

TABLE I - Summary of Recommended Biosafety Levels for Infectious Agents

Biosafety Level	Agents	Practices	Safety Equipment (Primary Barriers)	Facilities (Secondary Barriers)
1	Not known to consistently cause disease in healthy adults.	Standard Microbiological Practices.	None Required.	Laboratory bench and sink required.
2	Agents associated with human disease Routes of transmission include percutaneous injury, ingestion, mucous membrane exposure	BSL - 1 practice plus: * Limited access; * Biohazard warning signs; * "Sharps" precautions; * Biosafety manual defining any needed waste decontamination or medical surveillance policies.	Primary barriers = Class I or II BSCs or other physical containment devices used for all manipulations of agents that cause splashes or aerosols of infectious materials; PPEs: laboratory coats; gloves; face protection as needed.	BSL - 1 plus: Autoclave available.
3	Indigenous or exotic agents with potential for aerosol transmission; disease may have serious or lethal consequences.	BSL - 2 practice plus: * Controlled access; * Decontamination of all waste; * Decontamination of lab clothing before laundering; * Baseline serum.	Primary barriers = Class I or II BSC's or other physical containment devices used for all open manipulations of agents; PPE's: protective lab clothing; gloves; respiratory protection as needed.	BSL - 2 plus: * Physical separation from access corridors; * Self-closing, double-door access; * Exhausted air not recirculated; * Negative airflow into laboratory.
4	Dangerous/exotic agents which pose high risk of life-threatening disease, aerosol-transmitted lab infections have occurred; or related agents with unknown risk of transmission.	BSL - 3 practices plus: * Clothing change before entering; * Shower on exit; * All material decontaminated on exit from facility.	Primary barriers = All procedures conducted in Class III BSC's or Class I or II BSCs in combination with full-body, air-supplied, positive pressure personnel suit.	BSL - 3 plus: * Separate building or isolated zone; * Dedicated supply/exhaust, vacuum, and decon systems; * Other requirements outlined in the text.(BMBL)

TABLE 2- Summary of Recommended Biosafety Levels for Activities in which experimentally or naturally infected vertebrate animals are used.

Biosafety Level	Agents	Practices	Safety Equipment (Primary Barriers)	Facilities (Secondary Barriers)
1	Not known to consistently cause diseases in healthy human adults.	Standard animal care and management practices, including appropriate medical surveillance programs.	As required for normal care of each species.	Standard animal facility: □* non recirculation of exhaust air; □* directional air flow recommended. □* Hand washing sink is available
2	Associated with human disease. Hazard: percutaneous exposure, ingestion, mucous membrane exposure.	ABSL - 1 practices plus: * limited access; * biohazard warning signs; * sharps precautions; * biosafety manual; * decontamination of all infectious wastes and of animal cages prior to washing.	ABSL - 1 equipment plus primary barriers: containment equipment appropriate for animal species; PPEs: laboratory coats, gloves, face and respiratory protection as needed.	ABSL - 1 facility plus: * autoclave available; * handwashing sink available in the animal room. * Mechanical cage washer recommended
3	Indigenous or exotic agents with potential for aerosol transmission; disease may have serious health effects.	ABSL -2 practices plus: * controlled access; * decontamination of clothing before laundering; * cages decontaminated before bedding removed; * disinfectant foot bath as needed.	ABSL -2, equipment plus: * containment equipment for housing animals and cage dumping activities; * Class I or II or II BSCs available for manipulative procedures (inoculation, necropsy) that may create infectious aerosols. PPEs: appropriate respiratory protection.	ABSL -2, facility plus: * physical separation from access corridors; * self-closing, double-door access; * sealed penetrations; * sealed windows * autoclave available in facility.
4	Dangerous/exotic agents that pose high risk of life threatening disease; aerosol transmission, or related agents with unknown risk of transmission.	ABSL - 3 practices plus: * entrance through change room where personal clothing is removed and laboratory clothing is put on; shower on exiting; * all wastes are decontaminated before removal from the facility.	ABSL - 3 equipment plus: * Maximum containment equipment (i.e., Class III BSC or partial containment equipment in combination with full body, air-supplied positive-pressure personnel suit) used for all procedures and activities.	ABSL -3 facility plus: * separate building or isolated zone; * dedicated supply and exhaust, vacuum and decontamination systems. * other requirements outlined in the text.