

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 650-723-0448.

Chemical Hazards		
Activities performed in the lab?	Lab Operation/Task Involving ¹	Applicable PPE (in addition to proper street clothing ²)
☐ Yes ☐ No	Flammable liquids	• Safety glasses (If splash potential exists, use goggles + face shield instead.) • Lab coat (A flame-resistant lab coat, such as Nomex, may be appropriate depending upon the quantity [> 4L] or the task, e.g., heating.) • Appropriate chemical-resistant gloves

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☐ Yes ☐ No	Corrosive liquids	- Safety glasses (If splash potential exists, use goggles + face shield instead.) - Lab coat (Also use chemical-resistant apron if splash potential exists.) - Appropriate chemical-resistant gloves
☐ Yes ☐ No	Cryogenic liquids or dry ice (including working with cryogenic dewars)	- Safety glasses (If splash potential exists, use goggles + face shield instead.) - Lab coat - Insulated cryogenic gloves
☐ Yes ☐ No	Compressed Gases	- Safety glasses - Lab coat, as needed (e.g., when making or breaking connections with non-inert gases) - Gloves, as needed (e.g., work gloves when handling cylinders, chemical-resistant gloves when making or breaking connections with non-inert gases)
☐ Yes ☐ No	Pyrophoric or water reactive compounds (or highly exothermic reactions)	- Goggles + face shield - Flame-resistant lab coat, such as Nomex - Appropriate chemical-resistant gloves (Additional fire resistant gloves may be necessary, depending on the task.) - Non-synthetic street clothing
☐ Yes ☐ No	Explosive compounds	- Goggles + face shield - Flame-resistant lab coat, such as Nomex - Heavyweight gloves, such as anti-static PVC gauntlets - Engineering control: Use blast shield.
☐ Yes ☐ No	Engineered nanomaterials	- Safety glasses (If splash potential exists, use safety goggles + face shield instead.) - Disposable [®]Tyvek-type coveralls (or Lab coat) - Appropriate chemical-resistant gloves - For additional guidance, see Engineered Nanomaterials.
☐ Yes ☐ No	Particularly hazardous substances, including select carcinogens , reproductive toxins , and substances with a high degree of acute toxicity	- Safety glasses (If splash potential exists, use safety goggles + face shield instead.) - Lab coat - Appropriate chemical-resistant gloves
☐ Yes ☐ No	Chemically preserved animal and/or human specimens	- Safety glasses - Gown or lab coat - Appropriate chemical-resistant gloves
☐ Yes ☐ No	Hazardous chemical not in one of the above special categories	- Safety glasses (If splash potential exists, use goggles + face shield instead.) - Lab coat - Appropriate chemical-resistant gloves

Biological Materials

Activities performed in the lab?	Lab Operation/Task Involving ¹	Applicable PPE (in addition to proper street clothing ²)
☐ Yes ☐ No	Working with biological agents or recombinant DNA classified as Biosafety Level 1	No PPE required. However, if working in conjunction with another hazard (e.g., flammable liquids), wear appropriate PPE for that hazard.

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☐ Yes ☐ No	Working with biological agents or recombinant DNA classified as Biosafety Level 2	• Safety glasses (If splash potential exists, use safety goggles and face shield.) • Lab coat • Latex or nitrile gloves
☐ Yes ☐ No	Working with infectious agents or recombinant DNA classified as Biosafety Level 2+	• Safety goggles (If splash potential exists, also use face shield.) • Disposable gown or lab coat • Latex or nitrile gloves • Respirator (as determined by Administrative Panel on Biosafety [APB] protocol review; contact EH&S for assessment 650-723-0448)
☐ Yes ☐ No	Working with Infectious agents or recombinant DNA classified as Biosafety Level 3	• Safety goggles (If splash potential exists, also use face shield.) • <i>Full disposable gown or ®Tyvek suit</i> • <i>Shoe cover or dedicated shoes</i> • <i>Latex or nitrile gloves (double)</i> • <i>Respirator (as determined by the APB review; contact EH&S for assessment, 650-723-0448)</i>
☐ Yes ☐ No	Human or non-human primate blood and other body fluids, tissues or cells, or blood borne pathogens (BBP)	• Safety glasses (If splash potential exists, use safety goggles and face shield.) • Lab coat • Latex or nitrile gloves
☐ Yes ☐ No	Live Animals (Animal Biosafety Level 1 or Risk Category 2 animals)	• Safety glasses (If splash potential exists, use safety goggles + face shield.) • Lab coat • Latex, nitrile, or vinyl gloves (+ wire mesh gloves as appropriate) • Consult with EH&S for N95 respirator assessment, 723-0448 • 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&S (650-723-0448).
☐ Yes ☐ No	Live Animals (Animal Biosafety Level 2 or Risk Category 1 animals)	• Safety glasses (If splash potential exists, use safety goggles + face shield.) • Disposable gown, hair cover, shoe cover, and surgical mask • Latex, nitrile, or vinyl gloves (+ wire mesh gloves as appropriate) • 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&S (650-723-0448).

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Radiation		
Activities performed in the lab?	Lab Operation/Task Involving ¹	Applicable PPE (in addition to proper street clothing ²)
☐ Yes ☐ No	Unsealed radioactive materials or waste	For radionuclide-specific PPE, consult with Health Physics, 650-723-3201.
☐ Yes ☐ No	Class 3B or 4 laser	Appropriate laser safety goggles (consult with Health Physics, 650-723-3201)
☐ Yes ☐ No	Laser(s) modified by optics	
☐ Yes ☐ No	Ultraviolet (UV) radiation (from sources other than lasers)	- UV-blocking eye protection or UV-blocking face shield - Appropriate UV blocking gloves
☐ Yes ☐ No	Infrared-emitting equipment	Appropriately-shaded goggles for infrared radiation

Physical Hazards		
Activities performed in the lab?	Lab Operation/Task Involving ¹	Applicable PPE (in addition to proper street clothing ²)
☐ Yes ☐ No	Glassware (or other vessels) under pressure or vacuum	- Safety goggles + face shield - Chemical-resistant apron for high risk activities - Appropriate chemical-resistant gloves - Engineering control: Use blast shield, as appropriate.
☐ Yes ☐ No	Working with knives, scalpels, razor blades, etc. or handling broken glass	Cut-resistant gloves
☐ Yes ☐ No	Autoclaves	- Safety glasses (if hot liquid, e.g. media, is in glassware, use goggles + face shield instead) - Lab coat (if hot liquid, e.g. media, is in glassware, wear a rubber apron over the lab coat) - Thermally insulated gloves and arm sleeves (Wear chemical-resistant gloves underneath, as needed.)
☐ Yes ☐ No	Centrifuge	- Safety glasses - If centrifuging hazardous materials, wear additional PPE to match the hazard.
☐ Yes ☐ No	Sonicator or other loud equipment (e.g., compressors)	Ear plugs or ear muffs may be required (consult with EH&S 650-723-0448).
☐ Yes ☐ No	Removing freezer vials from liquid nitrogen	- Goggles + face shield - Lab coat - Insulated cryogenic gloves
☐ Yes ☐ No	Handling hot liquids/equipment (e.g., autoclaved materials, heated glassware, water or oil bath)	- Safety glasses (If splash potential exists, use safety goggles + face shield.) - Lab coat - Thermally insulated gloves (Wear chemical-resistant gloves underneath, as needed.)

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☐ Yes ☐ No	Machinery (e.g., lathes, saws) and hand tools	- Safety glasses (+ face shield if flying fragments or particles generated) - 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&S 650-723-0448. - 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. - Hearing protectors, respiratory protection, or safety shoes may be required (consult with EH&S 650-723-0448). - See SU Safe Operation of Shop Machinery for additional PPE Guidance.
☐ Yes ☐ No	Elevated work surface (i.e., heights $\geq$ 6 ft.)	- May require hard hat - May require fall arrest or fall restraint system (consult with EH&S 650-723-0448)
☐ Yes ☐ No	Confined spaces	May require hard hats, safety glasses, steel toe shoes, gloves, face shield, coveralls, hearing protection, fall arrest system, communication equipment (consult with EH&S 650-723-0448).
☐ Yes ☐ No	Superconducting magnets	- Remove accessories that contain magnetic or magnetizable compounds - When refilling cryogenic liquid supplies, wear PPE for cryogenic liquids (see above). <i>Note: Magnetic fields can inhibit proper function of medical implants (e.g., pacemakers, Implantable cardioverter-defibrillator (ICD)).</i>

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Other Laboratory Operations/Tasks	
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	• Lab coat • Safety glasses • Additional PPE deemed necessary (e.g., if touching contaminated surfaces, wear gloves to match the hazard) • Proper street clothing - long pants (or equivalent) that cover legs and ankles, and non-perforated, closed-toed shoes that completely cover the feet

¹ 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 650-723-0448.

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

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

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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: