

The General Safety Program currently teaches confined space entry, fire extinguisher use, asbestos awareness, respirator care and use (usually connected to fit testing), and a general safety orientation program.

Radiation and Chemical Safety offer programs in radiation worker safety, working safely with chemicals, hazardous materials shipping and receiving, working with irradiators, portable gauges, laser safety, and transportation of radioactive materials.

The Office of Biological Safety provides online biological safety cabinet training, biosafety for trades' personnel, hazmat shipping of infectious biological materials, and a basic biological safety training course.

Occupational Safety offers bloodborne pathogen training either online or provided by an instructor. They also teach CPR/AED in coordination with the American Heart Association. Recently they have added a session on occupational health and safety in

agriculture, and a personal health program entitled prevention and wellness. Beginning in October Occupational Health will also offer, in coordination with the RARC, an occupational health and safety training for animal users on campus. Additional ergonomics courses are also planned for next year.

There is more information about our training programs and schedules at the Safety Department website. Some of the programs described earlier are required; others are there to help reduce hazards and risks. The Safety Department can design a program for you from our diverse resources to meet a specific need. We try to offer training that focuses both on new personnel and the needs for periodic retraining of others. Let us know how we can further assist you in achieving your health and safety training goals.

Chemical and Radiation Safety



Chemical and Radiation Protection



The Chemical and Radiation Protection (CARP) section of the Safety Department is a merger of two groups, Chemical Safety and

Radiation Protection, with similar on-campus missions. The merger benefits not only the Safety Department, but also all researchers on campus because they will no longer need to call chemical people and then call radiation people; one call will do it. With this merger, we were able to provide more Safety assets to the campus community.

Chemical and Radiation Protection are primarily concerned with compliance with several federal / state programs regulated under the Occupational Safety and Health Act (OSHA), Environmental Protection Agency (EPA) and Nuclear Regulatory Commission (NRC). These Federal programs have their state components, OSHA falls under Department of Commerce (DComm), EPA under Department of Natural Resources, and NRC under Department of Health and Family Services.

OSHA Lab Standard

The goal of the OSHA Lab Standard is to keep lab worker 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. 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.

OSHA Lab Standard

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. The Chemical Safety And Disposal Guide discusses disposal.

Not all hazardous materials are disposed in the same manner. 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 (OSHMM) pickup. We could also make a special trip to your lab to remove large quantities of chemicals which have been stockpiled over the years.

Radiation Safety Standard

Radiation is actually divided into three major source types. Ionizing radiation produced by radioactive material and machines / devices (e.g., x-ray machines, electron microscopes, etc.) are regulated by the state's radiation protection branch while non-ionizing radiation such as lasers, arc lamps, etc. are regulated under an OSHA standard by the Department of Commerce.

Ionizing sources are registered with the state and the use of these sources requires training, safeguards, monitoring, etc. The Safety Department is the campus agency for accomplishing all state administrative requirements. Personnel audit labs and survey machines to insure they are in compliance.

Lasers and other non-ionizing sources are tracked by the Safety Department and both information and training is provided to insure workers can work safely with such sources and are not over exposed.

Waste Issues

Because University research generates literally tons of waste, we also collect waste generated on campus. This program has two components; hazardous waste and animal carcasses. Hazardous chemicals and radioactive waste are collected on Tuesday and Wednesdays, beginning about 9:00 AM. The sequence is East campus on Tuesday, AM; middle campus (e.g., Vet School area) on Tuesday, PM; CSC area on Wednesday, AM and Chemistry and others on Wednesday, PM. Animal carcasses are collected from loading docks on Wednesday and Friday mornings, beginning about 8:30 AM. Labs not located on campus pose a special collection problem because of the way waste is regulated by the EPA. If you are off campus call to discuss waste collection. You can connect to our web page and place your waste collection request:

Animal and/or Radioactive:

<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.



Emergency Action Plans

What is an emergency? An *emergency* is any unexpected situation or sudden occurrence of a serious and urgent nature that demands immediate action. Sounds simple enough...

What do you do if there is a fire or a chemical spill? Should the building be evacuated? Who is in charge during an emergency evacuation? Are department chairs, supervisors or managers assigned certain responsibilities in the event of an emergency evacuation? What steps have been taken to ensure everyone's safety? These are all questions that need to be answered.

If it is necessary to evacuate, well-trained and organized people will be needed to ensure a safe and successful evacuation. Advance planning and preparedness give you the tools to educate, train and reinforce individual's responsibilities during an emergency evacuation.

Each department should have some form of an Emergency Action Plan (EAP). In our next issue we will look specifically at building an EAP together. In the mean time think about how your department is organized. What are the obstacles that need to be overcome? If you have questions please feel free to call Jeff Schiller (265-9080) at the Safety Department.

Elements of an EAP should include:

1. Evacuation procedures and emergency escape route assignments
2. Procedures to be followed by employees who remain to operate critical operations before they evacuate
3. Procedures to account for all employees after an emergency evacuation has been completed
4. Rescue and medical duties for those employees who are to perform them
5. Means of reporting fires and other emergencies
6. Names and job titles of people who can be contacted for further information about the EAP

Respirator Fit Testing

The UW Safety Department is pleased to announce the purchase of a TSI PortaCount Plus with N95 Companion. This equipment is designed to fit-test your respirators & N95 masks. Annual training & fit-testing is a requirement by law for all employees who are required to wear N95 masks or respirators on the job.

This \$13,000.00 instrument [pictured] is a computerized state of the art method of fit-testing that eliminates guesswork & chemical exposure. The PortaCount can be used to fit test almost any tight-fitting respirator; half & full face, powered air purifying, SCBA's, plus N95 and other disposable filtering facemasks. Respirator training & fit-testing are free services the Safety Department offers UW Madison employees.

The PortaCount determines the difference between the concentration of microscopic particles that exist in ambient air and the concentration of those particles that leak into the respirator. This difference is determined while you simultaneously perform dynamic moving & breathing exercises intended to stress the respirator seal. The ratio of these two numbers is the fit factor. A fit factor of 100 for example, means that the air inside the respirator is 100 times cleaner than the air outside the respirator.

If you have been medically cleared to wear a mask or respirator, please contact Bill Deppen at 262 -9179 to arrange fit-testing. If you need to obtain medical clearance, please contact Tom Kenney, RN at 263-2177.



Important Updates

Employee Health Service (EHS) is moving to a new location at University Station Clinics 2880 University Avenue. Hours: Mon-Fri 7am - 4:30pm—After hours/weekends: Go to the ER at UWMC.



Lake Safety



Autumn Boating on Lake Mendota

Autumn is a special time for boating on Lake Mendota, with crisp sunny days, beautiful scenery, and more tranquil conditions than the high-traffic days of summer. With the onset of colder water temperatures, however, fall boating on Lake Mendota presents a special concern for sailors, canoeists, kayakers, rowers and the staff of the UW Lifesaving Station.

For those of you who may not be familiar with our operation, the Lifesaving Station (in operation since 1909) provides lake safety and boating rescue services to the university community on Lake Mendota. Our principal role is to prevent tragic incidents on the lake with oversight of university boating activities. In future issues of the Safety Department newsletter, we hope to provide useful and timely water safety information to campus lake users.

Like early spring, the fall of the year is a time when boaters need to be especially concerned about the incapacitating effects of hypothermia in the event of capsizing in cold water. By the beginning of October, Lake Mendota's surface temperature has usually cooled down to 60 degrees or less and by the end of the month may be under 50 degrees. Wearing a life jacket when boating is always a good idea, and especially so with cold water conditions. For boaters affiliated with the Hooper Sailing and Outing Clubs, club rules require everyone to wear a lifejacket when the lake temperature is below 60 degrees. Another concern for campus boaters are late fall days with strong southerly winds. These warm offshore winds on the campus side of the lake are enticing, but for novice boaters can be dangerously deceiving. What may seem like calm water conditions close to shore quickly transform to wild white-capping waves a half mile out into the lake. Every year we rescue a number of boaters capsizing and suffering from hypothermia in these conditions. Tragically, several students have died

over the years in nighttime incidents involving offshore winds and cold water. Our advice in these conditions is to stay close to shore and restrict your boating to times when the Lifesaving Station rescue service is in operation.

Call the Lifesaving Station at 262-5865 for current lake and weather conditions and information about our operating schedule. Through the month of October, the rescue service will be in operation Wednesday through Sunday and closed every Monday and Tuesday. Specific hours provide service through sunset on those days.

For the remainder of the 2004 season the open hours are:

September 29 through October 10
Wednesday - Sunday
11:00 a.m. to 7:00 p.m.

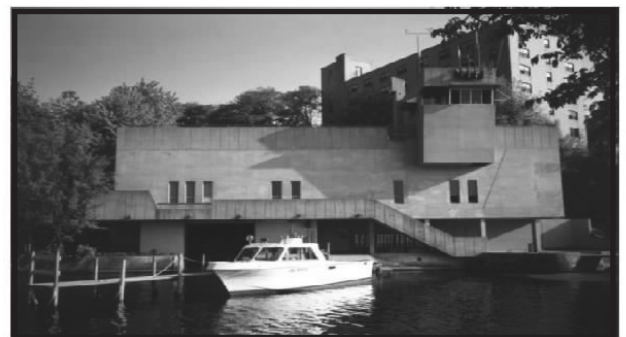
October 13 through October 30
Wednesday - Sunday
10:30 a.m. to 6:30 p.m.

