The Safety Net

Inside This Issue

When Injured At Work

SIMPLE STEPS TO REPORT A WORKPLACE INJURY

1 Notify your supervisor immediately

2 When EMERGENCY treatment is required seek treatment first

3 Complete an online Injury and Incident Report (I&I) for all injuries http://www.uams.edu/safety/Accident.aspx

4 Call the Company Nurse Injury Hotline@ 1-855-339-1893, ONLY WHEN medical treatment is needed

COMPANY NURSE Injury Hotline

For more information, contact: Connie Thorbs at 501-686-7083 OR

Log on to: http://hr.uams.edu/managers/workers-compensation

WHAT IS S.A.F.E.?

SAFETY AWARENESS FOR EMPLOYEES S.A.F.E.

A program that empowers employees to educate fellow employees on pertinent issues involving safety.

How does S.A.F.E. work????

SAFETY COORDINATORS are needed from each department/unit and from each shift. The SAFETY COORDINATOR has to be an employee who is willing to step up and make a difference in the Culture of Safety at UAMS. The SAFETY COORDINATOR will assume responsibility for educating their fellow co-workers on pertinent issues involving safety from information provided to them by Occupational Health and Safety (OH&S),

Check out the S.A.F.E. Program on Occupational Health & Safety website at:
http://www.uams.edu/campusop/depts/ohs/divisions.aspx?ListId=safe

Past Presentations and Newsletters:


Active Shooter Training

Code Purple–Utility Failure

Code White – Bomb Threat

Emergency Reference Guide Introduction

Office Ergonomics

What is the UAMS Driver Safety Program?

Code Pink–Infant or Child Abduction

Code Red–Fire

Driver Safety and the UAMS Driver Safety Program

Emergency Response—Who to call? Code Team. 911 or Both?


Space Heater Policy Overview

Lab Attire 


Long Term Exposure to UV

Dangers of Distracted Driving 


Dangers of Texting & Walking

Needle stick & Percutaneous Injuries 

Carbon Monoxide Poisoning

Falls 

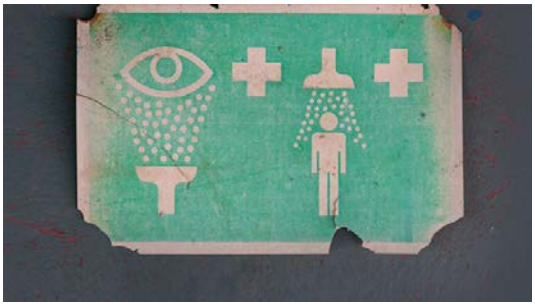
If you have a topic you would like covered, please contact OH&S.

For more information regarding this program, please contact Janean Hardister at 526-8952.

OSHA & ANSI Requirements for Eyewash and Safety Showers

ANSI standard Z358.1 is detailed in terms of defining what is appropriate for safety showers and eyewash stations.

By Vince McLeod | June 05, 2017 **Lab Manager Magazine**



As lab managers and employees, we know that many inorganic chemicals (such as the mineral acids and alkalis) are corrosive to the skin and eyes. Likewise, we are aware that many organic chemicals (such as acid halides, phenols, and so on) are corrosive and often toxic. Yet we Safety Guys are continually shocked by laissez-faire attitudes toward the use and maintenance of basic safety equipment by lab personnel, and the resultant unnecessary injuries.

One extreme example we constantly recall is the tragic UCLA accident just a few years ago, which resulted in a fatality from chemical burns.[1] And we recently noticed a post on the American Industrial Hygiene Association pages for Lab Safety Chemical Exposure Incidents, where improper use of an eyewash resulted in a trip to the emergency room.[2]

The worker was using a fluorescent stain in the cytogenetics lab and felt something splash into his eyes. He was not wearing safety goggles or glasses. (D'oh!) Long story shortened, he flushed his eyes at the nearest eyewash, but they remained irritated and began to swell shut, necessitating a visit to the emergency room. Back at work a few days later, he noticed a coworker using the same eyewash to clean glassware and stainless steel trays, which were left resting in the sink in a cleaning solution. (What?!)

What does OSHA say?

In 29 CFR 1910.151 Medical Services and First Aid, it states that "where the eyes or body of any person may be exposed to injurious corrosive materials, suitable facilities for quick drenching or flushing of the eyes and body shall be provided within the work area for immediate emergency use."[3] OSHA doesn't provide more specifics regarding what constitutes "suitable" or how "immediate" is defined. So how do we know if we are meeting the intent of the law?

Fortunately, we have the American National Standards Institute (ANSI), and their consensus standard Z358.1, last updated in 2014. This ANSI standard is very detailed in terms of defining what is appropriate for safety showers and eyewash stations. In fact, OSHA uses this reference as a guide when inspecting facilities.[4] So let's review what is "recommended" for acceptable safety equipment.

Safety shower specs

Begin by checking your facilities for the proper hardware, as recommended by Z358.1. Rest assured that OSHA will, should one or more agents show up for an inspection. For safety showers, the shower head must be capable of flowing 20 gallons per minute (gpm) at 30 psi and producing a 20-inch diameter spray pattern at 60 inches above the surface where the user stands. The center of the spray head pattern should be at least 16 inches from any wall, door, or obstruction. It is recommended that the shower head be mounted between 82 and 96 inches off the floor, with the valve no higher than 69 inches.

Eyewash specs

Eyewash stations target just the eyes and therefore have a lower flow requirement. ANSI Z358.1 recommends a flow of 0.4 gpm also at 30 psi. The nozzles should be at least six inches from any obstruction and mounted between 33 and 45 inches above the floor. An eyewash gauge should be used to verify and test the flow pattern.

Requirements for both

Both safety showers and eyewash stations must be able to provide the recommended flow for at least 15 minutes. This usually translates into having the equipment plumbed in with hard connections to the water supply. For example, a quick calculation for the safety shower at 20 gpm yields 300 gallons needed. Self-contained or personal wash devices are allowed, but they are considered supplemental units that can provide immediate flushing while transiting to the permanent fixture.

If the local climate presents potential for freezing conditions, the equipment must be designed to avoid freezing or protected against that situation. Activation valves must open within one second and remain open until intentionally closed or turned off. It goes without saying that these safety devices should be constructed of corrosion-resistant materials.

The 2014 update to Z358.1 added two important criteria. The first is that the requirement for tepid water is now defined as having a temperature of between 60 and 100 degrees Fahrenheit (15 to 37 degrees Celsius). The second change addresses simultaneous operation for combination units. This means that if you have a drench shower combined with an eyewash station, both devices must provide adequate flows and be fully operable at the same time.

Finally, and most importantly, consider the location of equipment. We know you have the 10-second rule etched into your brain, as that is the most critical element when it comes to safety showers and eyewashes. This means that travel to the unit should be under 10 seconds for all hazardous areas that need this equipment. This equals about 55 feet. In addition, the drench shower or eyewash must be on the same level as the hazard and have a clear path for travel. We recommend painting or marking the floor area underneath the shower to help keep it clear. Z358.1 also recommends equipment be installed in a brightly lit area and marked with a highly visible safety sign.

Maintenance and training

The last thing you want is to rush to the eyewash or shower, only to be drenched with nasty, sediment-laden water. ANSI recommends flushing all equipment weekly to verify proper flow, and clearing the plumbing of any deposits. If your facility does not have floor drains installed, remember to bring a large, plastic trash can to catch the water. The weekly flushing can also provide a great training opportunity to refresh the operation and travel paths for your employees.

References

1. "tert-Butyllithium Claims Fellow Chemist at UCLA," Chemistry Blog, January 19, 2009, http://www.chemistry-blog.com/2009/01/20/tert-butyllithium-claims-fellow-chemist-at-ucla/.

2. "Lab Safety Chemical Exposures Incidents," American Industrial Hygiene Association, https://www.aiha.org/get-involved/VolunteerGroups/LabHSCommittee/Incident%20Pages/Lab-Safety-Chemical-Exposures-Incidents.aspx.

3. "Medical Services and First Aid," US Department of Labor, Occupational Health and Safety Administration, https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=9806.

4. "A Guide to the ANSI Z358.1-2014 Standard for Emergency Eyewashes and Shower Equipment," Bradley Corporation, February 16, 2016, https://www.bradleycorp.com/download/2081/4002.pdf.

Waste Segregation Guidelines Reminder

Waste Type	Container
	Sharps Container
Needles and Syringes	
Lancets and Scalpels	
Sutures and Scissors	
Used Vaccine vials	
Broken glass ampules	
I.V. catheters, stylets, butterflies, and needles	

	Red Bag
Blood Bags and Tubing	
Hemodialysis tubing	
Suction Canisters (with solidifier)	
Hemovac Containers	
Tubes; NG, Sump (with visible blood)	
Sanitary Pads (post-partum areas only)	
Articles dripping/saturated with blood or OPIM ie: Gloves, Paper gowns, Mask, Gauze, dressings, Foley Catheter Bags, and IV Tubing & bags	

	Trash Bags (Clear, Black, Tan, and Gray)
IV Tubing and Bags (with no visible blood)	
Bedpans, Urinals, emesis basin (empty)	
Foley catheters and bags (empty with no visible blood)	
Gauze or dressings (lightly soiled/stained with blood or OPIM)	
CHUX and/or diapers	
ET tubes and suction catheters	
Gloves, gowns (disposable paper), aprons, masks (lightly soiled/stained with blood or OPIM)	
Packaging and boxing	
Newspapers, magazines	
Food and food packaging including disposable plates, cups, & utensils	
Tissues and paper towels	

	Chemotherapy
Emesis basin, bedpan, urinal, foley bag, etc.	
Chemo contaminated items	
Sharps, syringes, IV bags, chemo gloves, IV tubing, etc.)	
Trace U-Listed waste	
NOTE: Uninfused chemotherapy and controlled medications must be returned to the pharmacy.	

	Blue Top Container
Partial bags of chemotherapy	
Bulk and trace P-Listed waste, regardless of the amount. (Examples: Arsenic trioxide, Warfarin, Coumadin and Epinephrine)	
Bulk U-Listed waste (examples: Mitomycin, Azaserine, Streptozocin, Daunorubicin, Resperine)	

Used Cloth/Linen Items ie: Towels, Sheets, Pillowcases, Washcloths, Gowns, Infant t-shirts, misc. linens	Soiled Linen (White Plastic drawstring bags)

Health Physics Society
Specialists in Radiation Safety

Consumer Products Containing Radioactive Materials

photo courtesy of Ray Johnson

Everything we encounter in our daily lives contains some radioactive material, some naturally occurring and some man-made: the air we breathe, the water we drink, the food we eat, the ground we walk upon, and the consumer products we purchase and use. Although many might be familiar with the use of radiation to diagnose disease and treat cancer, some people, when they hear the terms "radioactive" and "radiation," might recall images of mushroom clouds or monster mutants that inhabit the world of science fiction movies and comic books. Unfortunately, those false images can cause inordinate fear that is not justified regarding low levels of radioactive material. Many consumer items containing naturally occurring radioactivity can be safely used. This fact sheet describes a few of the more commonly encountered and familiar consumer products. Included are the items that can contain sufficient radioactive material to be distinguished from the general environ-mental background radiation with a simple handheld radiation survey meter.

Smoke Detectors

Most residential smoke detectors contain a low-activity americium-241 source. *Alpha particles** emitted by the americium ionize the air, making the air conductive. Any smoke particles that enter the unit reduce the cur-rent and set off an alarm. These devices save numerous lives annually. Instructions for proper installation, handling, and disposal of smoke detectors are found on the packaging.

photo courtesy of Mary A. Walchuk

Watches and Clocks

Modern watches and clocks sometimes use a small quantity of hydrogen-3 (tritium) or promethium-147 as a source of light. Some older (for example, pre-1970) watches and clocks used radium-226 as a source of light. If these older timepieces are opened and the hands or dial handled, some of the radium could be picked up and possibly ingested. As such, caution should be exercised when handling these older timepieces.

Compact Fluorescent Light Bulbs

Newer energy-saving light bulbs contain small quantities of promethium-147 within a sealed starter (or glow) switch. The small piece of wire in each bulb contains less than 1 *micro curie* of radioactive material and is below regulatory limits established for general public use. Other materials in compact bulbs, including mercury, are the reason careful handling of broken bulbs is recommended.

Ceramics

Ceramic materials (for example, tiles, pottery) often contain elevated levels of naturally occurring uranium, thorium, and/or potassium. In many cases, the activity is concentrated in the glaze. Unless there is a large quantity of the radioactive material, readings above *background* are unlikely. Nevertheless, some older (for example, pre-1960) tiles and pottery, especially those with an orange-red glaze (for example, Fiesta® ware) are radioactive from the uranium in the glaze. Green, yellow, and black ceramics can also be easily detected. It is safe to eat from this ceramic dinnerware. (HPS ATE 3167)

photo courtesy of Ray Johnson

Glass

Glassware, especially antique glassware with a yellow or greenish color, can contain easily detectable quantities of uranium. Such uranium-containing glass is often referred to as canary or vaseline glass. In part, collectors like uranium glass for the attractive glow that is produced when the glass is exposed to a black light. Even ordinary glass can contain high-enough levels of potas-sium-40 or thorium-232 to be detectable with a survey meter. Older camera lenses (1950s-1970s) often employed coatings of thorium-232 to alter the index of re-fraction. It is safe to eat from this glassware. (HPS ATE 3167)

Fertilizer

Commercial fertilizers are designed to provide varying levels of potassium, phosphorous, and nitrogen. Such fertilizers can be measurably radioactive for two rea-sons: potassium is naturally radioactive, and the phosphorous can be derived from phosphate ore that contains elevated levels of uranium and radium. The amount of radioactivity incorporated into the plants is low and does not harm the plant.

Food

Food contains a variety of different types and amounts of naturally occurring radioactive materials. Although the relatively small quantities of food in the home contain too little radioactivity to be readily detectable, bulk shipments of food have been known to set off the sensitive alarms of radiation monitors at border crossings. One in-home exception would be low-sodium salt substitutes that often contain enough potassium-40 to double the background count rate of a survey meter.

Lantern Mantles

While it is less common than it once was, some brands of lantern mantles incorporate thorium-232. In fact, it is the heating of the thorium by the burning gas or liquid that is responsible for the emission of light. Such mantles are sufficiently radioactive that they are often used as check sources for survey meters.

Antique Radioactive Curative Claims

In the past, primarily 1920 through 1950, a wide range of radioactive products were sold as cure-alls, for example, radium-containing pills, pads, solutions, and devices designed to add radon to drinking water. Most such de-vices are relatively harmless, but occasionally one can be encountered that contains potentially hazardous levels of radium. The state regulatory authority may require that these devices be registered or licensed.

photo courtesy of Oak Ridge Associated Universities

Granite Countertops

Granite can release the radioactive gas radon into the air. Although the amount released can vary considerably from one type of granite to another, the radon concentrations in most kitchens tested are much less than the Environmental Protection Agency (EPA) guideline of 4 picocuries/liter. While the radioactive material in the granite can produce a reading on a sensitive radiation-detection instrument, the levels of radiation produced by the natural radioactivity in these granites is well be-low the level that would result in any harm. (HPS 2008)

If there is any question about the safety of any item, members of the public are encouraged to contact their state radiation control program for advice.

Glossary

Alpha Particle

A positively charged particle ejected spontaneously from the nuclei of some radioactive elements. It is identical to a helium nucleus that has a mass number of 4 and an electric charge of +2. It has low penetrating power and a short range (a few centimeters in air). The most energetic alpha particle will generally fail to penetrate the dead layers of cells covering the skin and can be easily stopped by a sheet of paper. Alpha particles represent much more of a health risk when emitted by radionuclides deposited inside the body.

Background Radiation

Widespread radiation from space and from natural and human-made radionuclides originating in space and on the Earth.

Ci or Curie

The original unit used to express the decay rate of a sample of radioactive material. The curie is equal to that quantity of radioactive material in which the number of atoms decaying per second is equal to 37 billion ($3.7\times10_{10}$). It is based on the rate of decay of atoms within one gram of radium. It is named for Marie and Pierre Curie, who discovered radium in 1898. The curie is the basic unit of radioactivity used in the system of radiation units in the United States, referred to as "traditional" units. A micro curie is 10_{-6} curie. A picocurie is 10_{-12}curie. *In SI (International Sys-tem of Units), 4 picocuries/liter = 148 bequerels/cubic meter.*

References

Health Physics Society. Answer to question #3167 submitted to "Ask the Experts." Available at: http://hps.org/publicinformation/ate/q3167.html. Accessed 20 April 2010.

Health Physics Society. Radiation from granite countertops. McLean, VA: HPS; 2008. Available at: http://hps.org/documents/Radiation_granite_countertops.pdf. Accessed 20 April 2010.

