

BIOSAFETY LEVEL CRITERIA:

| BSL | Work with Agents... | Practices | Safety Equipment (Primary Barriers) | Facilities (Secondary Barriers) |
|-----|---|---|---|---|
| 1 | <ul style="list-style-type: none"> Not known to consistently cause disease in healthy adults. e.g. <i>E. Coli (K-12 derived)</i> | <p>Standard microbiological practices</p> <ul style="list-style-type: none"> Sharps policies must be implemented Lab supervisors must ensure staff are properly trained regarding their duties and the necessary precautions to prevent exposures | <ul style="list-style-type: none"> No primary barriers typically required Protective clothing recommended Protective eyewear and appropriate gloves, when hazardous work conducted | <ul style="list-style-type: none"> Lab doors for access control Non-porous, benches and furniture (easily decontaminated) Sink for handwashing |
| 2 | <ul style="list-style-type: none"> Associated with human disease Percutaneous, ingestion, and mucous membrane exposure routes e.g. <i>Influenza, HIV, Lyme Disease</i> | <p>BSL-1 practices plus:</p> <ul style="list-style-type: none"> Limited access Biohazard warning signs Lab-specific biosafety manual prepared and adopted as policy; defines agent-specific handling, waste/decontamination, medical surveillance, and exposure response procedures | <p>BSL-1 plus:</p> <ul style="list-style-type: none"> BSCs or other physical containment devices for all work that can generate infectious aerosols or droplets PPE: Lab coat, gloves, face and eye protection, as needed. | <p>BSL-1 plus:</p> <ul style="list-style-type: none"> Autoclave available Self-closing doors with locks Airflow should not recirculate to public areas |
| 3 | <ul style="list-style-type: none"> That are indigenous or exotic that may cause serious or potentially lethal disease through the inhalation route of exposure e.g. <i>Tuberculosis, SARS CoV-2</i> <p><i>UA does not currently engage in BSL-3 work. Please contact the BSO with questions about risks associated with this research.</i></p> | <p>BSL-2 practices plus:</p> <ul style="list-style-type: none"> Controlled access Decon of all waste Decon of all lab clothing before laundering | <p>BSL-2 plus:</p> <ul style="list-style-type: none"> BSCs or other physical containment devices used for all open manipulation of agents Pass-thru autoclave with Bioseal required PPE: protective lab clothing, gloves, face, eye, and respiratory protection, as needed. | <p>BSL-2 plus:</p> <ul style="list-style-type: none"> Physical separation between access corridors Self-closing, double-door access Inward airflow directionality (clean to dirty), no reversal during failure Lab entry through airlock or anteroom Hands-free sink All seams, floors, walls, & ceilings sealed |
| 4 | <ul style="list-style-type: none"> That are dangerous/exotic and pose high risk of aerosol transmission, infections that are frequently fatal, with limited prophylaxis/treatment available Unknowns with properties similar to RG4 agents e.g. <i>Ebola Virus, Lassa</i> <p><i>UA does not engage in BSL-4 work. Contact the BSO.</i></p> | <p>BSL-3 practices plus:</p> <ul style="list-style-type: none"> Clothing change before entry Shower out Decon of all material before departing facility | <p>BSL-3 plus:</p> <p>All procedures in Class III BSCs or Class I/II combined with full-body, positively pressured suit</p> | <p>BSL-3 plus:</p> <ul style="list-style-type: none"> Class III BSC or Suit Lab setups Separate building or isolated zone pass through autoclave emergency power for all containment operations (HVAC, alarms, BSCs, entry/exit, etc.) Dedicated HVAC, vacuum, & decon systems |