

## Laboratory Personal Protective Equipment (PPE) Assessment Tool

This tool is designed to:

- Identify and document hazards in your lab and the required PPE to minimize exposure.
- Document the required completion of laboratory-specific PPE training.

The Supervisor or PI/Lab Supervisor may assign a designee to perform or assist in the above duties but must ensure they are carried out.

### Section 1: Laboratory Information

Department	
Principal Investigator/ Lab Supervisor	
Phone Number, e-mail	
Building/Rooms	

### Section 2: PPE Assessment

1. Assess potential hazards and appropriate PPE for laboratory operations under your supervision.
  - a. Include a walk-through survey of lab areas.
  - b. Use the checklist below.
    - Check the corresponding boxes for the operations/tasks your lab conducts.  
Note: If a risk assessment by the PI/Lab Supervisor determines that, for some operations, more or less protective PPE is required than the applicable PPE indicated, this must be documented on the PPE assessment tool, the appropriate Standard Operating Procedure (SOP), or a separate document.
    - Use the section at the end of the checklist to include any hazards and PPE not covered in the form.
2. Complete and sign the "Certification of PPE Assessment." Keep a local copy.
3. Update the PPE assessment when new hazards are introduced into your work area.

For further technical guidance and assistance with PPE selection, consult with EH&S at 723-0448.

Chemical Hazards		
Activities performed in the lab?	Lab Operation/Task Involving <sup>1</sup>	Applicable PPE (in addition to proper street clothing <sup>2</sup> )
<input type="checkbox"/> Yes <input type="checkbox"/> No	<a href="#">Flammable liquids</a>	<ul style="list-style-type: none"><li>• Safety glasses (If splash potential exists, use goggles + face shield instead.)</li><li>• Lab coat (A flame-resistant lab coat, such as Nomex, may be appropriate depending upon the quantity [&gt; 4L] or the task, e.g., heating.)</li><li>• Appropriate <a href="#">chemical-resistant gloves</a></li></ul>

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<input type="checkbox"/> Yes <input type="checkbox"/> No	<a href="#">Corrosive liquids</a>	<ul style="list-style-type: none"> <li>Safety glasses (If splash potential exists, use goggles + face shield instead.)</li> <li>Lab coat (Also use chemical-resistant apron if splash potential exists.)</li> <li>Appropriate <a href="#">chemical-resistant gloves</a></li> </ul>
<input type="checkbox"/> Yes <input type="checkbox"/> No	<a href="#">Cryogenic liquids</a> or dry ice (including working with cryogenic dewars)	<ul style="list-style-type: none"> <li>Safety glasses (If splash potential exists, use goggles + face shield instead.)</li> <li>Lab coat</li> <li>Insulated cryogenic gloves</li> </ul>
<input type="checkbox"/> Yes <input type="checkbox"/> No	<a href="#">Compressed Gases</a>	<ul style="list-style-type: none"> <li>Safety glasses</li> <li>Lab coat, as needed (e.g., when making or breaking connections with non-inert gases)</li> <li>Gloves, as needed (e.g., work gloves when handling cylinders, <a href="#">chemical-resistant gloves</a> when making or breaking connections with non-inert gases)</li> </ul>
<input type="checkbox"/> Yes <input type="checkbox"/> No	<a href="#">Pyrophoric or water reactive compounds</a> (or highly exothermic reactions)	<ul style="list-style-type: none"> <li>Goggles + face shield</li> <li>Flame-resistant lab coat, such as Nomex</li> <li>Appropriate <a href="#">chemical-resistant gloves</a> (Additional fire resistant gloves may be necessary, depending on the task.)</li> <li>Non-synthetic street clothing</li> </ul>
<input type="checkbox"/> Yes <input type="checkbox"/> No	<a href="#">Explosive compounds</a>	<ul style="list-style-type: none"> <li>Goggles + face shield</li> <li>Flame-resistant lab coat, such as Nomex</li> <li>Heavyweight gloves, such as anti-static PVC gauntlets</li> <li>Engineering control: Use blast shield.</li> </ul>
<input type="checkbox"/> Yes <input type="checkbox"/> No	<a href="#">Engineered nanomaterials</a>	<ul style="list-style-type: none"> <li>Safety glasses (If splash potential exists, use safety goggles + face shield instead.)</li> <li>Disposable <sup>®</sup>Tyvek-type coveralls (or Lab coat)</li> <li>Appropriate <a href="#">chemical-resistant gloves</a></li> <li>For additional guidance, see <a href="#">Engineered Nanomaterials</a>.</li> </ul>
<input type="checkbox"/> Yes <input type="checkbox"/> No	Particularly hazardous substances, including <a href="#">select carcinogens</a> , <a href="#">reproductive toxins</a> , and <a href="#">substances with a high degree of acute toxicity</a>	<ul style="list-style-type: none"> <li>Safety glasses (If splash potential exists, use safety goggles + face shield instead.)</li> <li>Lab coat</li> <li>Appropriate <a href="#">chemical-resistant gloves</a></li> </ul>
<input type="checkbox"/> Yes <input type="checkbox"/> No	Chemically preserved animal and/or human specimens	<ul style="list-style-type: none"> <li>Safety glasses</li> <li>Gown or lab coat</li> <li>Appropriate <a href="#">chemical-resistant gloves</a></li> </ul>
<input type="checkbox"/> Yes <input type="checkbox"/> No	Hazardous chemical not in one of the above special categories	<ul style="list-style-type: none"> <li>Safety glasses (If splash potential exists, use goggles + face shield instead.)</li> <li>Lab coat</li> <li>Appropriate <a href="#">chemical-resistant gloves</a></li> </ul>