Resources for more information

National Council on Radiation Protection and Measurements. Ionizing radiation exposure of the population of the United States. Bethesda, MD: National Council on Radiation Protection and Measurements; NCRP Report No. 160; 2009. Available at: http://www.ncrppublications.org/Reports/160, Accessed 20 April 2010.

Oak Ridge Associated Universities. Radioactive consumer products. ORAU Health Physics Historical Instrumentation Museum Collection. Available at: http://www.orau.org/ptp/collection/consumer%20products/consumer.htm. Accessed 20 April 2010.

United Nations Scientific Committee on the Effects of Atomic Radiation. Sources and effects of ionizing radiation. 1977 report to the General Assembly, with annexes. New York: United Nations; 1977. Available at: http://www.unscear.org/unscear/en/publications/1977.html. Accessed 20 April 2010.

U.S. Nuclear Regulatory Commission. Systematic radiological assessment of exemptions for source and byproduct materials. Washington, DC: U.S. Nuclear Regulatory Commission; NUREG-1717; 2001. Available at: http://www.nrc.gov/reading-rm/doc-collections/nuregs/staff/sr1717/nureg-1717.pdf. Accessed 20 April 2010.

Cold Room SOP to Prevent Mold Growth

Mold is commonly found in cold rooms. Surface(s) in a cold room may become quickly contaminated with mold if improper work practices occur. Contamination with mold can result in potential health problems via inhalation of mold spores as well as contamination of research materials. Decontamination by an outside company can be very costly.
Because many cold rooms are shared between multiple groups, a single individual can create problems affecting all users.

Preventing mold growth in cold rooms can be achieved by controlling condensation and moisture, removing materials that contribute to or promote mold growth, and decontaminating regularly. To achieve these goals, follow these guidelines:

A. STORAGE PROTOCOL

1.Allocate specific storage space(s) for each laboratory. Each laboratory will then be responsible for ensuring that nothing stored within designated storage space(s) are harboring mold.
2.DO NOT store cardboard, Styrofoam, and paper products in cold rooms. Metal or plastic containers are allowed.
3.Replace wood shelves with open stainless steel shelves.
4.DO NOT store items on the floor or leave items in the sink.
5.Label experiments in progress with name, date and responsible Principle Investigator (PI).

Note: Unlabeled samples should be discarded by laboratory managers.
6.Label equipment with PI name.
7.Store unused bacterial plates ONLY. Discard if contaminated.
8.Dispose of trash (paper towels, tubes, etc.) outside of cold room.
9.Promptly clean up spilled liquid (e.g., buffers, media).
10.Keep door firmly shut.
11.Promptly report water leaks to Facilities Management.

B. CLEANING PROTOCOL

1.Keep surface(s) clean. Clean cold room monthly (at a minimum). Clean more often if necessary.
2.Document cleanings using a log sheet.
3.Wipe down plastic surfaces with freshly prepared 1:10 dilution of household bleach.
4.Wipe metal surfaces (including tops and bottoms of shelves) with 70% ethanol.
5.Sweep, mop floor, and wipe walls with freshly prepared 1:10 dilution of household bleach.
6.Clean sink with 10% bleach and rinse quickly.
7.Regularly inspect stored items for mold. If item(s) are contaminated, promptly remove/discard or otherwise decontaminate using either 70% ethanol or freshly prepared 1:10 dilution of household bleach

Occupational Health & Safety, 501-686-5536,
http://www.uams.edu/campusop/depts/ohs/

Chemical/Lab Safety Training
Every 4th Wednesday of each month. Please Contact Mike Webb at 501-686-6958 or MWWebb@uams.edu

Radiation Safety Training
Trainings are scheduled by needs. Please contact Katia Gray at 501-686-7803 or KDGray2@uams.edu

DOT-IATA
Every 3rd Wednesday of each month. Please contact James Bishop at 501-603-1288 or JEBishop@uams.edu

Respirator Fit Testing Schedule
Monday 7:00am-10:00am
Wednesday 1:00pm-4:00pm
Thursday 7:00am-10:00am

News Alert from Emergency Management

The 2017 Emergency Quick Reference Guide (Flip Chart) has been printed and is being distributed to departments.

Please let Emergency Preparedness know if you have not received yours.

We also have Code Cards for your name badges and these are available in Creative Services.

Questions for Emergency Preparedness, please contact us at 526.6443.

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