October 31
9:30 a.m. to 5:30 p.m.

University of Wisconsin Lifesaving Station



1909



TODAY

RADIATION SAFETY FOR RADIATION WORKERS & WORKING SAFELY WITH CHEMICALS

April 2004 - December 2004

ALL CLASSES ARE HELD AT UNION SOUTH

Radiation Worker Training Schedule:

1. All sessions start promptly at 12:30, except for the italicized dates when training begins at 8:30 AM.
2. Training is held at Union South. Refer to the "Today In The Union" bulletin boards for the assigned room number for each training date. See the map below for Union South location.
3. Training dates are subject to changes, call the Safety office at 2-8769 a few days before the scheduled training date to confirm.

What you will need to do:

1. Read the book titled "Radiation Safety for Radiation Workers". Call Safety for a copy or pick one up at our Annex, Room 62 Biochemistry (11:00 am - 2:00 pm).
2. There is no registration, just come to the training location and bring your copy of the "Radiation Safety for Radiation Workers" book, a pen and a notebook.
3. The training consists of a 1-hour lecture and 2 one-hour labs/demonstrations. At the end of the third hour, an open book exam will be handed out. To obtain a passing score and corresponding certificate, you must obtain a score of 70% or greater.
4. If you will need a badge, you also need to complete a badge application form at the end of the class.

Chemical Worker Training Schedule:

All sessions start promptly at 9:30 AM, except for the italicized dates when training begins at 1:00. Training is held at Union South. Refer to the "Today In The Union" bulletin boards for the assigned room number for each training date. See the map below for Union South location. The 60 - 90 minute class will be followed by a short quiz. Attendees will be awarded a certificate upon completion, which will satisfy the minimum training requirement to work in any lab on campus. Training dates are subject to changes, call the Safety office a few days before the scheduled training date to confirm.

Training Class Schedule

DATE	DAY	DATE	DAY	DATE	DAY
October 6	Wednesday	November 12	Friday	December 3	Friday
October 15	Friday	November 18	Thursday	December 9	Thursday
October 21	Thursday	November 24	Wednesday	December 13	Monday
October 27	Wednesday				

Safety Tip

- **If you have an exposure:**
 - **Wounds should be scrubbed for 15 minutes with soap and water**
 - **Eye splashes should be flushed out with fresh water for 15 minutes. Preferably with the use of a fountain style eye wash station**
- **All** exposure incidents shall be reported, investigated, and documented by the employee's supervisor.
- If you are an injured employee, you must fill out the State of Wisconsin Workers' Compensation Report of Injury or Disease form.
- The exposed employee should immediately seek medical evaluation at the Employee Health Services (EHS) Office.

University Station Clinics
2880 University Avenue
Madison, WI

Monday - Friday 7:00 AM - 4:30 PM—After hours/weekends seek medical evaluation at the UWHC ER





UW-Madison Safety Department

Facilities Planning & Management
260 Environmental Safety Building
30 North Murray Street 53715-1227
<http://www.fpm.wisc.edu/safety>

Profiles

Up Close and Personal with Safety

Every newsletter we will feature two members of the UW Safety Department. This quarter you will meet: General Safety Director Keith Burdick and Chemical and Radiation Supervisor Jeff Orwin



Keith started working with the UW-Madison on Jan 2, 1979. His principal duties at the time were involved with facility safety inspections, coordinated responses to the Fire Dept. and the Dept. of Commerce, notice of violations, accident investigations, OSHA rules and regulations and industrial hygiene.

In 1986 he became the program manager for the General Safety Program. General Safety has grown from a staff of 4 in 1979 to a staff of 8 due to the changes in asbestos related requirements, indoor air quality issues, fire safety issues, and worker protection regarding respiratory protection needs. Keith and his staff are currently working on creating a common emergency action plan for the campus and improving the training and fit testing for respirator users. They are also trying to find a way to provide emergency responders with accurate information when they are called for fires or spills.

Keith has been married to his wife Diane for 27 years and they have two adult children. His hobbies include golf and fishing, which he says he doesn't do enough of, and he is a loyal Badgers, Packers and Dodgers fan. Yes, he did say Dodgers!



Jeff has worked for the Safety Department for 16 years. His duties include chemical and radiation disposal, laboratory audits, hazard communications, hazmat response, instrument calibration, and supervising nine employees.

Jeff is a native Madisonian and has been married to his wife Kim for 24 years. They have one son, Alex, who is 15 and two dogs, Czar and Jessie. His hobbies include motorcycling, hunting, fishing, jet skiing, camping, watching football and refurbishing their house. If you don't think Jeff has enough hobbies maybe you could recommend some for him.