

## Biological Hazard Operations

	<b>BSL 1</b>	<b>BSL 2</b>	<b>BSL3</b>
<b>Examples</b>	<ul style="list-style-type: none"> <li>• E. Coli K12</li> <li>• Saccharomyces cerevisiae</li> </ul>	<ul style="list-style-type: none"> <li>• Human cells, blood, tissue</li> <li>• Salmonella sp.</li> <li>• Polio Virus</li> </ul>	<ul style="list-style-type: none"> <li>• Mycobacterium tuberculosis</li> <li>• Hanta Virus</li> </ul>
<b>Agents</b>	Not known to cause disease in healthy adults	Associated with human disease. Hazard from percutaneous injury, ingestion, mucous membrane exposure.	Indigenous or exotic agents with potential for aerosol transmission; disease may have serious or lethal consequences.
<b>Review</b>	IBC for any rDNA work		
<b>Work Practices</b>	Standard Microbiological Practices	BSL1 Plus: <ul style="list-style-type: none"> <li>• Limit access</li> <li>• Biohazard warning signs</li> <li>• Sharps precautions</li> <li>• Biosafety Manual/SOPs defining any needed waste decontamination or medical surveillance.</li> </ul>	BSL2 Plus: <ul style="list-style-type: none"> <li>• Controlled access</li> <li>• Decontamination of all waste</li> <li>• Decontamination of lab clothing before laundering</li> </ul>
<b>Engineering Controls</b>		Biosafety cabinet for all manipulations of agents that cause splashes or aerosols of infectious materials, including pipetting, centrifuging, tissue culture & sonication.	<ul style="list-style-type: none"> <li>• Biosafety cabinet for all open manipulations of agents</li> <li>• Constantly monitored directional air flow into lab</li> </ul>
<b>PPE</b>		<ul style="list-style-type: none"> <li>• Lab coat</li> <li>• Gloves</li> <li>• Face protection based on risk assessment</li> </ul>	<ul style="list-style-type: none"> <li>• Protective lab clothing</li> <li>• Gloves</li> <li>• Respirator based on risk assessment</li> </ul>
<b>Designated Area</b>	Open bench top sink required.	<ul style="list-style-type: none"> <li>• Secure storage of infectious agents</li> <li>• Lab locked when unoccupied</li> </ul>	<ul style="list-style-type: none"> <li>• Physical separation from access corridors</li> <li>• Self-closing, double door access</li> <li>• Exhaust air not recirculated</li> </ul>