

Biosafety Level 1 (BL1)

NIH Guidelines for Research Involving Recombinant or Synthetic Nucleic Acid Molecules (Appendix G-II-A) - April 2019



Biosafety Level 1 (BL1)

Biosafety Level 1 is suitable for work involving agents of unknown or minimal potential hazard to laboratory personnel and the environment. The laboratory is not separated from the general traffic patterns in the building. Work is generally conducted on open bench tops. Special containment equipment is not required or generally used. Laboratory personnel have specific training in the procedures conducted in the laboratory and are supervised by a scientist with general training in microbiology or a related science.

Appendix G-II-A-1. Standard Microbiological Practices (BL1)

- a. Access to the laboratory is limited or restricted at the discretion of the Principal Investigator when experiments are in progress.
- b. Work surfaces are decontaminated once a day and after any spill of viable material.
- c. All contaminated liquid or solid wastes are decontaminated before disposal.
- d. Mechanical pipetting devices are used; mouth pipetting is prohibited.
- e. Eating, drinking, smoking, and applying cosmetics are not permitted in the work area. Food may be stored in cabinets or refrigerators designated and used for this purpose only.
- f. Persons wash their hands: (i) after they handle materials involving organisms containing recombinant or synthetic nucleic acid molecules and animals, and (ii) before exiting the laboratory.
- g. All procedures are performed carefully to minimize the creation of aerosols.
- h. In the interest of good personal hygiene, facilities (e.g., hand washing sink, shower, changing room) and protective clothing (e.g., uniforms, laboratory coats) shall be provided that are appropriate for the risk of exposure to viable organisms containing recombinant or synthetic nucleic acid molecules.

Appendix G-II-A-2. Special Practices (BL1)

- a. 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.
- b. An insect and rodent control program is in effect.

Appendix G-II-A-3. Containment Equipment (BL1)



- a. Special containment equipment is generally not required for manipulations of agents assigned to BL1.

Appendix G-II-A-4. Laboratory Facilities (BL1)

- a. The laboratory is designed so that it can be easily cleaned.
- b. Bench tops are impervious to water and resistant to acids, alkalis, organic solvents, and moderate heat.
- c. Laboratory furniture is sturdy. Spaces between benches, cabinets, and equipment are accessible for cleaning.
- d. Each laboratory contains a sink for hand washing.
- e. If the laboratory has windows that open, they are fitted with fly screens.