## Biological Materials

Activities performed in the lab?	Lab Operation/Task Involving <sup>1</sup>	Applicable PPE (in addition to proper street clothing <sup>2</sup> )
<input type="checkbox"/> Yes <input type="checkbox"/> No	Working with biological agents or recombinant DNA classified as Biosafety Level 1	<ul style="list-style-type: none"> <li>No PPE required. However, if working in conjunction with another hazard (e.g., flammable liquids), wear appropriate PPE for that hazard.</li> </ul>

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<input type="checkbox"/> Yes <input type="checkbox"/> No	Working with biological agents or recombinant DNA classified as Biosafety Level 2	<ul style="list-style-type: none"> <li>• Safety glasses (If splash potential exists, use safety goggles and face shield.) <i>Note: When using the Biological Safety Cabinet (BSC), eye and face protection is not required for work with biological agents or recombinant DNA.</i></li> <li>• Lab coat</li> <li>• Latex or nitrile gloves</li> </ul>
<input type="checkbox"/> Yes <input type="checkbox"/> No	Working with infectious agents or recombinant DNA classified as Biosafety Level 2+	<ul style="list-style-type: none"> <li>• Safety goggles (If splash potential exists, also use face shield.) <i>Note: When using the Biological Safety Cabinet (BSC), eye and face protection is not required for work with biological agents or recombinant DNA.</i></li> <li>• Disposable gown or lab coat</li> <li>• Latex or nitrile gloves</li> <li>• Respirator (as determined by Administrative Panel on Biosafety [APB] protocol review; contact EH&amp;S for assessment 723-0448)</li> </ul>
<input type="checkbox"/> Yes <input type="checkbox"/> No	Working with Infectious agents or recombinant DNA classified as Biosafety Level 3	<ul style="list-style-type: none"> <li>• Safety goggles (If splash potential exists, also use face shield.) <i>Note: When using the Biological Safety Cabinet (BSC), eye and face protection is not required for work with biological agents or recombinant DNA.</i></li> <li>• Full disposable gown or <sup>®</sup>Tyvek suit</li> <li>• Shoe cover or dedicated shoes</li> <li>• Latex or nitrile gloves (double)</li> <li>• Respirator (as determined by the APB review; contact EH&amp;S for assessment, 723-0448)</li> </ul>
<input type="checkbox"/> Yes <input type="checkbox"/> No	Human or non-human primate blood and other body fluids, tissues or cells, or blood borne pathogens (BBP)	<ul style="list-style-type: none"> <li>• Safety glasses (If splash potential exists, use safety goggles and face shield.) <i>Note: When using the Biological Safety Cabinet (BSC), eye and face protection is not required for work with biological agents or recombinant DNA.</i></li> <li>• Lab coat</li> <li>• Latex or nitrile gloves</li> </ul>
<input type="checkbox"/> Yes <input type="checkbox"/> No	<a href="#">Live Animals</a> (Animal Biosafety Level 1 or Risk Category 2 animals)	<ul style="list-style-type: none"> <li>• Safety glasses (If splash potential exists, use safety goggles + face shield.) <i>Note: When using the Biological Safety Cabinet (BSC), eye and face protection is not required for work with biological agents or recombinant DNA.</i></li> <li>• Lab coat</li> <li>• Latex, nitrile, or vinyl gloves (+ wire mesh gloves as appropriate)</li> <li>• Consult with EH&amp;S for N95 respirator assessment, 723-0448</li> <li>• In the space provided at the end of the checklist, list any additional or modified PPE required by (1) an APB or APLAC protocol or (2) consultation or written policies from VSC and/or EH&amp;S (723-0448).</li> </ul>
<input type="checkbox"/> Yes <input type="checkbox"/> No	<a href="#">Live Animals</a> (Animal Biosafety Level 2 or Risk Category 1 animals)	<ul style="list-style-type: none"> <li>• Safety glasses (If splash potential exists, use safety goggles + face shield.) <i>Note: When using the Biological Safety Cabinet (BSC), eye and face protection is not required for work with biological agents or recombinant DNA.</i></li> <li>• Disposable gown, hair cover, shoe cover, and surgical mask</li> <li>• Latex, nitrile, or vinyl gloves (+ wire mesh gloves as appropriate)</li> <li>• In the space provided at the end of the checklist, list any additional or modified PPE required by (1) an APB or APLAC protocol or (2) consultation or written policies from VSC and/or EH&amp;S (723-0448).</li> </ul>

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<b>Radiation</b>		
Activities performed in the lab?	Lab Operation/Task Involving <sup>1</sup>	Applicable PPE (in addition to proper street clothing <sup>2</sup> )
<input type="checkbox"/> Yes <input type="checkbox"/> No	Unsealed radioactive materials or waste	<ul style="list-style-type: none"> <li>For radionuclide-specific PPE, consult with Health Physics, 723-3201.</li> </ul>
<input type="checkbox"/> Yes <input type="checkbox"/> No	Class 3B or 4 laser	<ul style="list-style-type: none"> <li>Appropriate laser safety goggles (consult with Health Physics, 723-3201)</li> </ul>
<input type="checkbox"/> Yes <input type="checkbox"/> No	Laser(s) modified by optics	
<input type="checkbox"/> Yes <input type="checkbox"/> No	Ultraviolet (UV) radiation (from sources other than lasers)	<ul style="list-style-type: none"> <li>UV-blocking eye protection or UV-blocking face shield</li> <li>Appropriate UV blocking gloves</li> </ul>
<input type="checkbox"/> Yes <input type="checkbox"/> No	Infrared-emitting equipment	<ul style="list-style-type: none"> <li>Appropriately-shaded goggles for infrared radiation</li> </ul>

  

<b>Physical Hazards</b>		
Activities performed in the lab?	Lab Operation/Task Involving <sup>1</sup>	Applicable PPE (in addition to proper street clothing <sup>2</sup> )
<input type="checkbox"/> Yes <input type="checkbox"/> No	Glassware (or other vessels) under pressure or vacuum	<ul style="list-style-type: none"> <li>Safety goggles + face shield</li> <li>Chemical-resistant apron for high risk activities</li> <li>Appropriate <a href="#">chemical-resistant gloves</a></li> <li>Engineering control: Use blast shield, as appropriate.</li> </ul>
<input type="checkbox"/> Yes <input type="checkbox"/> No	Working with knives, scalpels, razor blades, etc. or handling broken glass	<ul style="list-style-type: none"> <li>Cut-resistant gloves</li> </ul>
<input type="checkbox"/> Yes <input type="checkbox"/> No	Centrifuge	<ul style="list-style-type: none"> <li>Safety glasses</li> <li>If centrifuging hazardous materials, wear additional PPE to match the hazard.</li> </ul>
<input type="checkbox"/> Yes <input type="checkbox"/> No	Sonicator or other loud equipment	<ul style="list-style-type: none"> <li>Ear plugs or ear muffs may be required (consult with EH&amp;S 723-0448).</li> </ul>
<input type="checkbox"/> Yes <input type="checkbox"/> No	Removing freezer vials from liquid nitrogen	<ul style="list-style-type: none"> <li>Goggles + face shield</li> <li>Lab coat</li> <li>Insulated cryogenic gloves</li> </ul>
<input type="checkbox"/> Yes <input type="checkbox"/> No	Handling hot liquids/equipment (e.g., autoclaved materials, heated glassware, water or oil bath)	<ul style="list-style-type: none"> <li>Safety glasses (If splash potential exists, use safety goggles + face shield.)</li> <li>Lab coat</li> <li>Thermally insulated gloves (Wear <a href="#">chemical-resistant gloves</a> underneath, as needed.)</li> </ul>
