

a secondary reservoir containing disinfectant and a HEPA filter must be employed to ensure that the laboratory vacuum lines do not become contaminated.

(8) Test tubes. (i) Tubes containing viable etiologic agents should be manipulated with extreme care. Studies have shown that simple procedures, such as removing a tube cap or transferring an inoculum, can create a potentially hazardous aerosol.

(ii) Manipulation of biohazardous test tubes will be conducted in biological safety cabinets. Tubes and racks of tubes containing biohazardous material should be clearly marked. The individual employee must ensure that tubes containing biohazardous material are properly sterilized prior to disposal or glassware washing. Safety test tube trays should be used in place of conventional test tube racks to minimize spillage from broken tubes. When safety test tube trays are not used, the conventional test tube racks will be placed in a tray large enough to contain any potential spill. A safety test tube tray is one having a solid bottom and sides deep enough to hold all liquids, should a test tube break.

(9) Care should be exercised when using membrane filters to obtain sterile filtrates of viable etiologic agents. Due to the fragility of the membranes and other factors, such filtrates cannot be considered noninfectious until laboratory culture or other tests have proven their sterility.

(10) The preparation, handling, and use of dry powders of viable etiologic agents in open containers presents unusual hazards. The slightest manipulation of such powders can cause the generation of aerosols containing a high concentration of etiologic agents. Therefore, work with dry powders of etiologic agents in open containers should be carried out in gas-tight biological safety cabinets.

§ 627.13 Biosafety level 1.

(a) *Requirements beyond those for all etiologic agents.* BL-1 operations follow the general techniques described in §§ 627.12(a) and 617.12(b).

(b) *Additional laboratory requirement.* Contaminated materials that are to be decontaminated at a site away from

the laboratory are placed in a durable leak-proof container which is closed before being removed from the laboratory. Examples of suitable containers are metal tubs with lids or plastic bags that are sealed and then placed inside a rigid container for transport.

(c) *Additional animal requirements.* (1) Bedding materials from animal cages will be removed in such a manner as to minimize the creation of aerosols and disposed of in compliance with applicable institutional or local requirements.

(2) Cages are washed manually or in a cagewasher. Temperature of final rinse water will be a minimum of 180 ° F.

(3) Laboratory coats, gowns, or uniforms worn in animal rooms shall not be worn in other areas.

§ 627.14 Biosafety level 2.

(a) *Additional requirements.* In addition to the general microbiological techniques stated in § 627.13, BL-2 operations include the following requirements:

(1) When etiologic agents are in use, a hazard warning sign incorporating the universal biohazard symbol is posted on the access door of the work area. The hazard warning sign identifies the etiologic agent, lists the name and telephone number of the institute director or other responsible person(s), and indicates the special requirement(s) for entering the laboratory.

(2) Animals not involved in the work being performed are not permitted in the laboratory.

(3) Special care is taken to avoid skin contamination with the etiologic agents; gloves will be worn when handling etiologic agents or infected animals.

(4) All wastes from laboratories and animal rooms are decontaminated before disposal.

(5) Hypodermic needles and syringes are used only for parenteral injection and aspiration of fluids from laboratory animals and diaphragm bottles.

(6) Spills and accidents which result in a potential exposure to etiologic agents will be reported immediately to the safety officer, the project leader, and the institute director.

(7) Biological safety cabinets (Class I or II) will be used when: