
















UNIVERSITY OF NEBRASKA AT OMAHA  
ENVIRONMENTAL HEALTH & SAFETY







**Laboratory PPE Selection Guide**

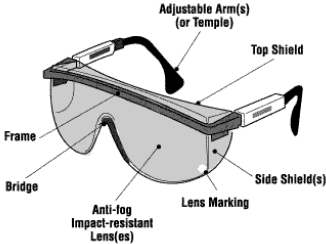




This document is to be used as a guide for selecting appropriate PPE in the Laboratory. PPE application should be based on risk assessment, which includes evaluation of the hazard and the procedure used, Safety Data Sheets, and in consultation with the Principal Investigator and/or Laboratory Supervisor/Manager.






Applicable PPE	Specific Type (example)	Characteristics	Applications
Light Latex, Vinyl, Nitrile Gloves	<b>Disposable Latex Gloves</b> 	Non-Powdered <i>*Powdered latex gloves are not permitted for use on campus.</i>	Working with biological hazards (known or potentially known infectious materials including work with animals)
	<b>Disposable Nitrile Gloves</b> 	Puncture resistant, protection from splash hazards	Working with biological hazards and chemical splash hazards
	<b>Disposable Vinyl Gloves</b> 	Economical, durable, similar to latex	Working with biological hazards
Light chemical resistant gloves	<b>Natural rubber latex</b> 	Chemical resistant, liquid-proof	Working with small volumes of corrosive liquids, organic solvents, flammable organic compounds
Light to heavy chemical resistant gloves	<b>Nitrile Gloves</b> 	Chemical resistant, good puncture, cut, and abrasion resistance	Apparatus under pressure, air or water reactive chemicals
Heavy chemical resistant gloves	<b>Butyl Gloves</b> 	High permeation resistance to most chemicals	Large volumes of organic solvents, small to large volumes of dangerous solvents, acutely toxic or hazardous materials
	<b>Viton Gloves</b> 	High permeation resistance to most chemicals	Same as butyl gloves, plus hazardous material spills

Applicable PPE	Specific Type (example)	Characteristics	Applications
Heavy chemical resistant gloves (continued)	<b>Butyl/Silver Shield Gloves and Apron</b> 	Extra chemical and mechanical protection	Same as butyl and Viton II gloves, added mechanical protection, hazardous material spills
Insulated Gloves	<b>Terrycloth Gloves</b> 	Heat resistant	Working with hot liquids and equipment, open flames, water bath, oil bath, autoclaves
	<b>Cryogen Gloves</b> 	Water resistant or water proof, protection against ultra-cold temperatures	Cryogenic liquids handling
Wire Mesh Gloves	<b>Steel Mesh</b> 	Cut resistant	Working with live animals
Chemical Resistant Apron	<b>Rubber-coated Wash Apron</b> 	Chemical splash protection, good abrasion resistance	Working with apparatus under pressure, air or water reactive chemicals, large volumes of corrosive liquids
	<b>Neoprene Apron/Sleeves</b> 	Chemical resistant, tear resistant; splash protection	Water or air reactive chemicals, large volumes of corrosive liquids, small to large volumes of acutely toxic corrosives

Additional information on chemical resistance glove selection can be found online at: [Micro Flex Chemical Resistance Glove Guide](#)

Applicable PPE	Specific Type (example)	Characteristics	Applications
Lab Coats	<b>Knee Length Lab Coat</b> 	Protects skin and clothing from dirt, inks, non-hazardous chemicals, biohazards without aerosol exposure	General use; Chemical, Biological, Radiation, and Physical Hazards
	<b>Flame Resistant Lab Coat</b> 	Flame resistant (e.g. Nomex or flame-resistant cotton)	Working with water or air reactive chemicals, large volumes of organic solvents, potentially explosive chemicals
Gowns	<b>Disposable Gowns</b> 	Clothing and skin protection	Working with biohazards
	<b>Tyvek Gowns</b> 	High tear resistance, protection from particulates	Working with biohazards with potential for exposure to airborne transmissible disease
Cap	<b>Bouffant Caps</b> 	Economical protection for hygienic work environments; protection from dirt, dust	Working with biohazards, especially in animal facilities
Shoe Cover	<b>Disposable Shoe Covers</b> 	Protection from dirt, dust; maintenance of hygienic work environments. Adjustable fit, non-skid soles	Working with biohazards, especially in animal facilities

Applicable PPE	Specific Type (example)	Characteristics	Applications
<b>Safety Glasses</b>		Polycarbonate lens, side shields for eye protection; meets ANSI and OSHA specifications	Working with chemical, biological, radiation, physical hazard ; laboratory work
<b>Goggles</b>	<b>Chemical Goggles</b> 	Tight fitting, protects eyes from impact, spray, paint, chemicals, flying chips, dust particles; polycarbonate lens, indirect ventilation, meets ANSI and OSHA specifications	Working with large volumes of corrosive liquids, small to large volumes of acutely toxic corrosives; working with large volumes of organic solvents, acutely toxic or hazardous chemicals, apparatus under pressure, air or water reactive chemicals
	<b>Laser/ UV Goggles</b> 	Appropriately shaded goggles; optical density based on beam parameters	Working with Class 3 or Class 4 lasers
<b>Face Shield</b>		Chemical resistant face shield	For use with mild acids, caustics, aromatic hydrocarbons, methylene chloride; splash hazard; air or water reactive or potentially explosive chemicals
<b>Safety Shield</b>		Acrylic, weighted shield, three sided, benchtop shield, frosted edges	Protects from chemical splash, beta radiation, exposure to bloodborne pathogens

Applicable PPE	Specific Type (example)	Characteristics	Applications
<p><b>Respirators</b> **Requires Annual Fit Test for Use</p>	<p><b>Surgical Masks</b></p> 	<p>Used for bacterial filtration</p>	<p>Working with live animals; working with infectious material with potential aerosol exposure</p>
	<p><b>N-95**</b></p> 	<p>Protects against dusts, fumes, mists, microorganisms</p>	<p>Working with live animals or infectious materials with known airborne transmissible disease; dusty environments</p>
	<p><b>Half Face**</b></p> 	<p>Air purifying respirator protects against variety of particulates, vapors, dust, mists, fumes; depends on filter cartridge used</p>	<p>Working with live animals or infectious materials with known airborne transmissible disease; dusty environments; chemical vapors; particulates</p>
	<p><b>Full Face**</b></p> 	<p>Same as half- face, but with greater protection factor, and greater protection of eyes and face; depends on filter cartridge used</p>	<p>Working with live animals or infectious materials with known airborne transmissible disease; dusty environments; chemical vapors; particulates</p>
	<p><b>PAPR</b></p> 	<p>Air supplying respirator; delivers steady supply of filtered air with loose fitting hoods</p>	<p>Working in BSL – 3 environments; working in dusty environments; chemical vapors, particulates; used when full- face or half –face respirator doesn't fit individual</p>

Updated 05/2020

Please call 402.554.3596 or email [unoehs@unomaha.edu](mailto:unoehs@unomaha.edu) with any questions.