BSL1

1. A BSL1 lab is suitable for work involving well characterized agents not known to consistently cause disease in immunocompetent adult humans and present minimal potential hazard to laboratory personnel and the environment.
2. BSL1 labs don't have to be separated from the general traffic patterns of the building.
3. Work is typically done on an open bench top using standard microbiological practices.
4. Laboratory personnel must have specific training in the procedures conducted in the laboratory and must be supervised by a scientist with training in microbiology or a related science.
5. The laboratory supervisor must enforce the institutional policies that control access to the laboratories.
6. Personnel must wash their hands after working with potentially hazardous materials and before leaving the laboratory.
7. Eating, drinking, handling contact lenses, applying cosmetics and storing food is not permitted in the laboratory area.
8. No mouth pipetting.
9. Policies for the safe handling of sharps, needles, scalpels, pipettes and broken glassware must be developed and implemented. Needles cannot be bent, sheared, broken or recapped. Used disposable needles are to be disposed in a hard container. Broken glass cleaned up with dust pan and broom.
10. A procedure is to be developed to minimize the chance of splashes or aerosolized materials.
11. Decontamination of work surfaces will occur after completion of work and after any spill or splash with an appropriate disinfectant.
12. Decontaminate all culture, stocks and other potentially infectious material before disposal using an effective method.
13. When transporting materials outside the immediate laboratory the specimen must be placed in durable leak proof container and secured for transport.
14. Transporting of materials from this facility to another must be done in accordance with state and federal regulatory requirements.
15. Biohazard signs depicting the universal biohazard symbol must be posted at the entrance of the lab when infectious agents are present.
16. Additional information should be provided such as the name of the emergency contact with phone number and the name of the potential agent in use.
17. An effective integrated pest management program is required.
18. The lab supervisor has the responsibility of ensuring lab personnel have received the appropriate training for the work being conducted.
19. All lab personnel (especially women of childbearing age) should be provided with information regarding immune competence and conditions that may predispose them to infection.
20. Labs should have doors for access control.
21. Labs must have sinks for hand washing.
22. Carpets and rugs are not allowed.
23. Lab furniture should be spaced making the floor easy to clean.
24. Benchtops are to be impervious to water and resistant to heat, organic solvents, acids, alkalis, and other chemicals.
25. Chairs must be covered by a non-porous material that is easily cleaned and decontaminated.

26. Lab windows that open to the exterior should have screens.

BSL-2

27. Must meet all BSL-1 requirements
28. Lab personnel are to have specific training on handling pathogenic agents and are supervised by scientists competent in handling infectious diseases.
29. Access to the laboratory is restricted when work is conducted.
30. All procedures are conducted inside the biological safety cabinet or other equipment that physically contains the specimen.
31. Labs that have windows that open *must* have screens.
32. All persons entering the laboratory must be advised of the potential hazards.
33. Lab personnel *must* be provided medical surveillance as appropriate and offered immunizations for agents handled or potentially present in the laboratory.
34. Each institution should consider the need for collection and storage of serum samples from at-risk personnel.
35. A lab specific biosafety manual must be prepared and adopted as policy. The biosafety manual must be available and accessible.
36. The lab supervisor must ensure lab personnel demonstrate proficiency in standard and microbiological practices before working with BSL-2 agents.
37. Lab equipment should be routinely decontaminated as well as after spills, splashes or other potential contamination.
38. Spills involving infectious materials must be contained, decontaminated and cleaned up by staff properly trained to clean up infectious material.
39. Equipment must be decontaminated before repair, maintenance or removal.
40. Potentially infectious material must be placed in a durable leak proof container during collection, handling, processing, storage or transport within a facility.
41. Incidents that may result in exposure to infectious materials must be immediately evaluated and treated according to the lab biosafety manual. All incidents reported to the lab supervisor.
42. Animals and plants not associated with the work being performed must not be permitted in the laboratory.
43. All procedures involving the manipulation of infectious materials that may generate an aerosol should be conducted with a biological safety cabinet or other physical containment device.
44. Properly maintained BSC's are to be used when procedures with a potential for creating infectious aerosols or splashes are conducted – this includes pipetting, centrifuging, grinding, blending, shaking, mixing, sonicating, opening containers of infectious materials, inoculating animals intranasally and harvesting infected tissues from animals or eggs.
45. Biological safety cabinets are used when high concentrations or large volume of infectious agents are used.
46. Protective lab coats, gowns, smocks or uniforms designated for lab use must be worn while working with hazardous materials. Remove this clothing before leaving for non-laboratory areas.
47. Ensure protective clothing is laundered or disposed of properly. Lab clothing should not be taken home.

48. Eye and face protection (goggles, mask, face shield, etc.) are used for anticipated splashes or sprays or infectious or other hazardous materials when the microorganism must be handled outside the safety of the biological safety cabinet.
49. Eye and face protection must be disposed of with other contaminated lab waste or decontaminated before reuse. People who wear contacts require eye protection.

    Safety gear:

50. Gloves should be worn for protection. Gloves are to be removed when leaving the BSL2 area.
51. Change gloves when contaminated or when glove integrity is compromised.
52. Remove gloves and wash hands when work with hazardous materials is complete.
53. Eye, face and respiratory protection should be used in rooms containing infected animals.

    Facility Requirements:

54. Doors are self-closing lockable doors.
55. A sink is required for hand washing.
56. Carpets and rugs are not permitted.
57. Lab benches must be impervious to water and resistant to heat, organic solvents, acids, alkalis and other chemicals as in BSL1 requirements. Chairs must not be covered with a non-porous cover.
58. Lab windows that open to the exterior are not recommended – if the exist they must have screens.
59. BSCs must be installed so the fluctuations of the room air supply do not interfere with proper operation. BSCs should be located away from doors and open windows which can disrupt airflow.
60. Vacuum lines should be protected with liquid disinfectant traps.
61. Eyewash station must be readily available.
62. Ventilation exhaust in a BSL2 lab must go through a HEPA filter before exhausting into an exiting ventilation system. Ventilation should not be exhausted back into the hallway. (see additional CDC information)
63. A method of decontaminating all lab wastes should be available in the BSL2 facility (autoclave, chemical disinfection, incineration or other decontamination method)