

Department of Occupational and Environmental Safety NEWSLETTER

July 1996

CASE WESTERN RESERVE UNIVERSITY

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NEW! D.O.E.S. Gets Its Own Server

From now on, there will be two ways to connect to the DOES Home Page on the Web. Since we now have our own server, you no longer need to go through the campus server to get to our Home Page.

However, the campus server will give our new address and allow you to link to the DOES Home Page. At the CWRU Home Page:



- 1) choose Campus Activities and Services
- 2) choose University Administrative Departments
- 3) under the heading Finance and Administration, click on DOES (in between Human Resources and Security). From there you will get the news that we are located at a new site. Click on the address to connect.

But the new way is much easier. Simply type in our address:

- 1) <http://does.cwru.edu>

The Radiation and Chemical Safety Manuals, along with the rest of our literature, can be accessed in the Adobe Acrobat PDF format. Full copies of the newsletter will be added shortly. Information about using and acquiring software for PDF format is given at the site.

Laboratory Inspections



Safety Services began conducting their annual safety audits of all laboratories in June. We urge PIs to perform a survey of their labs now to make sure that all procedures follow the standards set by various regulatory agencies.

The Department of Occupational and Environmental Safety (DOES) performs in-house monitoring for those regulations applicable to the university, including OSHA, EPA, and NFPA codes. This means that each lab must conform to the Chemical Hygiene Plan submitted by each PI and to the Chemical Safety Manual so that, should OSHA, EPA, or fire department inspectors arrive, they will find that the university has adhered to all the necessary requirements.

DOES technicians will be focusing on the following topics during inspections:

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What WASTE! Safe Housekeeping: Keeping Your Lab Clean and Safe

A majority of accidents stem from poor housekeeping—people are more likely to trip, slip and fall over things left out or left lying around, spills not cleaned up, doors left open. The laboratory is no exception: maintaining good “house”keeping habits in the lab will not only keep the place neat but will also prevent many accidents from occurring. Take a look around and see where you can clean up your act.

1) Clean out your chemical stock. Summer is a good time to put your lab in order, since most students will have left and the lab will be less chaotic. Go through your laboratory shelves and dispose of any chemicals you no longer use or need. We strongly recommend that you do this kind of sorting often for many reasons:

- it keeps disposal costs down since you have smaller amounts to dispose of at one time;
- it reduces the possibility of these chemicals becoming “unknowns,” which can occur if labels fall off or get defaced;
- it reduces hazards in the lab—the fewer chemicals around the better, especially if you are uncertain of some of the compounds.

Remember to submit a new chemical inventory to DOES after you dispose of chemicals. If you transfer some to a co-worker, that person must also submit an updated inventory list.

2) Dispose of trash promptly — especially hazardous and radioactive waste. Call DOES (x2906 or x2907) to arrange disposal (with the appropriate accompanying paperwork completed) before 4:00 p.m.

3) Return equipment after using it. Make sure all equipment has a designated location of which everyone is aware and return it to that place if you use it intermittently throughout the day. Don't clutter up the benchtop or workspace. Free up a large enough space to work in safety.

4) Keep cabinet doors closed. An obvious reason would be so that people don't bump or

run into them. But cabinet doors were designed for various safety reasons as well: they keep dust and dirt away from the contents of the cabinet; they prevent materials stored in the cabinet from rolling or falling off the shelves; they allow you to lock up valuable or hazardous materials or equipment. If they are open, they aren't able to do the job they were designed to do.

5) Clean up all spills immediately. If the substance spilled is unknown, flammable, toxic, or otherwise hazardous, block off the area around the spill to prevent it from spreading. Inform your supervisor and ask whether you should clean up the spill yourself or wait for experts.

6) Do not use stairways or hallways as storage areas; make sure that access to exits, emergency equipment, and control panels is not blocked.

There are a lot of little things too that can be done to keep the lab clean and therefore keep the accident rate down: check that boxes are securely stacked, keep flammable materials in appropriate containers, pick up random paper or trash lying around. It only takes a few minutes to keep things neat—and safe—for everyone in the lab.

Upcoming Training Sessions

Radiation (x2906)

- **New Training:** July 11(9-12), 23(1-4); Aug 6(9-12), 15(1-4), 28(9-12)
- **Retraining:** July 10 (2-3), 26 (10-11); Aug 7(2-3), 16 (10-11), 28(2-3)
- **X-ray Training:** call office to set up training session

Chemical (x2907)

- **OSHA Lab Standard:** Mondays 1-3 (DOES Conference Room)

Bloodborne Pathogen (x2907)

- **New Training:** Mondays 3-4 (DOES Conf. Room)
- **Retraining:** call office to reserve videotape

Laboratory Inspections

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- Safety information (for OSHA standards): the CWRU Chemical Safety Manual, which most labs chose as their Chemical Hygiene Plan (CHP), is present in the lab and easily accessible to all workers; a copy of that lab's CHP and chemical inventory has been submitted to Safety Services.

- Lab signage: emergency information is posted on doors and phones and the Chemical Hygiene Officer and Principal Investigator are identified; various signage is in place; i.e., radiation, no eating, biohazard; designated areas are clearly identified as carcinogen, reproductive toxin, or highly toxic.

- Formaldehyhde: if used in the lab, it is used as stated in each lab's protocol (according to the annual formaldehyde questionnaire submitted following participation in the OSHA Lab Standard).

- Fume hoods: it is clean and orderly, with no chemicals being stored in it; laminar flow hoods/biological safety cabinets have been tested within the year; recent inspection sticker is present.

- Personal protective equipment: safety glasses/goggles, lab coats, gloves are present; if respirators are used, all wearers have participated in the Respiratory Training program; safety showers and eyewashes are easily accessible and free from obstruction and have been tested recently.

- Chemical storage: flammables are in approved cabinets or total inventory is less than three gallons; all containers are labeled with the chemical, the date, and the researcher's name; they are stored by type, NOT only alphabetically; shelving and stacking is appropriate, with no glass containers on the floor.

- Cylinder storage: if not in use, com-

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HOT TIPS



CONVERSIONS: CPM to DPM

Contamination surveys must be recorded in units of activity (DPM, or disintegrations per minute), not in count rates, or CPM. When preparing final reports for your own records or for the Radiation Safety Office, this conversion must be completed. CPM and DPM are not interchangeable.

The conversion process requires that you know your instrument's isotope efficiency—don't guess or assume. This includes gamma and liquid scintillation counters (LSC), not only portable counters.

To calculate an efficiency, begin with a known standard (the isotope and activity). The efficiency is the ratio of the count rate divided by the decay-corrected activity. The resulting efficiency can be expressed as a CPM/DPM ratio, a CPM/ μ Ci ratio, or another applicable ratio for your counting equipment. Typical LSC efficiencies do not exceed 60% for tritium or 80% for 14C.

The formula for conversion is:

$$\text{DPM} = \frac{\text{CPM} - \text{BKGD}}{\text{EFF}}$$

If you wish to express the results in microcuries, the formula for conversion is:

$$\mu \text{ Ci} = \frac{\text{DPM}}{2.22 \times 10^6}$$

You must also know what your instrument's counting windows are for that isotope—ask your PI or find out in the instruction manual. Changing these windows will alter counting efficiencies.

Annual Fire Drills

The annual practice fire drills for administrative and academic buildings began in June this year and will run through November.

The tentative schedule for the rest of 1996 is as follows:

JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER
Tomlinson, Rockefeller and Strosacker, Smith, Bingham, Baker, Pardee, Adelbert Hall, Wickenden.	Biomedical Research Building (2 days), Kent Hale Smith, White, Glennan, Sears Library (tentatively).	Mather Dance, Emerson Gym, Adelbert Gym, Nursing School, Dental School, Thwing Center, Fribley Commons.	School of Medicine (East, West, and Tower), Dively Building, Enterprise Hall, Mather House, Mather Memorial, Leutner Commons.	MSASS, Guilford House, Hayden, Health Service Building, Gund (Law School), Wade Commons, Freiburger Library (tentatively).

The schedule is, of course, subject to change. The new Kelvin Smith Library and the Olin Building will be scheduled for drills when they are fully occupied. Sears and Freiburger Libraries may not need to be done at all. The dates for the School of Medicine may have to be changed based on the status of the on-going alarm system upgrade project.

The Department of Occupational and Environmental Safety (DOES) asks that all occupants of buildings cooperate during this time.

