

# **Medical Waste Management Program California State University Bakersfield**

Rev: 04/02

## **Purpose**

This plan provides procedures for the proper management of potentially infectious wastes according to requirements of the California Health and Safety Code, Division 20, Chapter 6.1.

## **Facility Information**

California State University Bakersfield (CSUB)  
9001 Stockdale Highway  
Bakersfield, CA 93311-1099

California State University Bakersfield, Antelope Valley Extension  
43909 30<sup>th</sup> Street West  
Lancaster, CA 93536-5426

CSUB is registered as a small quantity generator and operator of a steam sterilizer with the Kern County Environmental Health Department. Medical Waste is generated by the Biology, Nursing and Psychology Departments, and the Student Health Center. The campus generates less than 200 pounds of biohazardous waste per month.

CSUB, Antelope Valley Extension is a small quantity generator of medical waste. The State of California, Department of Health Services has been notified of this operation. The campus generates less than 200 pounds of biohazardous waste per month from Student Health Center operations only.

## **Contact Persons**

Barbara Brenner	Safety and Risk Manager Bakersfield	Office of Safety and Risk Management 661-664-2066
Carolyn Krone	Associate Director of Health Services – Bakersfield	Student Health Center 661-664-2394
Margie Jones	Nurse Practitioner Antelope Valley	Student Health Services 661-722-6639

Al Tanabe	Science Stockroom Supervisor Bakersfield	Natural Sciences 661-664-2163
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Emergencies	Public Safety Office, Bakersfield Campus Security, Antelope Valley	661-664-2111 661-722-6399
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## **Responsibilities**

Faculty and staff who supervise clinic or laboratory activities that generate biohazardous wastes are responsible for:

- Assuring that biohazardous wastes are stored, handled and disposed of according to this plan;
- Training employees and students under their supervision on the proper handling and storage of biohazardous materials; and
- Maintaining records of training.

The Science Stockroom Supervisor is also responsible for:

- Maintaining up to date standard operating procedures for the autoclave;
- Documenting adequate autoclave performance monthly using biological indicators;
- Scheduling maintenance as required;
- Maintaining the autoclave information log;
- Routine maintenance of the autoclave;
- Thermometer calibrations; and
- Documentation of maintenance and calibration procedures.

The Office of Safety and Risk Management (S&R) is responsible for:

- Developing guidelines for management of biohazardous waste that are consistent with Federal, State and local regulations;
- Approving specific on-site treatment procedures used to render infectious waste non-infectious;
- Administering the contract for off site biohazardous waste disposal services; and
- Performing periodic audits of campus waste generating facilities to assess compliance with this plan.

## **Biohazardous Waste Streams**

Definitions for each type of waste listed below are given in Attachment A. The following types of biohazardous waste are routinely generated.

- Laboratory wastes (Bakersfield campus only)
- Blood or body fluids
- Sharps
- Animal tissues that have been fixed with formaldehyde (Bakersfield campus only)
- Expired pharmaceuticals

The following biohazardous waste may be generated occasionally.

- Infectious animal waste (Bakersfield campus only)

No recognizable human parts, mixed radioactive waste, pathological or chemotherapeutic wastes are generated at either facility.

No off-site medical waste is transported to these facilities for consolidation or treatment. Etiologic agents currently in use have a biosafety level (BSL) rating of 2 or less. Special planning is required for handling of biological agents with a biosafety level rating of 3. The Office of Safety and Risk Management must be notified well in advance of any plans to work with or store BSL 3. Work with BSL 4 agents is neither anticipated nor authorized at California State University Bakersfield.

## **Non-hazardous Biological Waste Streams**

- Non-infectious animal waste and bedding (Bakersfield campus only)
- Non-infectious animal bodily fluids and carcasses (Bakersfield campus only)

See page six for disposal instructions for non-hazardous biological wastes.

