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DISPOSING OF MEDICAL WASTE

UCSF produces medical waste from research laboratory operations and from clinical and patient care activities. Medical waste includes biohazardous waste, sharps waste, and waste which is generated or produced as a result of diagnosis, treatment, or immunizations of human beings or animals in research pertaining thereto, or in the production or testing of biologicals. UCSF is subject to the California Medical Waste Management Act, the San Francisco Medical Waste Ordinance, and various state and federal transportation regulations.

Should there be a question whether a particular material is included in the definition of medical waste, please contact the UCSF Biosafety Officer at 476-2097 or the Hazardous Materials Management Medical Waste Supervisor at 476-0964.

It is the intent of EH&S to ensure that persons generating, collecting, and removing medical wastes are subjected to minimal risk of injury or occupational exposure through proper use of engineering controls, safe work practices, and universal precautions. It is also UCSF's intent to be consistent with all Campus, federal, state and local requirements for handling medical waste.

At UCSF, medical waste falls into three categories for disposal:

***Autoclaved Waste**:* biohazardous waste which is treated for at least 30 minutes at 121^0 C in an EH&S approved & certified autoclave. Autoclaved waste bags should include a tape or label which becomes visible only when the material has been autoclaved.

***Red Bag Waste**:* biohazardous waste which is disposed of by placing it into a special disposable red bag labeled with the universal "Biohazard" symbol and the word "Biohazard" on the bag. This bag should be contained in a rigid biohazard container during accumulation and transport.

All recognizable animal carcasses & body parts must be treated as Red Bag waste.

***Sharps Waste**:* items such as syringes (with or without needles), needles, lancets, and scalpel blades, which can cause personal injury via puncture or cuts. Sharps must be disposed of in a rigid puncture-resistant container (which cannot be readily opened) labeled with the universal "Biohazard" symbol. Sharps containers should be disposed of by incineration; they should not be autoclaved.

If the medical waste includes other waste categories as well, such as chemical waste or radioactive waste, it will be treated as mixed waste:

Mixed waste containing *Medical Waste* and *Chemical Waste* must be treated as *Chemical Waste.*

Mixed waste containing *Medical Waste* and *Radioactive Waste* must be treated as *Radioactive Waste.*

Mixed waste containing *Medical Waste, Chemical Waste* and *Radioactive Waste* must be treated as *Radioactive Waste.*

All biohazardous waste must be properly packaged before it can be picked up by the Facilities Management Building Services staff.

Red Bag Waste: Red Bag waste which is left in the lab must be stored in a labeled biohazardous waste container. The opened end of the bag must be taped shut to prevent spillage. Leaking bags will not be picked up. Uncontained liquids should not be placed in a Red Bag. Sharps containers, chemical and radioactive waste, mixed chemical and biohazardous waste, or mixed radioactive and biohazardous waste must NOT be disposed of in a Red Bag.

Autoclaved Waste: An autoclave bag, when properly *autoclaved*, can be disposed of as solid waste in the regular trash when the following conditions are met: the word *Autoclave* has changed color from barely visible to intense; autoclave tape tied around the top of the bag shows distinct brown/black stripes. The *red autoclave bag* is the only approved bag. The top of the bag must be sealed with autoclave tape and the bag should be checked for tears. Torn bags must repacked before being disposed of. If a lab desires to have an autoclaved bag disposed of as Red Bag waste, the bag must have a Medical Waste Tag attached.

Sharps Containers: Sharps containers should be filled no more than three-fourths full to prevent spilling or injuries. The filled container should be closed tightly, and the top and bottom pieces secured with tape loops.

Mixed Waste: All mixed waste will be picked up by EH&S.

Medical waste is collected for proper disposal by Facilities Management

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EXTENSION CORDS - A TEMPORARY SOLUTION!

It is the policy of the UCSF Campus (consistent with various local, state and federal codes and standards) that extension cords are for TEMPORARY USE ONLY. What, exactly, does this mean? When can extension cords be used, and for what?

Ideally, from a safety perspective, extension cords should not be used at all. A number of hazards are associated with their use: fire, resulting from circuit overload or inadequate cords; trips and falls from cords stretched across floors; electrical shock due to improper grounding; lab accidents due to cords stretched across lab benches, etc.

There are circumstances where a TEMPORARY extension cord is the only solution to the problem. This might include setting up audiovisual equipment for a seminar or training class, or maintenance and repair activities.