Department coordinators for each building, who will help with preplanning within their departments, are contacted by DOES prior to the drill to arrange a suitable time. It is important that the coordinators inform employees in their departments of basic procedures to follow (the Evacuation Plan) during a drill and/or emergency.

Individuals who may have difficulty evacuating an area during an emergency or who may have difficulty hearing or seeing an emergency alarm need to have an approved evacuation plan for emergency drills and for actual emergencies. Each individual with a disability (whether temporary or permanent) that could affect communication or mobility must also take the time to become familiar with the existing alarm systems and exits in the buildings s/he frequents. The department's coordinator will assist those who may have difficulty with an evacuation by helping that individual make necessary special arrangements.

Please participate and cooperate when there is a drill or actual event in your building. If you need more information contact your department coordinator or the DOES at x2907.

Keep Fire Doors Closed

Fire doors are designed and built to withstand the effects of fire and/or heat for a specific period of time. Their purpose is dual: to help contain a fire to a small area until fire-fighting help arrives and to prevent the spread of smoke and hot gases into areas needed for safe evacuation (the means of egress) during a fire emergency. However, they can only achieve this purpose when they are closed.

Perhaps the most important of these doors, but also the ones most commonly propped open, are ones protecting stairwells, a vital part of the means of egress during a fire emergency. Unfortunately, many people think that these closed doors are an inconvenience and will block them open using anything available—little rubber or wooden wedges, folded cardboard, blocks, bricks, a piece of equipment; in one case a five-gallon can of ether was propping a door open. The intent is usually temporary, but often these doors remain open indefinitely because no one remembers to remove the stopper.

In addition to these doors which must remain closed, there is another kind of fire door which may remain open. Used primarily to section off long corridors or to separate major building divisions, these doors are equipped with a device that will close them automatically in the event of a fire in the area.

People also tend to put objects in the closing path of these automatically closing doors. Whether or not this is intentional, this action renders them ineffective in case of fire because they do not close completely.

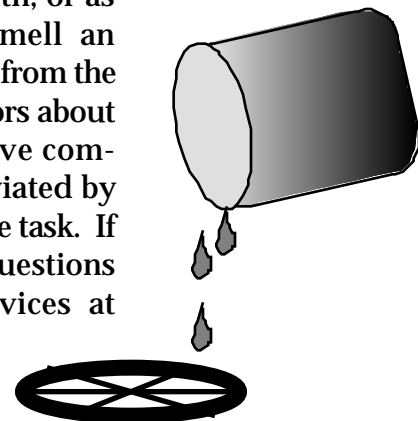


Virtually every building on campus has fire doors. It is important that they all be in the proper position: either closed (in most cases) or open but free from any blockage.

Blocking fire doors

Sewer Gas Odor?

Remember to regularly hydrate your laboratory's cup sinks and floor drains to prevent sewer gas odors from coming into the lab. Normally there is water in these traps; the odor is caused when they dry out. To prevent this, rehydrate the drains by pouring about five gallons of water into them every two weeks to a month, or as soon as you smell an odor emanating from the trap. Many odors about which we receive complaints are alleviated by doing this simple task. If you have any questions call Safety Services at x2907.



open and/or hindering the operation of automatic fire doors by putting objects in their closing path is a violation of both university policy and various fire codes. The Department of Occupational and Environmental Safety asks that you become familiar with the fire doors of the buildings you frequent. If you see any that are blocked open, remove the blockage and be sure that the door is properly closed. Discuss the situation with your co-workers, supervisors, or department management. Do not let the situation continue. If you see any fire doors that do not close properly or otherwise appear to be defective notify Plant Services at x2580.

If you have any questions regarding fire doors and/or need assistance in dealing with the problem please call DOES at x2907.

TIPS! TIPS! TIPS! TIPS! TIPS!

If you see anything that has the potential to cause a fire, take steps to remove the hazard or talk to your supervisor and get assistance.

Laboratory Inspections

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pressed gas cylinders are tied down securely, stored away from heat, and capped; if in use, cylinders have the proper regulators.

- General Housekeeping: walking areas are clear and unobstructed; work surfaces are uncluttered and clean; doors open outwards and are not propped open.

- Waste disposal: if chemical waste is generated, it is properly labeled "hazardous waste"; sharps are placed in the appropriate rigid container; all perceived biohazardous waste is disposed of in red bags.

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