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Department of Occupational and Environmental Safety NEWSLETTER

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Allergic Reactions to Latex

Allergic reactions to latex have increased dramatically over the years. Though the amount of individuals affected is small compared to the tremendous amounts of latex products on the market, concern is still warranted because of the potentially severe reactions to latex.

There are three main types of reactions to latex: non-allergenic or irritant reactions, delayed cutaneous reactions, and immediate reactions. Irritant dermatitis is not an allergic reaction and is usually brought on by contact with chemicals, acids, or glove additives. It is exacerbated by frequent hand washing, exposure to detergents or disinfectants, excessive sweating, and glove powders. Symptoms include itchy dry skin, burning, red or swollen tissues, and cracking or flaking of the skin.

The second type of reaction is a delayed cutaneous reaction, or allergic contact dermatitis. It appears to be an allergic reaction to the chemical additives in latex (usually used to stabilize it during heating). Symptoms include swelling, erythema, pruritus, craking of the skin, and vesiculation.

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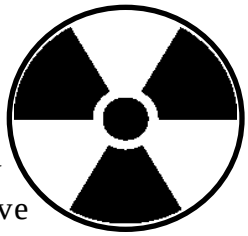
Secure Radioactive Materials



On recent after-hours laboratory checks, our safety technicians have found laboratories and hallway freezers unlocked, potentially allowing unauthorized people access to restricted materials. This is a serious security issue and needs to be immediately addressed.

Several universities have recently been fined by the NRC for failure to provide adequate security of radioactive materials, and problems of this sort were noted at our last NRC inspection. Principal Investigators must ensure that all radioactive material is secure and that licensed material in use is closely supervised. To this end, please make sure that all laboratories under your supervision are as secure as possible from public access. This includes making sure that radioactive materials in your laboratories are properly locked away at night.

If you have questions concerning this issue, please call the Radiation Safety Office to discuss it (x2906). We are happy to address concerns about any radiation issues that may affect you and your laboratory.

In This Issue:

HEY! BIKE RIDERS!

While bicycles are a great way to get around on campus, some consideration should be given to where they are parked and/or stored when not in use.

Some buildings have outside racks to which the bikes can be secured; unfortunately, many do not. Most people, therefore, prefer taking their bikes inside for security and weather reasons. However, classroom, administrative, and other buildings do not have provisions for this indoor storage, and by bringing your bike inside, you are potentially blocking the safe means of egress for that building.

Some of these "no-no" parking spots include: stairways, landings, corridors, and in front of doors. Bikes also cannot block or impede access to safety equipment such as fire extinguishers, fire hoses, alarm pull stations, or control panels. Bikes parked in these places will be removed—the lock will be cut and the bike will be confiscated and held by Security.

Blocking or impeding access to a means of egress or to safety equipment is a violation of the Fire Safety Code (NFPA standard #101) and state and local fire codes. Please don't park your bike where it would be in violation of these codes. If the building to where you are going does not have a bicycle rack, park your bike at a building nearby, and petition the dean of your building to ask that a rack be put in at your own.

What WASTE!

Xylene, Ethanol, Acetone: Recyclable Materials

DOES encourages researchers to think about waste materials that can be recycled with our spinning band still. We have had great success recycling xylene to a near-pure form and are interested in recycling more of this material. We have also recycled ethanol, though with less success—the still provides a final product that is about 75% ethanol (still good for sterilization procedures).

Acetone wash still comprises our largest amount of recycled materials. The still reclaims the acetone in a near-pure form so that it can be re-used as a wash reagent.

Recycling saves money for you and the university, by replacing the need to buy new materials and by reducing waste disposal costs. Recycling also reduces the amount of hazardous waste introduced into the environment. If you have large amounts of any of these materials, call DOES (x2907).

Upcoming Training Sessions

Check the DOES Home Page for updated training information: (http://does.cwru.edu)

Radiation (x2906)

•**New Training:** Sept. 19(1-4), 30(9-12); Oct.8(9-12), 17(1-4), 28(1-4)
•**Retraining:** Sept. 15(2-3), 25(10-11); Oct.9(10-11), 21(2-3), 30(10-11)
•**X-ray Training:** call office to set up training session

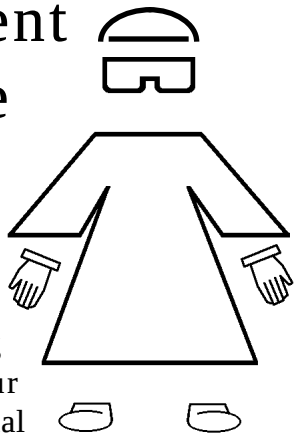
Chemical (x2907)