Temporary is less than one day, and requires the extension cord be used ONLY with a person in attendance. All extension cords must be unplugged when unattended; they should NEVER be left plugged in overnight!

Extension cords ARE NOT TO BE USED as a substitute for fixed wiring. The cord MUST NOT cross aisles or walkways. The cord MUST NOT pass through doorways, walls, ceilings, or be attached to any surface, or be concealed beneath carpets or behind equipment. Cords MUST NOT be placed where they can come into contact with fluids or chemicals. They ABSOLUTELY MUST NOT be "daisy-chained", i.e., linked together.

Extension cords MUST be UL-Approved. They MUST be of sufficient gauge to support the equipment requirements. They MUST be grounded - grounding adapters are unacceptable. They MUST be intact - no fraying, cracked insulation, tape repairs, or other damage.

Surge suppressors are not to be used in place of extension cords. Their use is limited to sensitive electronic equipment. Other uses are prohibited.

For further information, contact the Campus Fire Marshal.

HAZARDOUS MATERIALS EMERGENCY RESPONSE

Within the Environmental Health and Safety (EH&S) Organization is an elite group of individuals trained to handle spills and accidents involving hazardous materials. This group is known as the EH&S Emergency Response Team (ERT). Each member of the team has undergone special training in proper handling of chemical, biological, or radiological spills, and undergoes retraining on at least an annual basis.

Should an accident or spill occur, an immediate call to the campus emergency number (476-6911) begins the Emergency Response process. If you are the caller, provide all the information asked for, and remain on the line until the person answering the call terminates the call. Within ten minutes, you will receive a return call from one of the trained Emergency Responders. The Emergency Responder (ER) will work with you to evaluate the situation. In some cases, if the spill is minor, no one was hurt, and both you and the ER feel confident you can handle the spill, the ER may give you directions for handling the spill yourself. In most cases, the ER will personally come to your site to handle the spill.

During the normal work day, the ER is readily available and will normally respond within a few minutes. During the night hours, weekends, and holidays, the ER is "On-Call". To contact the ERT, call the campus emergency number (476-6911). The Police Dispatcher will page the ER, and the ER will respond by telephone within ten minutes. During these periods, the ER is not required to remain on campus. Many of our ERs live outside the city, and the time it takes them to arrive at the scene can sometimes be as long as an hour.

Therefore, it can be very helpful if lab personnel who work nights & weekends have a basic understanding of the steps necessary to handle a basic lab spill.

Five things are ALWAYS necessary for handling a spill, regardless of whether it's chemical, biological, or radiological:

1. Knowledge of the material to be dealt with; before using any hazardous material, you must be familiar with its properties. If it is a chemical, read the Material Safety Data Sheet and the warnings on the container. If it's biological or radiological, ask your laboratory manager or Principal Investigator to explain the hazards and risks of that material. Make sure you know the hazards and risks before you start using the material.

2. Appropriate personal protective equipment (PPE); a lab coat should always be worn when working with or near a hazardous material. Eye protection is a standard requirement, at a minimum, safety glasses; use goggles or a face shield if the material warrants these. Appropriate gloves should be used; make certain the glove material will withstand the effects of the material being handled. Other PPE might include boots (if the spill is large), or

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(ER, continued)
a respirator (don't forget you must be fitted for a respirator).

3. Materials for handling the spill; spill kits designed for a variety of materials are available from standard laboratory vendors. Obtain some of these kits and become familiar with their contents before you have an accident.

4. Training in handling a spill; you may be able to get this training from your laboratory supervisor or from your DSA.

5. Recognize your abilities and limitations; never attempt to clean up a spill unless you are confident you can safely do so. Wait for the ER rather than risk personal injury or worsening the spill.

If you have met the five conditions above, you may decide it is safe and expedient

WHAT IS CHEMICAL WASTE?

A **Waste** is **chemical waste** if:

1. It exhibits the characteristics of ignitability, corrosivity, reactivity or toxicity.
2. It is otherwise capable of causing environmental or health damage if improperly disposed of.
3. It is, or contains, a mixture of a waste listed in the regulations as hazardous.

Definitions

Ignitability is the property that causes liquids or solids to catch fire easily and burn rapidly.

Corrosivity is the property of liquids or solids that causes damage to the skin; usually chemicals with a pH below 2 or above 12.

Reactivity is a substance's ability to undergo a chemical reaction or change that may result in dangerous side effects, such as explosion, burning, and corrosive or toxic emissions.

Toxicity is the extent to which a substance will cause harmful effects on some biological mechanism.

Accumulation Start Date is the date when any amount of the chemical waste is placed in a waste container.

Generator means any person, by site, whose act or process produces chemical waste.

Restricted Materials or Wastes are those materials that because of their physical and chemical characteristics are handled for disposal on a case by case basis. These materials include but are not limited to **explosives, poison gas, pyrophoric materials,** and **organic peroxides.**

Unknown Waste Characterization Procedure is a qualitative analysis conducted on a sample, for ignitability, corrosivity, water reactivity and oxidizing properties.

Bulking is consolidating various quantities of the same type of waste into a single, larger container.

Chemical Waste Packaging, Labeling, Segregation and Disposal

EH&S must remove chemical waste from the campus within 90 days of the accumulation start date.

A) Store waste in appropriate containers and attach a chemical waste tag (these tags are available from EH&S; call 476-0544):

- Screw cap bottles for liquid waste. No stoppered or corked flasks and bottles.
- Plastic bottles for all aqueous solutions, except concentrated acids and bases.
- Transparent plastic bag for contaminated dry waste. Colored plastic and paper bags are not acceptable.
- Hard sided containers for broken glass, needles (non biological) and pasteur pipettes.
- Wide mouth plastic bottle for semi-solid materials such as gels, paraffin wax, etc.
- Larger screw top bottle or plastic bucket with snap on lid for leaking chemical containers.

B) Label all waste containers for disposal:

- Ensure that the chemical waste tag is attached and completed.
- Identify the waste by chemical name. General labels such as "Inorganic Waste" and "Organic Solvent" are not acceptable.
- Identify all constituents in mixtures (solids and liquids) and specify their concentrations in %, ppm, M, and N.
- Deface existing labels.

C) Segregate waste properly:

- Segregate solids, liquids, gases and sharps.
- Segregate chemical waste into the following categories:
  - acids of pH 2 or less
  - alkaline solutions of pH 12.5 or greater
  - alkali metals and other water reactives
  - heavy metal solutions and salts
  - halogenated organics
  - non-halogenated organics
  - potential explosives and peroxide-forming chemicals
  - strong oxidizers
  - chemical carcinogens
  - cyanides
  - vacuum pump oil
  - other toxic materials

D) Follow proper waste disposal procedures:

- Complete the EH&S Chemical Waste Removal Form and mail to EH&S. EH&S will schedule your pick up upon receipt of the completed form. If you have a last minute problem, you can fax the form to 476-0581 or call 476-0544 to arrange a waste pick up.

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In This Issue:

(Medical Waste, continued)

Building Services custodians and by contracted custodians. These custodians are trained and have specific procedures for handling medical waste. There are a number of common problems that the custodians frequently encounter:

- Red Bag waste is not properly packaged. Proper packaging is the responsibility of the laboratory, as discussed above. The custodial staff will not pickup Red Bags unless they are properly packaged and closed.
- If the autoclave marking on the bag and the stripes on the tape have not changed color, the custodians will not collect those bags.
- If a Red Bag contains recognizable carcasses or body parts, it is the responsibility of laboratory personnel to transport the bag to the appropriate cold storage room for later disposal. The custodians are instructed to leave these bags in the laboratory.
- Sharps must be contained in an approved sharps container. Any bags containing loose sharps (or sharps sticking through) will not be picked up by the custodial staff.

You may obtain a copy of the UCSF Medical Waste Management Plan by contacting EH&S at 476-1300.

(Chem. Waste, continued)

- Waste is picked up according to the schedule available from EH&S.
- EH&S cannot accept improperly labeled and/or sealed containers.
- Generators are responsible for packaging waste into appropriate containers. Waste containers are not returned.
- Call 476-0964 to discuss chemical waste minimization and disposal procedures appropriate for your laboratory.

A SAFER CAMPUS

The Campus Safety Fair will be held October 2nd & 3rd in Millberry Union.

The 2nd Annual Campus Safety Fair will provide displays, videos, computer training, games and prizes - all geared toward the unique safety needs of the Campus Community.

We'll show you many ways to make your workplace a safer one. Exhibits from laboratory safety supply vendors and workstation ergonomic specialists are planned. Other displays will provide updates in Biological, Chemical, Radioisotope, and General Workplace Safety. We're hoping to have lots of useful Safety Giveaways & maybe even a Free Prize or Two!