





## Common Personal Protective Equipment




The following document is to provide general guidance for common types of Personal Protective Equipment (PPE) within a laboratory. PPE should be selected based on the hazards present and task performed and is a last line of defense to protect personnel from hazards. All PPE has limitations. If there are any specific questions regarding PPE, please consult your Principal Investigator, the Laboratory Safety Unit, or the University's [Personal Protective Equipment Program](#).

Please contact EH&S with questions regarding PPE selection and hazard assessments.




**Face and Eye Protection:** Must be ANSI Z87.1 compliant


Type of PPE:		General Uses:	Limitations
	Vapor Goggles	<ul style="list-style-type: none"> <li>• Conforms tight to the face</li> <li>• Fully seals around the eyes to protect against vapors</li> <li>• Protection from heavy particulates (wood/sand/debris)</li> </ul>	<ul style="list-style-type: none"> <li>• Not designed for impact protection</li> <li>• Limited splash protection</li> </ul>
	Safety Glasses	<ul style="list-style-type: none"> <li>• Eye protection from impact and larger foreign objects</li> </ul>	<ul style="list-style-type: none"> <li>• Not designed for vapor protection</li> <li>• Minimal splash protection</li> </ul>
	Laser Safety Glasses/Goggles	<ul style="list-style-type: none"> <li>• Laser and wavelength specific eye protection</li> <li>• Must meet current ANSI Z136.1 requirements and be clearly labeled with optical densities (OD) and wavelength</li> </ul>	<ul style="list-style-type: none"> <li>• Not designed for vapor or splash protection</li> </ul>
	Face Shield	<ul style="list-style-type: none"> <li>• Used for full face splash protection</li> <li>• Available in chin, full face, or neck length</li> <li>• Certain types can be used for UV and radiological isotopes protection</li> </ul>	<ul style="list-style-type: none"> <li>• Not designed for vapor protection</li> </ul>

**Glove Protection:**




Type of PPE:		General Uses:	Limitations
	<p>Nitrile Gloves</p> <p>Nitrile alternatives are discussed <a href="#">here</a>.</p>	<ul style="list-style-type: none"> <li>• Disposable, one-time use</li> <li>• General barrier protection, allows for good dexterity</li> </ul>	<ul style="list-style-type: none"> <li>• May not protect against hydrocarbons and alcohols. Consult a hand protection chart, like <a href="#">Ansell</a>.</li> </ul>
	<p>Cryogenic Gloves</p>	<ul style="list-style-type: none"> <li>• Used for handling of extreme cold and cryogenic materials</li> <li>• Dry Ice</li> <li>• Liquid Nitrogen dispensing/filling Dewars</li> <li>• Waterproof and heavily insulated</li> </ul>	<ul style="list-style-type: none"> <li>• Poor dexterity</li> <li>• Not designed for handling hot materials</li> </ul>
	<p>Heat Resistant Gloves</p>	<ul style="list-style-type: none"> <li>• Protects against high, dry heat</li> <li>• Recommended for use with ovens, muffle furnaces</li> <li>• A wide variety of gloves offers protection from 200-660°F</li> </ul>	<ul style="list-style-type: none"> <li>• Poor dexterity</li> <li>• materials can absorb liquids and chemicals</li> </ul>

**Lab Coats:**

Type of PPE:		General Uses:	Limitations
	<p>General Lab Coat</p>	<ul style="list-style-type: none"> <li>• General chemical, biological, and radiological protection from incidental contact and minor splashes with low to moderate hazardous chemicals and small quantities</li> <li>• Provides a general barrier for personal clothing</li> <li>• Material should be a polyester/cotton blend (80/20 or 70/30), with a minimum of 65% polyester for a wet or chemical lab</li> </ul>	<ul style="list-style-type: none"> <li>• Does not have any flammable resistance for handling flammable or pyrophoric materials</li> </ul>
	<p>Static Discharge Lab Coat</p>  <p>Enlarged to show microfilament</p>	<ul style="list-style-type: none"> <li>• Pinstripe or checked microfilament will protect against static discharge</li> <li>• Available in multiple colors</li> <li>• Not designed for chemical or flammable protection</li> <li>• Found in optics labs, electrical settings, or lab with electrically sensitive equipment</li> </ul>	<ul style="list-style-type: none"> <li>• Does not have any flammable resistance for handling flammable or pyrophoric materials</li> </ul>

	<p>Nomex® Lab Coat or FR (Fire Resistance) treated cotton</p>	<ul style="list-style-type: none"> <li>• Use with flammable liquids and pyrophoric materials</li> <li>• Certain Fire Rated (FR) lab coats may offer additional chemical barrier protection</li> <li>• Recommend manufacturers are Workrite® or Bulwark®</li> </ul>	<ul style="list-style-type: none"> <li>• Some may offer limited chemical protection</li> </ul>
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**Body Protection:**

Type of PPE:		General Uses:	Limitations	
	<p>Aprons</p>	<ul style="list-style-type: none"> <li>• Can be disposable or reusable</li> <li>• Can be used for a wide variety of applications: chemicals, flammable materials, and cryogenics</li> <li>• Are made of various materials based on the hazard: PVC, Vinyl, Neoprene, Butyl,</li> </ul>	<ul style="list-style-type: none"> <li>• Depending on the cut, the apron may not protect against splashes around the shoulders, necks, legs or feet.</li> </ul>	
		<p>Sleeve Protectors</p>	<ul style="list-style-type: none"> <li>• Offers additional protection at the cuff/wrist area</li> <li>• Can provide protection from fluids, chemicals, burns, or laceration protection depending on material</li> <li>• Usually disposable for chemical or biological protection</li> </ul>	<ul style="list-style-type: none"> <li>• Sleeve protectors are hazard specific, and will not protect against all hazards (heat/spark, chemical, cut-resistant, etc.)</li> </ul>