## **Containment**

- Medical waste will be contained separately at the point of origin.
- All medical waste, except sharps, will be collected and stored in red biohazard bags labeled with the words “Biohazardous Waste” or with the international biohazard symbol and the word “Biohazard”. Only biohazardous waste may be stored in red bags.
- Biohazard bags will be tied to prevent leakage or loss of contents and placed in a rigid, leak resistant secondary storage container prior to treatment or transport for disposal. Storage containers must be kept in good condition and have tight fitting covers.
- Secondary biohazard storage containers will be labeled with the words “Biohazardous Waste” or the international biohazard symbol and the word “Biohazard” on the top and sides, so that the warning is visible from any direction.

- Sharps will be collected and stored in a rigid puncture resistant container which when sealed is leak resistant and cannot be opened without difficulty.
- Sharps waste must be must be labeled with the word “Biohazard” or with the international biohazard symbol and the words “Sharps Waste”.
- The lids of sharps containers will be tightly closed and taped shut prior to placement in a secondary biohazard storage container.

### **Storage**

Biohazardous waste accumulation areas must be secured to prevent or deny access by unauthorized personnel. The exterior side of entry doors, gates or lids will be posted with the following warning sign in both English and Spanish.

“CAUTION: Biohazardous Waste Storage Area--Unauthorized Persons Keep Out” and  
 “Cuidado--Zona De Residuos-- Biologicos Peligrosos-- Prohibida La Entrada A Personas No Autorizadas”

### **Pharmaceutical Waste**

Pharmaceutical compounds stored at the CSUB Antelope Valley Extension campus are inventoried monthly. Medications nearing the expiration date are sent to the Student Health Center pharmacy on the CSUB main campus in Bakersfield. Pharmaceutical waste is stored in the Student Health Center pharmacy in a leak resistant, rigid container with a tight fitting cover. The container will be labeled “pharmaceutical waste, incinerate only” and dated when the first pharmaceutical waste is added. An inventory of the waste pharmaceutical compounds added to the container will be maintained. The date, name and quantity of each material will be recorded. Pharmaceutical compounds regulated under the federal Resource Conservation and Recovery Act as hazardous materials will be disposed of through the campus hazardous waste contractor.

### **Accumulation Time**

Biohazardous waste will not be stored in excess of the following limits.

- Biohazardous waste can be stored above 32 F for a maximum of 7 days.
- Biohazardous waste can be stored below 32 F for a maximum of 90 days.
- Sharps may be collected at the point of generation until the containers are 3/4 full. Once full, close and secure lid of sharps containers with tape and place them in a secondary biohazardous waste container. Dispose of full sharps containers within 7 days.
- Pharmaceutical wastes, in quantities of less than 10 pounds, can be accumulated for one year. If more than 10 pounds of waste is generated annually, pharmaceutical wastes will be disposed of every 90 days.

### **Treatment (conducted at the Bakersfield campus only)**

The CSUB Science Stockroom utilizes an AMSCO steam sterilizer (autoclave) to render some laboratory wastes non-infectious prior to disposal. Waste streams that can be autoclaved include microorganism cultures and bloody dressings with small amounts of non-infectious animal tissue generated in teaching or research labs.

Waste rendered non-infectious by sterilization is disposed of as solid waste provided it does not contain any other hazardous properties. A copy of the autoclave operation permit issued by Kern Co. Environmental Health is displayed in the Science Stockroom. No medical waste is disposed of by discharge to the public sewer system.

### Autoclave Operation

- Standard operating procedures are stored in the cabinet under the autoclave.
- The run time, temperature, pressure, type of waste, type and number of containers, pattern of loading, water content and maximum load quantity for each load will be documented on the autoclave information log (Attachment B). If run time is less than 30 minutes, the non-pathogenic nature of the contents must be documented by listing the types of organisms, media or glassware on the autoclave log.
- The temperature of the indicating thermometer is graphically charted during each complete cycle to ensure that a temperature of 121 C (250 F) was attained for at least one half hour to achieve sterilization of the entire load.
- Heat sensitive tape will be applied to each container processed by steam sterilization to indicate the attainment of adequate sterilization conditions. If heat sensitive tape fails to change color, repeat the cycle. If a second cycle is also ineffective or two cycles are needed repeatedly, schedule service by calling the Instructional Electronics Technical Center.
- A sealed vial containing the biological indicator *Bacillus stearothermophilus* is placed in the center of at least one load each month and processed under standard operating conditions to confirm the attainment of adequate sterilization conditions. Documentation is maintained on the autoclave information log.
- Sterilization monitoring pellets (Dialack) are also used to insure that 121 F (250 F) is attained.

### Autoclave Maintenance

Autoclave maintenance is performed by instrument technicians working for the CSUB Instructional Electronics Technical Center.

### Temperature Calibration

A model HH21 hand held digital thermometer is used as the temperature standard for autoclave thermometer calibration in conjunction with a model THSS-14G-12 thermocouple. The HH21 is

calibrated annually by Omega Engineering Inc. CSUB requests that Omega include special calibration points of 250 and 275 degrees Fahrenheit.

The thermometer in the Science Stockroom autoclave is calibrated annually by CSUB instrument technicians according to the following procedure.

- Make certain that the water and steam supply valves are ON.
- Adjust the steam pressure regulator to the LO setting.
- Set the sterilizer temperature to 250 F (yellow pointer on 250 F).
- Set the gravity/ ISO switch to GRAVITY.
- Set the sterilizer timer to 30 MINUTES.
- Check the panel to assure that the door unlocked light is ON.
- Coat the temperature probe with silicon grease and insert the probe into the temperature well in the chamber drain line.
- Touch the gravity cycle selector. The light should be fully illuminated and the condition status light should come ON.
- Monitor the readout on the HH21 for 30 minutes during the sterilize phase and record the temperature every 5 minutes.
- Verify that the chart recorder has accurately documented sterilization time and temperatures. Temperatures on the chart should correspond to those observed on the HH21 within a two percent tolerance.

## **Disposal**

CSUB contracts with Stericycle for biohazardous waste transportation and treatment of medical waste generated at the Student Health Centers and chemically contaminated or infectious animal carcasses. When science lab sharps containers are 3/4 full, take them to the Science Stockroom and notify S&R at ext. 2066. Science Stockroom staff will transport sharps containers to the Student Health Center.

Stericycle  
9188 Glen Oaks Blvd., Ste. 300  
Sun Valley, CA 91352  
Customer Service - (800) 953-9324

Bedding from non-contagious animal cages should be bagged and sent to the sanitary landfill for disposal. Contact Facilities Management to make arrangements for pickup. Non-contagious rodent carcasses, that were not euthanized with a toxic compound or otherwise chemically contaminated, may be collected in the Science Stockroom freezer to be used as food for birds of prey at F.A.C.T. Small numbers of non-contagious, non-chemically contaminated rodent

carcasses can be boxed and sent to the sanitary landfill for disposal. Custodial staff should be notified when carcasses will be in the animal laboratory waste stream. If a large number of carcasses will be in the waste stream, the trash hauler should also be notified. Carcasses contaminated with chemicals other than anesthetics may be hazardous waste. Contact the Office of Safety and Risk Management for assistance in arranging disposal.

## **Records**

Treatment, disposal and instrument maintenance and calibration records are maintained for a minimum of 3 years. Autoclave run information logs, temperature strip chart recordings and thermometer calibration documentation are stored in the Science Stockroom. Tracking records for medical waste sent off-site for treatment are stored in the CSUB Office of Safety and Risk Management and the Antelope Valley Health Clinic. Calibration records for the HH21 temperature standard digital thermometer and autoclave maintenance records are stored in the Instructional Electronics Technical Center Office.

## **Emergency Plan**

CSUB custodians and medical staff have received bloodborne pathogen exposure control training and are capable of cleaning small areas contaminated by biohazardous materials. Contract custodians should not be allowed to clean up biohazardous spills unless appropriate training has been documented. Small laboratory spills will be cleaned up by the responsible faculty member or Science Stockroom Technician. Latex gloves, eye splash protection and a lab coat are the minimum level of personal protective equipment allowed for clean up of an isolated biohazardous spill. Hazard analysis must be conducted prior to the clean up of a large or non-routine biohazardous spill to identify any additional equipment or exposure control methods needed.

### For personal decontamination:

- Wash skin thoroughly with soap and water.
- If a splash has entered an eye, the mouth, a cut or any other mucous membrane, flush the area with water for 15 minutes and follow up by seeking medical attention.
- Seek medical consultation after any contact with human blood.
- Report all exposures and injuries to your supervisor as soon as possible.

