



- Articles in this issue:**
- UCSF Medical Waste Management Inspection Results
  - Stericycle to Increase UCSF Medical Waste Prices by 300%
  - Radioactive Waste Reminders
  - Preserving the Quality of Bottled Water
  - Cathode Ray Tubes
  - Congratulations OEHS!

**(Cathode Tubes, continued)**

Therefore in order to meet the new regulatory requirements, UCSF policy requires that the following actions be taken regarding CRTs:

- \* CRTs that are still functional, although obsolete, may be managed as surplus and shipped to Materiel Management for resale or recycling.
- \* If the CRT has a UC Tag Number, please complete the Equipment Inventory Modification Form -- (<http://acctg.ucsf.edu/files/pdf/eqmod.pdf>).
- \* If the CRT does not have a UC tag number (i.e., initial value was less than \$2,500), please complete the Materiel Management Campus Storehouse Requisition form -- (<http://acctg.ucsf.edu/files/pdf/shreques.pdf>).
- \* When either form is completed, fax it to Materiel Management at

502-7983. If you have questions, contact Materiel Management at 502-3086.

- \* CRTs that are no longer usable or are broken are considered a hazardous waste.



- \* Call the Office of Environmental Health and Safety at 476-0544 to arrange for pick-up. CRTs so designated must be labeled with a Universal Waste CRT label, including the date that the CRT was determined no longer usable.
- \* CRTs, if considered waste, should be accumulated no longer than 60 days at your location.

If you have any additional questions please contact your Department Safety Advisor.

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**(Waste Inspection, continued)**

The bag must have a clearly visible biohazard symbol, and must be marked with ink that undergoes a color change when autoclaved. This special ink appears only when the bag has been autoclaved, and reads "Autoclaved".

Although marked with the biohazard symbol and ink that is autoclave sensitive, orange, clear or any other colored bag **CANNOT** be used for medical waste. Only red bag is allowed for medical waste.

A list of acceptable bags and suppliers is available from your DSA or the Biosafety Officer.

OEHS is pleased to announce that The Campus Safety, Health and Environmental Management Division of National Safety Council has awarded OEHS the "President's Citation Letter" for a complete safety program. *Congratulations OEHS!*

# SAFETY UPDATE

UNIVERSITY OF CALIFORNIA, SAN FRANCISCO

## NEWSLETTER

OFFICE OF ENVIRONMENTAL HEALTH AND SAFETY

UCSF RESEARCH NEWS

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### UCSF MEDICAL WASTE MANAGEMENT INSPECTION RESULTS

The Public Health Services recently inspected UCSF's Medical Waste Management. Overall, UCSF is doing a very good job of managing its medical waste.

There are, however, some parts of the process that may not be clear to those who use an autoclave to sterilize medical waste, which is then discarded in the regular trash (also known as medical waste treatment).

In 1996, the Office of EH&S released a "Biological Safety Update" entitled "Medical Waste Policies and Procedures". This is still generally an accurate guide, but few additional details need to be emphasized.



The following is a brief description of how these autoclaves must be used and maintained, and a reiteration of the medical waste process.

**Any autoclave that is used to sterilize medical waste so that the waste can then be discarded in the regular trash must be:**

- Serviced at least annually by an outside vendor, who will perform routine maintenance and certify the temperature monitor to ensure that the autoclave is working correctly and that the temperatures recorded are accurate.

Laboratories must keep all service records for each unit used for medical waste treatment for a

minimum of three years, and they must be available to an inspector upon request. A list of vendors can be obtained from your DSA or the Biosafety Officer.

- Able to provide a record of each medical waste run (printed tape or circular chart) that shows the time, date, temperature and duration of the "run", as well as a way of determining who performed the run. If your autoclave doesn't have a recording device, a handwritten log must be kept for each run of medical waste indicating all of the above data.

It must also have two temperature readings, one near the beginning and one at the end of the run, to confirm that the correct temperature was maintained. Tapes, charts and/or logs must be kept by the laboratory for a minimum of three years, and be available to an inspector upon request.

- Operated such that every medical waste sterilization reaches a minimum temperature of 250°F/121°C for a minimum of 30 minutes.

- Certified by OEHS as a medical waste approved autoclave. This certification is renewed annually.

- Maintained by one responsible person or laboratory, even if multiple labs or departments use the unit. That person or laboratory will keep all records and be responsible for ensuring that the unit and its use comply with the regulations.

**Other important findings from the inspection:**

- By definition, anything that is inside a red plastic bag marked with a biohazard symbol is medical waste. Using these bags as
  - microscope, equipment or supplies dust covers,
  - wraps for autoclaved lab ware,
  - or for any purpose other than the disposal of medical waste,
 is a violation of the Medical Waste Management Act.

- All red bags that contain waste must always be themselves contained in a rigid-sided secondary container that has a tight fitting lid. This includes during transport from a lab to an autoclave, and while the waste is waiting to be autoclaved.

**! No red bag containing waste may ever be placed on the floor or counter outside of a secondary container.**

No one should ever walk through a lab or corridor carrying a red bag containing waste. When the bag is "in use", which means that someone is working nearby and discarding waste, the lid may be removed or propped open. However, when the work is done the lid must be closed.

- Only red autoclavable bags may be used for medical waste, regardless of whether it will be treated and discarded in the regular trash or disposed of via OEHS.

(Contd. on pg. 4, See Waste Inspection)



## STERICYCLE TO INCREASE UCSF MEDICAL WASTE PRICES BY 300%

Stericycle, Inc. purchased Integrated Environmental Systems, Inc. (IES) last December, effectively creating a monopoly on medical waste treatment services.

For the last five years, IES had provided medical waste disposal services for all UCSF facilities, both research and Medical Center sites. IES also incinerated all of UCSF's medical waste; however, Stericycle has dismantled and sold the incinerators and completely shutdown IES local operations.

UCSF's medical waste is currently being hauled to Utah for incineration.

### STERICYCLE HISTORY

Stericycle had previously purchased Brown Ferris Industries (BFI) medical waste facilities and equipment to become the dominant provider of medical waste treatment services in the U.S.

Following the purchase of IES, Stericycle indicated they would honor the existing UCSF contract until it expires in October. They also informed the University that the new contract costs for incineration will be increased by almost 300%.

### WHAT ARE UCSF'S OPTIONS?

UCSF is actively investigating other options for both treatment and service providers. Nevertheless, it appears that segregation of medical waste will be required so that we can use autoclaving or microwave sterilization as an alternate treatment method.

If autoclaving is used, the costs can be similar to the current treatment prices. Furthermore, if an aggressive program of segregation is implemented, the majority of UCSF's medical waste can be treated legally with steam sterilization. Because of market economics, change is inevitable in the management of our medical waste.

Appropriate segregation, waste minimization and other cost cutting measures will allow UCSF to limit the impact of the changed marketplace.

The following is vital information you will need to properly segregate medical waste which can be autoclaved, from medical waste that must be incinerated.

### MEDICAL WASTE

**Medical Waste is defined as both bio-hazardous waste and sharps waste.**



The largest volume of medical waste in our research laboratories would be classified as bio-hazardous.

**Bio-hazardous waste** (packaged in red bags and often referred to as "red bag" waste) includes, bottles, flasks, bags, tubes or other equipment that has been in contact with human blood, tissues, cells or any other potentially toxic or infectious substance.

It also includes human or animal specimens, tissues and cultures, stocks of infectious and other pathological waste; animal carcasses, parts, tissues and fluids.

Biologically contaminated materials and equipment which includes gloves, gauze, absorbent papers, culture flasks, tubes or bottles, Petri and culture plates, are also considered bio-hazardous waste.

**Sharps waste** includes any device having rigid corners, edges or protuberances capable of cutting or piercing. This includes but is not limited to needles (alone or with syringes or any other item attached), pasteur or capillary pipettes; syringe plungers, syringe barrels, and syringes (with or without needles), biologically contaminated broken glass, glass slides, razors, scalpels, disposable surgical instruments and electro-surgical needles and blades.

All sharps waste are segregated at the point of use and are placed in rigid puncture-resistant containers which when sealed are leak resistant and cannot be easily opened.

The 1991 Medical Waste Management Act prescribes generator and transporter requirements as well as the handling and disposal methods for medical waste produced in California.

Several treatment methods are specified in the Act with the most commonly used being incineration and steam autoclave processing.

### TO INCINERATE OR AUTOCLAVE?

**Pathology waste** which includes human tissue specimens, organs, limbs and contaminated animal carcasses, parts and specimens; trace chemotherapy and non-hazardous pharmaceuticals **must be incinerated by regulation.**

The other medical waste streams (bio-hazardous and sharps waste) **may be treated by alternative treatment method e.g. autoclaving.**

### SEGREGATION CONTAINERS

Non-hazardous pharmaceuticals, trace chemotherapy waste and pathology waste must be segregated and packaged into designated containers.

These designated containers must be separate and apart from the other bio-hazardous waste and sharps waste in order to assure appropriate treatment methods.

Of the designated containers, pathology waste must be placed in containers labeled "**Pathology Waste**".

Similarly, trace chemotherapy waste and non-hazardous pharmaceuticals must be segregated into containers labeled as "**Chemotherapy Waste**" and "**Incineration Only**" waste, respectively.

Please contact your Departmental Safety Advisor (DSA) for questions about waste segregation and disposal methods.

## RADIOACTIVE WASTE REMINDERS

### DISPOSING SOURCE VIALS:

- Users of radioactive materials must separate radioactive waste by type and half-life.
- Separate the source vials (a waste type) by these half lives:
  - ➔ P-32 only,
  - ➔ < 90 days half-life, or
  - ➔ > 90 days half-life.
- Place the waste vials (separated by P-32 only, <90 days, and >90 days half lives) in separate plastic bags.
- You are not required to empty the source vials prior to waste pick-up.

### COMPLETING THE RADIOACTIVE WASTE DISPOSAL FORM AND WASTE TAGS:

- You do not need to account for radioactive half-lives.
- For the "empty" vials,
  - ➔ record a value of 1% of the total original source vial activity.Example: for a vial originally containing 1 millicurie of any isotope,  $1 \text{ mCi} \times 0.01 = 0.01 \text{ mCi}$ , record 0.01 millicurie on the waste form and tag.
- For partially full vials, record the value from each vial's usage log.
- For unused vials, record the quantity as stated on each vial's label.

### DISPOSING "PIGS" (SOURCE VIAL SHIELDS):

- Return the source vial shields (lead pigs, plastic pigs) to OEHS for disposal.
- Do not put into regular trash.
- Separate the screw top from the pig body prior to waste pick-up.
- Please do not accumulate the shields.

#### For plastic pigs

- ➔ Place in dry radioactive waste separated by P-32, < 90 days, and >90 days half-lives.

#### For lead pigs

- ➔ Place in separate plastic bags separated by P-32, < 90 days,

and >90 days half-lives.

OEHS provides a laminated poster that explains proper handling of radioactive and hazardous waste.

Please contact your Departmental Safety Advisor (DSA) for questions and to obtain a copy of this poster. You can find the name of your DSA at:

- ➔ <http://www.ehs.ucsf.edu/>.
- ➔ Click on *Phone List*, then,
- ➔ *Find Your DSA*.

## PRESERVING THE QUALITY OF BOTTLED WATER

Maintaining the clear fresh taste of bottled water can be a bit challenging, especially when the water cooler is not in steady use, or during summer months when the temperatures are higher.

When the water starts tasting bad, at least one of the concerns is the safety of the drinking water. Does the different taste mean the water is no longer safe to drink? In most situations, the answer is no. The water is potable and just tastes bad.

However, there have been cases of reported illness, one last year at a sister campus.

Two lab employees drank from a water cooler that had just been refilled with a new bottle. Both said the water tasted bad, became nauseated, and were sent to Health Services. Although the precise cause was not identified, it is very possible the water cooler itself was not clean.



Proper care of the bottled water and of the dispensers is the key. Please use the following guidelines to care for your full bottles:

- Store the full bottles at a constant temperature and, if possible, in a cool area. This will avoid expansion and contraction of the bottles that can draw microscopic material into the bottles.
- Store bottles away from sunlight, thus discouraging the growth of algae.

- Make sure the bottle inventory is rotated in a way that assures the "oldest bottles" are used first.
- Wash your hands before changing a water bottle and wipe the top and the neck of the new bottles with a clean (preferably sterile) cloth.

### CLEANING WATER DISPENSERS

Bottled water dispensers should be cleaned monthly using the following procedure:

- Remove the empty water bottle.
- Add 1 tablespoon of bleach to the water reservoir.
- Add sufficient cold water from the tap to let the bleach fill the tubing between the reservoir and tap.
- Let the bleach solution stand for 5-10 minutes, then use small brush cloth or sponge to clean the reservoir.
- Flush out the bleach by adding several cups of fresh bottled water. Install a new bottle.

NOTE: Full water bottles are heavy and difficult to handle. Follow proper lifting guidelines for proper handling of the water bottles.

## CATHODE RAY TUBES

Based on new California regulations for Universal Waste, cathode ray tubes (CRTs) are subject to hazardous waste regulations.

CRTs convert an electronic signal into a visual image and include computer monitors, televisions, some camcorders and other electronic devices.

Most CRTs exceed the regulatory limit for lead and are identified as hazardous waste when discarded.

**It is prohibited to discard CRTs as ordinary trash or to a municipal landfill.**

Universal Waste is not subject to the traditional hazardous waste requirements allowing CRTs to be managed based on the risks associated with handling these materials.

(Continue on pg. 4, See Cathode Tubes)