<input type="checkbox"/> Yes <input type="checkbox"/> No	Machinery (e.g., lathes, saws) and hand tools	<ul style="list-style-type: none"> <li>Safety glasses ( + face shield if flying fragments or particles generated)</li> <li>Gloves appropriate for hazards (e.g., chemicals, sharp objects) Note: Gloves are not required if there is a potential to become entangled in moving parts; consult with EH&amp;S 723-0448.</li> <li>Work Practice: Confine long hair/beards to prevent entanglement in machinery (e.g., via bun, pinned-up ponytail, or hairnet). Do not wear any loose clothing and jewelry.</li> <li>Hearing protectors, respiratory protection, or safety shoes may be required (consult with EH&amp;S 723-0448).</li> <li>See <a href="#">SU Safe Operation of Shop Machinery</a> for additional PPE Guidance.</li> </ul>

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<b>Other Laboratory Operations/Tasks</b>	
Lab Operation/Task Involving:	Applicable PPE:
Personnel that are not directly involved in the lab operations, but who are at risk for potential exposure to hazardous materials and/or physical hazards	<ul style="list-style-type: none"> <li>Lab coat</li> <li>Safety glasses</li> <li>Additional PPE deemed necessary (e.g., if touching contaminated surfaces, wear gloves to match the hazard)</li> <li>Proper street clothing - long pants (or equivalent) that cover legs and ankles, and non-perforated, closed-toed shoes that completely cover the feet</li> </ul>

<sup>1</sup> Conduct activities with potential to generate airborne contaminants using appropriate engineering controls (e.g., laboratory fume hood, biosafety cabinet, glove box, local exhaust at work bench). If engineering controls are not feasible, consult EH&S to determine if the activity presents a respiratory hazard, which may require a respirator; call 723-0448.

<sup>2</sup> Proper street clothing - *Long pants (or equivalent) that cover the legs and ankles, and non-perforated, closed-toed shoes that completely cover feet.*

<b>Certification of PPE Assessment</b>	
<b>Name of person conducting assessment</b>	
<b>Title</b>	
<b>Phone Number, email</b>	
<b>Signature:</b>	<b>Date:</b>

## Laboratory Personal Protective Equipment (PPE) Assessment Tool

### Section 3: Laboratory-Specific PPE Training

#### 1. Deliver laboratory-specific PPE training

Train lab personnel upon their joining the lab or prior to performing work requiring the use of PPE. Training content shall include, but not be limited to:

- When and what PPE is required per *Section 2: PPE Assessment*
- Limitations of the PPE
- How to properly put on, adjust, wear, and remove PPE
- Proper care, maintenance, useful lifespan, and disposal of PPE

For more information, refer to the PPE Safety Training Guidance at <http://ehs.stanford.edu/resource/ppe-training-guidance>

#### 2. Training documentation

- When lab personnel have demonstrated an understanding of the above training and ability to the use PPE properly, the lab member and trainer must sign below that the PPE training has been conducted.
- Maintain training records for at least one year.

#### 3. Provide retraining

Retraining is required of laboratory personnel when:

- Changes in laboratory activities/operations render previous PPE training obsolete.
- Inadequacy of laboratory personnel's knowledge or use of PPE is evident.

#### PPE Training Verification

Trainee Name:	Trainee Signature:	SUNET ID:	Training Date:	Trainer Name:	Trainer Signature: