



"Safety Comes First"

Case Western Reserve University Environmental Health and Safety

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In this issue:

*Director's
Corner*

1

Director's Corner: The Future of EHS

*Chemical
Hygiene
Plan
(CHP)*

2

The Department of Environmental Health and Safety is dedicated to the safety of the entire Case Western Reserve University community. That also includes the research and teaching mission and other mission goals of the university. Meeting safety and regulatory obligations can be a time consuming task and may at times be a frustrating process. EHS is very aware of this facet of our work and is dedicated to providing robust safety programs, while at the same time balancing the burden placed on the community as much as possible.

*The
Importance
of Caution
Signs*

5

Over the last few years EHS has rolled out new training programs with interactive features, rotating quizzes, automated training requests, and other value added features. Over the next few years EHS will roll out an interactive document system that will allow the researcher to have an online, on demand hand on their safety interactions with EHS. This system will allow an researcher to log into the system, ascribe the workers that work for them, fill out CHP and ECP forms in real time, share those and other regulatory documents with their staff, and see a dashboard that shows the training requirements and status of all their works. Other features will include automated waste pickups, fumehood service request, and the ability to ask and have questions answered in a forum. More advanced features will come with time. If you have requests for features please contact our office and share your thoughts.

*Radiation
Generating
Equipment*

6

*Biosafety
Bulletin:
Reducing
Aerosols*

7

EHS Staff

6

2013-3

Laboratory Safety Chemical Hygiene Plan (CHP)



Required CHP Elements

“...particular laboratory operation, procedure or activity requires prior approval from the employer or the employer’s designee before being implemented.”

1. Standard operating procedures relevant to safety and health considerations for each activity involving the use of hazardous chemicals.
2. Criteria that the employer will use to determine and implement control measures to reduce exposure to hazardous materials [i.e., engineering controls, the use of personal protective equipment (PPE), and hygiene practices] with particular attention given to selecting control measures for extremely hazardous materials.
3. A requirement to ensure that fume hoods and other protective equipment are functioning properly and identify the specific measures the employer will take to ensure proper and adequate performance of such equipment.
4. Information to be provided to lab personnel working with hazardous substances include:
 - a. The contents of the Laboratory standard and its appendices.
 - b. The location and availability of the employer’s CHP.
 - c. The permissible exposure limits (PELs) for OSHA regulated substances or recommended exposure limits for other hazardous chemicals where there is no applicable OSHA standard.
 - d. The signs and symptoms associated with exposures to hazardous chemicals used in the laboratory.
 - e. The location and availability of known reference materials on the hazards, safe handling, storage and disposal of hazardous chemicals found in the laboratory including, but not limited to, the Safety Data Sheets received from the chemical supplier.
5. The circumstances under which a particular laboratory operation, procedure or activity requires prior approval from the employer or the employer’s designee before being implemented.
6. Designation of personnel responsible for implementing the CHP, including the assignment of a Chemical Hygiene Officer and, if appropriate, establishment of a

(Continued on page 3)

Chemical Hygiene Plan (CHP), cont.

(Continued from page 2)

Chemical Hygiene Committee.

7. **Provisions** for additional worker protection for work with particularly hazardous substances. These include “select carcinogens,” reproductive toxins and substances that have a high degree of acute toxicity. Specific consideration must be given to the following provisions and shall be included where appropriate:
 - a. Establishment of a designated area.
 - b. Use of containment devices such as fume hoods or glove boxes.
 - c. Procedures for safe removal of contaminated waste.
 - d. Decontamination procedures.
8. The employer must review and evaluate the effectiveness of the CHP at least annually and update it as necessary.

Worker Training Must Include:

1. Methods and observations that may be used to detect the presence or release of a hazardous chemical (such as monitoring conducted by the employer, continuous monitoring devices, visual appearance or odor of hazardous chemicals when being released, etc.).
2. The physical and health hazards of chemicals in the work area.
3. The measures workers can take to protect themselves from these hazards, including specific procedures the employer has implemented to protect workers from exposure to hazardous chemicals, such as appropriate work practices, emergency procedures, and personal protective equipment to be used.
4. The applicable details of the employer’s written CHP.

Medical Exams and Consultation

The employer must provide all personnel who work with hazardous chemicals an opportunity to receive medical attention, including any follow-up examinations

(Continued on page 4)



“Worker training must include the physical and health hazards of chemicals in the work area.”

Chemical Hygiene Plan (CHP), cont.

“All medical examinations and consultations must be performed.... without cost to the worker.”

(Continued from page 3)

which the examining physician determines to be necessary, under the following circumstances:

1. Whenever a worker develops signs or symptoms associated with a hazardous chemical to which the worker may have been exposed in the laboratory, the worker must be provided an opportunity to receive an appropriate medical examination.
2. Where exposure monitoring reveals an exposure level routinely above the action level (or in the absence of an action level, the PEL) for an OSHA regulated substance for which there are exposure monitoring and medical surveillance requirements, medical surveillance must be established for the affected worker(s) as prescribed by the particular standard.
3. Whenever an event takes place in the work area such as a spill, leak, explosion or other occurrence resulting in the likelihood of a hazardous exposure, the affected worker(s) must be provided an opportunity for a medical consultation to determine the need for a medical examination.
4. All medical examinations and consultations must be performed by or under the direct supervision of a licensed physician and be provided without cost to the worker, without loss of pay and at a reasonable time and place.

For additional information on developing a CHP, consult the following sources:

View the complete standard at the OSHA Website, www.osha.gov. Appendix A of 29 CFR 1910.1450 provides non-mandatory recommendations to assist in developing a CHP.

The Importance Caution Signs

It is four o'clock in the morning, nobody is in the lab. Somebody on campus notices something is wrong. Who should they call to let the lab know that something is wrong? Personnel on duty at odd hours are often the first to encounter problems in the laboratory or on other parts of the campus. These people are termed **FIRST RESPONDERS**. They can be Police, Security, Custodial Services or Plant Services, or even the Fire Department. The most vital piece of information they can bring back, when a laboratory has a problem, is whose laboratory this is and how to contact them. They are trained to look for the CWRU Entrance Caution Sign. This sign warns the responder of the basic hazards in the lab, tells them whose lab it is and how to contact them by their after-hours phone number. The sign also has spaces for information to indicate alternates, who can be contacted if there is a problem. All hazardous areas must post these signs. Often the information on the sign is missing, out of date or unreadable. The question for the person who is in charge of this area is how important is it for them to be contacted when something goes wrong in your laboratory? Please keep your lab signs up to date. This way you can be included and consulted for vital information when something happens in your laboratory outside of regular work hours.

CAUTION



AUTHORIZED PERSONNEL ONLY

IN CASE OF EMERGENCY, PLEASE CONTACT:

PRIMARY INVESTIGATOR:	Ann Thracks	PHONE:	(xxx) yyy-zzz1
ALTERNATE:	Sal Minella	PHONE:	(xxx) yyy-zzz2
ALTERNATE:		PHONE:	

DEPARTMENT OF OCCUPATIONAL AND ENVIRONMENTAL SAFETY: SERVICE BUILDING

“The plans (CHP and ECP) must be revised annually or any time changes occur in the laboratory....”

Radiation-Generated Equipment (RGE)



“EHS is required to notify the Ohio Department of Health of any equipment added to our registration.”

EHS is required to notify the Ohio Department of Health of any equipment inventory changes to our registration.

Purchase of RGE

The appropriate information must be e-mailed to yelena@case.edu as soon as the equipment is purchased, and **no later than 60 working days** before the equipment arrives.

Information should include the manufacturer of the equipment, the model number, the serial number, and the date of purchase. EHS is required to notify the Ohio Department of Health of any equipment added to our registration.

External Transfer of RGE

In case of the equipment transfer, EHS must be notified **approximately 30 days** prior to the equipment being transferred. E-mail should be sent to yelena@case.edu.

Internal Transfer of RGE

The individual must be or become an Authorized Possessor (AP) for the RGE before the RGE can be transferred. If the individual is an AP of RGE, E-mail should be sent to yelena@case.edu prior to the transfer. If the individual is not an AP, please contact the Radiation Safety Office at 368-2906. The individual must complete the General X-Ray Safety Training prior to being approved as an AP.

Departing CASE

Notify EHS ten (10) working days prior to leaving the University. It is the responsibility of the AP to ensure that all RGE is either disposed of or transferred to another AP prior to leaving CASE.

Disposing of RGE/X-Ray tubes

It is the responsibility of the AP to remove the X-ray tube contained in a machine prior to a machine being cleared by Radiation Safety for disposal. Please call 368-2906. Once the X-ray tube is removed, complete a chemical waste disposal form and send it to Safety Services. The X-ray tube will be picked up by Safety Services.

Biosafety Bulletin: Reducing Aerosols

Reducing Aerosol Risks in the Laboratory

Diligent research scientists take the time to learn about the biohazards they might encounter when working in the laboratory. What pathogen(s) are being used? What are the infection risks? How is the pathogen transmitted? What precautions need to be taken to reduce your risk of a laboratory acquired infection?

One area that is often overlooked during this assessment is the production of aerosols. It is natural to think about the risk of aerosol producing procedures when handling an airborne pathogen, such as Influenza, but what about non-airborne pathogens?

If the risk of airborne transmission is negligible, this does not mean there need be no thought to aerosol reduction. While your respiratory system may be safe from certain non-airborne pathogens, your mucus membranes may not be.

Everyday procedures such as centrifuging, vortexing, blowing out pipettes, pouring liquids and removing stoppers can produce aerosols. These procedures, along with the biohazards being utilized, must be considered when evaluating precautionary measures and risk reduction in the laboratory.

If you will be performing aerosol producing procedures, make sure you take extra precautions to keep yourself and your lab mates safe. Working within a certified biosafety cabinet, allowing aerosols to settle before opening tubes, additional PPE such as goggles and a respirator and prompt decontamination of surrounding surfaces are a few of the precautions you may want to consider.



“If you will be performing aerosol producing procedures, make sure you take extra precautions to keep yourself and your lab mates safe.”

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All back issues of the EHS Newsletter can be found online at
case.edu/ehs. Click on the "Newsletter" link in the left-hand column!

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