### For decontamination of general spills involving low risk, biosafety level 1 etiologic agents:

- Isolate the area until you are ready to clean the spill;
- Wear latex or rubber gloves, eye protection and a lab coat;
- Decontaminate surfaces and equipment using a 1:10 hypochlorite solution. This can be achieved by slowly adding 1/4 cup household bleach to 2-1/2 cups water.

- Soak paper towels or other absorbent pads in the hypochlorite solution and place directly over the spill. Allow at least 5 minutes of contact between the disinfectant and surface. Then pick up the towels and place into a biohazard bag for disposal. Repeat this procedure; and
- Wash the area, and then your hands, with warm water and an antimicrobial soap.

For decontamination of human blood or biosafety level 2 agents:

- Evacuate the room and close all doors. Wait 30 minutes for all potential aerosols to settle before reentering;
- Evaluate the hazard and don appropriate personal protective equipment which may include respiratory protection, tyvek suit, foot wear or a face shield;
- Place paper towels or other absorbent material over the spill area;
- Carefully pour hypochlorite solution, prepared as described above, around the edges of the spill and then onto the absorbent covering the spill. Avoid splashing to reduce production of aerosols;
- Wait 20 minutes and then apply more paper towels or absorbent pads to wipe up the spill;
- Clean the spill area again with fresh towels soaked in disinfectant. Place all contaminated towels and protective equipment in a biohazard bag; and
- Wash the area, and then your hands, with warm soap and water.

For spills in a biological safety cabinet:

- Leave the exhaust fan running to prevent escape of contaminants from the cabinet;
- Wear gloves, eye protection and a lab coat. Have any higher levels of personal protective equipment that may be required available in case you discover that the spill has also occurred outside the cabinet;
- Spray walls, grill and work surfaces with a disinfectant. Bleach may corrode a non-stainless steel cabinet. An alternative disinfectant is a 3% solution of an iodophor such as Wescodyne or Rocadyne.
- Use sufficient disinfectant solution to ensure that the drain pans and catch basins below the work surface contain the disinfectant;
- Lift the front exhaust grill and tray and wipe all surfaces. Decant the used disinfectant from the catch tray into a properly labeled container and close it, and
- Place all contaminated protective clothing, sponges, towels, etc. into a biohazard bag.

For sharps recovery:

- Wear protective clothing appropriate for the level of biohazard as described above.
- Assess the size of the sharp. Bring a sharps container or sturdy cardboard box to the location.

- Never pick up sharp items with a gloved hand alone. Use mechanical means such as tongs, forceps or pliers to lift the sharps into the container.
- Only use a dustpan and broom when absolutely necessary to gather small pieces. Remember to work slowly to minimize the generation of aerosols.
- After known sharps have been recovered, place absorbent material over the area and pour hypochlorite solution over the absorbent.
- Wait 20 minutes and remove the absorbent using tongs. Place absorbent in a biohazard bag.
- Be very cautious of shards that may still be in the area.
- Wash your hands with warm soap and water.

⇒ Contractor Assistance For Bodily Fluid Clean Up:

Dean Clean  
 5012 Sherman Ave.  
 Bakersfield, CA 93309 24 hour phone: 397-0700

**Decontamination of Reusable Containers**

Decontamination of reusable biohazardous material containers will be accomplished in one of the following ways.

- Expose the container to hot water (>180 F) for a minimum of 15 seconds. Chemically sanitize the container for at least three minutes with a 1:10 hypochlorite solution made by slowly adding 1/4-cup household bleach to 2-1/2 cups of water.
- Protect container surfaces from contamination by using disposable liners.

**Certification**

The information provided in this plan is complete and accurate.

\_\_\_\_\_  
 CSUB Safety and Risk Manager

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 Date

**Attachment A**

**Definitions**

“Biohazard Bag” is a disposable red bag, which is impervious to moisture and has strength sufficient to preclude ripping, tearing, or bursting under normal conditions of usage and handling of the waste filled bag. A biohazard bag shall be constructed of material of sufficient single thickness strength to pass the 165 gram dropped dart impact resistant test as prescribed by Standard D 1709-85 of the American Society for testing and Materials and certified by the bag manufacturer.

“Biohazardous Waste” means any of the following:

- a. Laboratory waste, including but not limited to, all of the following:
  1. Human or animal specimen cultures from medical and pathology laboratories.
  2. Cultures and stocks of infectious agents from research and industrial laboratories.
  3. Wastes from the production of bacteria, viruses, spores, discarded live and attenuated vaccines used in human health care or research, discarded animal vaccines, including only Brucellosis, Contagious Ecthyma, as identified by the department, and culture dishes and devices used to transfer, inoculate, and mix cultures.
- b. Human surgery specimens or tissues removed at surgery or autopsy, which are suspected by the attending physician and surgeon or dentist of being contaminated with infectious agents known to be contagious to humans.
- c. Animal parts, tissues, fluids, or carcasses suspected by the attending veterinarian of being contaminated with infectious agents known to be contagious to humans.
- d. Waste, which at the point of transport from the generator’s site, at the point of disposal, or thereafter, contains recognizable fluid blood, fluid blood products, containers or equipment containing blood that is fluid, or blood from animals known to be infected with diseases which are highly communicable to humans.
- e. Waste containing discarded materials contaminated with excretion, exudate, or secretions from humans or animals that are required to be isolated by the infection control staff, the attending physician and surgeon, the attending veterinarian, or the local health officer, to protect others from highly communicable diseases or diseases of animals that are highly communicable to humans.
- f.
  1. Waste which is hazardous only because it is comprised of human surgery specimens or tissues which have been fixed in formaldehyde or other fixatives, or only because the waste is contaminated through contact with, or having previously contained, chemotherapeutic agents, including, but not limited to, gloves, disposable gowns, towels,

and intravenous solution bags and attached tubing which are empty. A biohazardous waste that meets the conditions of this paragraph is not subject to Chapter 6.5 (commencing with section 25100).

2. For purposes of this subdivision, “chemotherapeutic agent” means an agent that kills or prevents the reproduction of malignant cells.
3. For purposes of this subdivision, a container, or liner removed from a container, which previously contained a chemotherapeutic agent, is empty if the container or inner liner removed from the container has been emptied by the generator as much as possible, using methods commonly employed to remove waste or material from containers or liners, so that the following conditions are met:
  - a. If the material which the container or inner liner held is pour able, no material can be poured or drained from the container or inner liner when held in any orientation, including, but not limited to, when tilted or inverted.
  - b. If the material that the container or inner liner held is not pour able, no material or waste remains in the container or inner liner that can feasibly be removed by scraping.

“Medical Waste” means waste that meets both of the following requirements:

1. The waste is composed of waste that is generated or produced as a result of any of the following actions:
  - a. Diagnosis, treatment, or immunization of human beings or animals.
  - b. Research pertaining to the activities specified in subparagraph a.
  - c. The production or testing of biologicals.
  - d. The accumulation of properly contained homo-generated sharps waste that is brought by a patient, a member of his or her family, or by a person authorized by the enforcement agency, to a point of consolidation approved by the enforcement agency pursuant to Section 25030.5 or authorized pursuant to Section 25070.4.
2. The waste is any of the following:
  - a. Biohazardous waste.
  - b. Sharps waste.

“Pharmaceutical Waste” means waste that is hazardous only because it is comprised of prescription or over the counter human or veterinary drugs, including, but not limited to, a drug as defined in Section 109925 of the Federal Food, Drug, and Cosmetic Act as amended 21 U.S.C.A. sec. 321(g)(1). For purposes of this plan, pharmaceutical does not include any drug that is regulated pursuant to the federal Resource Conservation and Recovery Act of

1976, as amended 42 U.S.C.A. Sect 6901 et seq. or the Radiation Control Law Chapter 8, commencing with Section 114960, of Part 9.

“Sharps” includes any device that has an acute rigid corner, edge or protuberances capable of cutting or piercing. Examples include hypodermic needles, blades, syringes, acupuncture needles, broken glass, Pasteur pipettes and blood vials.