

STANDARDIZED PLANS
Institutional Biosafety Committee (IBC)
The University of Mississippi Medical Center (UMC)
(Approved September 2004)

Below are minimal acceptable standards for waste disposal, training and emergency plans for activities involving biohazards. Supervisors of such activities (i.e., the principal investigator, course instructor, or laboratory director) are responsible for determining whether or not these are sufficient for their work and ensuring that personnel are adequately informed and trained. With IBC approval, these minimal plans may be enhanced to suit specific project needs.

Waste Disposal Plan

UMC has a written waste management plan; copies of *Management of Medical/Infectious Waste* can be obtained by calling the Department of Occupational Health and Safety (extension 41980).

The waste management plan includes the following elements: (1) designation of medical/infectious waste; (2) handling (segregation, packing and storage) of medical/infectious waste; (3) destruction (transport, treatment and disposal) of medical/infectious waste; and 4) related matters such as staff training.

UMC does not distinguish between medical and infectious wastes; all waste that is aesthetically repugnant or potentially recognized as medical waste must be disposed of as infectious waste.

Waste disposal options include

- **Solid medical/infectious waste** and anything that appears to be medical/infectious waste can be disposed of without treatment in approved red Medical Waste containers (supplied with the universal biohazard emblem, lined with 1.5 mil red plastic bags). These containers can be acquired from Environmental Services (extension 42240); upon notification, this department will provide waste pick-up and container replacement. Investigators are responsible for on-site container management, such as ensuring that normal trash is not put therein, and calling for pick-up service. Pick-up should be requested whenever one of the following occurs: (1) the container is full; (2) waste has been stored in the container for 7 days above 6°C; or (3) waste has been stored for 90 days at 0°C or below.
- **Liquid medical/infectious waste**, such as biological stocks and used culture media, must be decontaminated before disposal using an approved process. Two options are available: (1) Autoclaving at 121°C and 15 psi for either 50 minutes if waste containers are on metal trays/pans or 75 minutes if on plastic pans. (2) Chemically disinfecting by adding 1 part household bleach to 9 parts liquid waste (final concentration 10% by volume), mix and let stand at least 15 minutes. Other acceptable chemical disinfectants are listed in *Management of Medical/Infectious Waste*. Decontaminated liquids may then be disposed of through the sewer system, but flush them with excess water.
- **Hazardous-appearing non-hazardous waste** (i.e., petri dishes with agar, agar on which non-pathogenic organisms have been grown, tissue culture flasks, etc.) may be disposed of without treatment in approved red Medical Waste containers (see Solid Medical/Infectious Waste, above). Alternatively, this waste may be disposed of as general solid waste only if rendered unrecognizable, for example, by autoclaving plasticware and defacing all biohazard emblems on containers and bags.

Training Plan

Supervisors are responsible for instructing and training all personnel involved in any activity that includes biohazards. Training must include, but need not be limited to, standard and special microbiological practices and procedures and proper use of safety equipment (primary barriers) and laboratory facilities (secondary barriers) to ensure safety of personnel and containment of the biohazard during routine work and if accidents occur. Practices, techniques and barriers for each biosafety level (BSL-1, BSL-2, BSL-3 and BSL-4) are detailed in:

Biosafety in Microbiological and Biomedical Laboratories ("CDC guidelines")
<http://www.cdc.gov/od/ohs/biosfty/bmBSL4/bmBSL4toc.htm> and

These guidelines also recommend when health surveillance of project personnel is advised.

Project personnel must read pertinent sections of appropriate guidelines. In addition to training outlined therein, the IBC requires the following:

BSL-1 Initial personnel training should be reinforced by retraining and updates whenever necessary. This could be accomplished during annual employee evaluations.

BSL-2 Initial personnel training must include familiarization with practices, procedures and barriers described for BSL-2 in the guidelines. Employees should be able to clearly state the nature of the risk, explain how to avoid exposure, and know what to do in case of accidental exposure. Employees must complete and sign a **Statement of Informed Consent**; copies should be (1) sent to the IBC, (2) maintained by the supervisor and (3) placed in the laboratory's Biosafety Manual before work with biohazards begins.

Annual retraining is required; the content and format may vary to suit each lab. For example: (1) attend continuing education seminars periodically sponsored by the IBC; (2) view training videos available from the IBC on topics such the design and proper use of biosafety cabinets and (3) participate in supervisor-conducted hands-on retraining or review of literature pertinent to their activity. The IBC will distribute an **Annual Biosafety Renewal Update Form** to document who was retrained and how this was accomplished.

BSL-3 Everything from BSL-2 applies here too; however, initial personnel training should be rigorous and routinely subject to examination. Annual retraining by the supervisor is required and must include a demonstration of personnel proficiency in the use of standard and special microbiological practices and procedures, proper use of primary and secondary barriers and knowledge of emergency procedures. The IBC will distribute an **Annual Biosafety Renewal Form** to document who was retrained and how this was accomplished.

BSL-4 Contact the IBC Chair.

Emergency Plan

Any group working with a known or potential biohazard shall have an emergency plan that describes procedures to be followed upon accidental contamination of personnel or the environment. For activities requiring containment at BSL-2 or higher, a written emergency plan must be on file with the IBC and one copy maintained in the laboratory's Biosafety Manual. Exceptions and modifications requisite for specific types of activities must be approved by the IBC. Supervisors are responsible for ensuring personnel are knowledgeable of and trained in all emergency procedures, including the requirement to file an incident report.

- 1) Any overt or suspected contamination of personnel or environment must be reported to the project supervisor or other emergency contact person listed on the laboratory biohazard sign.
- 2) In the event of personnel exposure, immediately decontaminate exposed skin by vigorously washing with iodine or antimicrobial soap for 15 minutes. If eyes are contaminated, flush them with clean water, preferably at an emergency eye wash station. Immediately following decontamination, report the exposure incident to Student/Employee Health (Room N-128, Monday-Friday, 7:30 AM - 4:00 PM, extension 41185) which will provide examination, treatment and record keeping of the incident. That office will also determine if follow-up treatment or additional consultation (in-house or external) is required. The UMC Emergency Room can provide after-hours examination and treatment; however, personnel must still notify Student/Employee Health of the incident as soon as possible.
- 3) Minor spills on equipment or work surfaces should be picked up with absorbent material (paper towel) and the surface decontaminated with disinfectant (i.e., fresh 10% bleach, 70% ethanol). For larger spills, add concentrated disinfectant to the spill (i.e., 1 part bleach for 9 parts spilled liquid), wait 1 hour then pick up and dispose of liquid/solid waste as specified in the Waste Disposal Plan.

- 4) Accidents resulting in aerosols require immediate evacuation of the room for a period of one hour before lab personnel re-enter the lab to clean up and decontaminate the exposed area. In the event of the release of an appreciable amount of aerosol outside the biosafety cabinet, contact Physical Plant (extension 41420) and request airflow to and from that room be restricted until decontamination and clean-up have been complete. DO NOT request airflow restriction in BSL-3 rooms designed to operate under negative pressure with HEPA-filtered exhaust.
- 5) Space decontamination can be achieved with ultraviolet lights in rooms so equipped. The IBC can assist in arranging special space decontamination needs.

When vertebrate animals are involved, UMC's **Occupational Health and Safety Program for Animal Handlers** must be on file with the IBC and maintained in the laboratory's Biosafety Manual. If non-human primates are involved, UMC's **Biosafety Level Containment Requirements for Procedures Working with Macaques** must also be included. Animals naturally containing or artificially infected with either recombinant DNA or microbiological biohazards must be housed in UMC's Laboratory Animal Facilities (extension 41385).

Print Name _____ Signature _____ Date _____

Title/Supervisory Role _____

Copy: 1) to IBC, 2) maintained by supervisor and 3) in Biosafety Manual (if BSL-2 or higher).