•**OSHA Lab Standard:** Mondays 1-3 (Service Building Conference Room)

Bloodborne Pathogen (x2907)

•**New Training:** Mondays 3-4:30 (Service Building Conference Room)
• **Retraining:** Sept.24(2-3:30); Oct.9(2-3:30), 22(10-11:30) (Service Building Conference Room)

Personal Protective Equipment Outside the Lab



Personal protective equipment (PPE) includes anything that protects your body from potential hazards in the lab. The most commonly worn PPE consists of gloves, lab coats, surgical masks, protective footwear, and protective eyewear. Because these items are protective equipment, they should not be worn outside the lab area. We have observed many people wearing PPE, gloves and footwear especially, when they are outside their laboratories. This could be perceived as a hazard on the part of your colleagues and the general public and is against OSHA regulations.

Take gloves, for example. If your gloves have done their job, then they might be carrying around some sort of potentially hazardous material. After all, that's why you put them on in the first place—just in case. And while potentially harmful material is acceptable in laboratories or medical treatment areas, it is unacceptable in lunch rooms or office areas frequented by the general public. So please remove gloves and other PPE before you leave your laboratory. PPE should be removed even if they are clean or you did not work with any hazardous materials. The reasoning behind this premise is simple: you may know that the materials with which you have been working are not hazardous, but others around you do not, and this sort of uncertainty can cause those around you to feel uncomfortable or unsafe.

Please contribute to the peace of mind of others by leaving laboratory clothing in the laboratory. Thank you for your cooperation in this matter.

HOT TIPS

Radioactive Waste Reduction: Use Spill Trays

Contaminated bench paper makes up the largest bulk of radioactive waste on campus. In order to help reduce this huge amount of radioactive waste, we ask researchers to use spill trays whenever possible during experiments involving radioactive materials. Then, if a spill occurs, it is contained in a small area that can be easily cleaned, rather than thrown away.

If you must use bench paper, survey it completely to determine what sections are contaminated and dispose of these sections as radioactive waste. The uncontaminated sections can be disposed of as non-radioactive waste.

The better solution, however, is a spill tray, which can be cleaned with a comparatively tiny disposable Kimwipe. This one step would drastically reduce the amount of radioactive waste on campus. We encourage all researchers to invest in a few of these trays, which can be ordered through Fisher Scientific.

If you have any questions about spill trays or other ways to reduce radioactive waste, call Radiation Safety at x2906.

Allergic Reactions to Latex

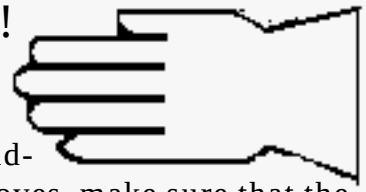
(continued from p.1)

The final reaction to latex is an immediate hypersentitivity reaction. This reaction requires that there was a prior exposure to an immunogen capable of causing an antibody response, and re-exposure to the same antigen. For this reason, those most at risk are persons who frequently use latex: latex industry workers and health care professionals, especially dentists. Symptoms of mild contact uritcaria include hives, itching, conjunctivitis, and rhinitis; in some cases these reactions may lead to cardiac arrythmia, low blood pressure, and breathing problems. More advanced cases may include generalized urticaria and anaphylactic shock.

In general, researchers agree that the culprits involved in occupationally acquired senstitization to latex include: the chemicals used in glove manufacture, latex proteins, and cornstarch lubricating powders (which serve as vectors for proteins). Implemetation of Universal Precautions, which has led to the increased frequency and wear-time of gloves, and hand dermititis, stemming from either frequent hand washing or from poor hand care habits, have also greatly contributed to the problem. Allergen absorption in health care workers generally occurs through skin contact with allergens in the glove—wearing gloves increases skin temperature, which in turn increases the likelihood of chemical and / or latex absorption. Then the second type of reaction, contact dermititis, generally occurs.

Unfortunately, latex allergens in glove products vary drastically. Some people may react strongly to an antigen in one glove product but remain unaffected by different gloves containing fewer water soluble proteins or residual chemicals. Since glove antigen content varies from brand to brand, the best way of reducing risk is to use gloves with the least amount of residual proteins in them. This information should be available from the manufacturer. Choosing powder-free gloves should also help. Though a number of "low allergy" gloves exist on the market, it is important to remember that just because a glove is labelled "hypoallergenic," it will not necessarily prevent allergic reactions. Switching to a nitrile, neoprene, vinyl or polymer glove (as long as it is chemically compatible!) may be the best way to reduce your amount of exposure to the allergen.

REMEMBER!



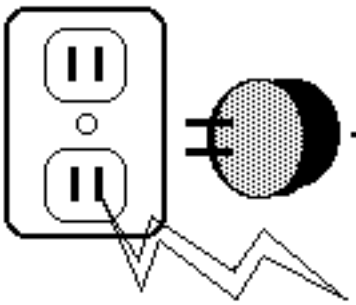
If you think you may be allergic to latex and are considering switching gloves, make sure that the new gloves are compatible with whatever chemical you are using.

Food and Latex?

Allergies to latex and certain fruits or vegetables have been recently documented to produce patterns of allergic cross-reactivity. While details of this relationship must be further studied, food allergies have been found to coexist with latex sensitivities for some people. Some possible cross-reactions may exist between latex and the following:

High degree of association:
- Bananas
- Avocadoes
- Chestnuts
- Passion fruit (possibly)

Moderate degree of association:
- Apples
- Carrots
- Celery
- Tomatoes
- Papayas
- Kiwis
- Potatoes
- Melons



ITS SHOCKING! Working Safely with Electricity

Electrical shock kills more than 100 workers each year and injures many more. A heavy electrical shock can stun your muscles and nerves and stop your heart and breathing. A milder shock can cause you to fall, resulting in bruises and broken bones. Knowing how shocks happen can help you protect yourself on the job.

Effects of Electrical Shock

Electricity follows the easiest path to the ground and therefore will flow through any conductive material in order to reach it—water, metal, certain chemical solutions, or the human body. If you come into contact with electricity while you are in contact with the ground, you become part of an electrical circuit, and current passes through your body, causing a shock.

The effects of an electrical shock depend on the type of circuit, its voltage, the pathway through the body, and the duration of contact. Depending on these factors, an electrical shock may cause respiratory or muscular paralysis. Even a small shock can kill you if it passes through your heart and lungs. If a current does not pass through vital organs or nerve centers, severe injuries such as deep internal burns can still occur. Other effects include involuntary muscular reaction, which may cause falls resulting in bruises, bone fractures, or death.

Working Safely With Electricity

Unsafe conditions and work habits are often the underlying causes of any injury or accident, including those involving electricity. Learn to identify and correct potential hazards to make the workplace safer.

1. Correct Unsafe Conditions or Equipment

Unsafe working conditions result from faulty equipment or hazards in the environment. Keep the following in mind:

- Always check equipment, cords and attachments before each use. For example, make sure that cord insulation, which provides a barrier to electrical current, is appropriate for the voltage and kept undamaged, clean and dry.
- Never modify or remove a guard. Guards act as a physical barrier, keeping you from contacting energized equipment parts.
- Make sure all equipment is properly grounded and plugged in to grounded circuits.
- Be aware of flammable vapors, liquids, or gases and corrosive chemicals.
- Make sure the area in which you are working is not wet or damp. If you must work in damp areas, use a ground fault circuit interrupter.

2. Change Unsafe Work Habits

Because even the best equipment protection is not fail-safe, safe work practices are equally important for preventing electrical shock. Make sure you aren't a victim of unsafe acts:

- Keep a prescribed distance from exposed energized wires or parts. Be aware of conductive material and tools around you and keep them far from sources of electricity. Remember steel wool, metallic cleaning cloths and some chemical solutions are conductive.
- Never use equipment that you know is damaged. No shortcut is worth an electrical shock. Report any damaged insulation or loose parts or connections that you find.
- Lockout/tagout equipment that is de-energized for maintenance or repair to ensure it is turned off and stays off.
- When required, use protective clothing and devices, such as rubber gloves, sleeves, safety mats, or nonconducting tools rated for the voltage of the parts. Make sure this equipment is maintained so that it does its job.

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Its Shocking! Working Safely With Electricity

(continued from p.5)

Protect Yourself and Others

By exercising caution and common sense, you can keep electricity working for you, not against you. Do your part to make sure your workplace has safe equipment—and use that equipment safely—to protect against the hazards of electrical shock. If there is any doubt as to the safety of a piece of equipment, or if you experience any problems, don't try to fix it yourself—leave any repairs to a professional.

Please call Safety Services (x2907) with any questions.

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