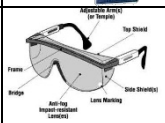
Personal Protection Equipment (PPE) Selection Guide

PPE	Material/Type	Uses/Comments	General Comments
Lab Coats/ Gowns/Aprons (one lab coat may not work for all lab operations)	 **Cotton/ Poly Blend (80/20 or 65/35)**	Clinical settings, labs handling biological materials & small amounts of flammables. For chemical research lab, the 65/35 may be preferable. Lightweight and breathable. NOT flame resistant. Synthetic fabrics will burn, melt to the skin.	Select correct size, knee length. Wear sleeves down & front closed. Snaps are more readily removed than buttons. Non-disposable. Frequency of cleaning depends on amount of use and contamination. Should not be worn outside the lab. Do not launder reusable coats at home.
	100% Cotton	Labs with air or water reactive chemical use. Not necessarily fluid proof, unknown splash & chemical resistance.	Cotton will char and not burn. Do not launder reusable coats at home.
	 **Nomex or 100% cotton treated with flame retardant**	Labs with air or water reactive chemical use. Not necessarily fluid proof, unknown splash & chemical resistance.	Expensive. Heavy, not very breathable. Flame resistance is maintained with laundering. Do not launder reusable coats at home. All lab coats must be surveyed for chemical, biological and radioactive contaminants before cleaning
	 **Disposable gowns lab coats**	Splash resistant for blood and body fluids and some chemicals. Often used where contamination is routine.	Not good for settings with open flame. Back tie closures are not readily removed. Single use. Synthetic fabrics will burn, melt to the skin.
	 **Chemical Apron**	Non-porous, non-flammable. Abrasion & tear resistant. Large volumes of corrosive liquids.	Effective and affordable protection of body and clothes. Easily decontaminated. Good for teaching labs. Both reusable and disposable chemical resistant aprons available.
Gloves	 **Latex or Vinyl**	Good for biological & water based materials. Little chemical protection. Vinyl good alternative for those with latex allergies.	Hard to detect puncture holes. Vinyl not as form fitting as latex.
	 **Nitrile**	Good for biological and chemical splash hazards.	Not good for nitrosamines and most chemotherapy drugs. Combustible, not good for air or water reactive chemicals.
	Neoprene	Good for nitrosamines and chemotherapy drugs. 9mil thick and form fitting.	
	 **Viton/ Silver Shield**	Heavy chemical resistance. Large volumes of chemicals or small volumes of acutely toxic chemicals.	Expensive. Not form fitting. Nitrile or latex gloves can be worn over silver shield to increase dexterity for fine motor skills.

Gloves	 **Cryogenic/ thermal Insulated gloves**	Working with hot liquids, equipment, autoclaves. Handling cryogenic liquids/dry ice	Some thermal gloves are made of combustible materials. If working with air or water reactive chemicals, non-combustible flight gloves are available.
	 **Wire mesh/ Kevlar**	Wire mesh: cut resistant, not puncture resistant. Kevlar is puncture and cut resistant.	Expensive. Can reduce dexterity.
Eye/Face Protection	 **Safety glasses/ Prescription safety glasses**	Working with physical hazards in biological, chemical, radiation lab work.	Polycarbonate lens with side shield for impact protection. Prescription safety glasses with side shields are for impact resistance.
	 **Safety goggles**	Splash and impact protection. Working with large volumes of corrosive liquids or small to large volumes of acutely toxic liquids.	Indirect vented offers best splash protection. Can be worn over prescription eye glasses for splash resistance.
	 **Laser goggles/ UV protective eyewear**	Working with class 3 or 4 lasers. UV light	Select shaded goggles/face shield depending on wavelength and intensity.
	 **Face shield**	Working with air or water reactive chemicals, explosive chemicals. Large volumes of corrosive chemicals & significant splash hazard.	
Respirators (primary respiratory protection is provided by fume hoods and biosafety cabinets and rarely advised for laboratory) Surgical masks protect work area from droplets from wearer but do not protect the wearer-use a respirator	 **N-95**	Protects against dust, aerosols, mists, microorganisms	Must be fit tested annually. Disposable. Voluntary use for nuisance. Mandatory use for toxic protection. Facial hair will obstruct the fit
	 **Half face or full face respirators**	Protects against particulates, vapors, mists, fumes depends on cartridge used.	Full face offers greater protection of eyes and face. Must be fit tested annually. Cartridge life needs to be determined. Facial hair will obstruct the fit.
	 **PAPR**	Working in BSL-3 environment. Select if individual failed fit tests with N-95.	Power Air Purifying Respirator. Delivers supply of filtered air through loose fitting hood.
	 **SCBA**	Hazmat, rescue workers and firefighters.	Self-Contained Breathing Apparatus. Compressed air tank provides air through a full face mask.
Other	**Foot Protection**	Disposable booties and rubber boots are options	Do not wear sandals, open toed shoes or have bare feet anytime in the lab.
	Hearing protection	Any device with a sound level above 80dBA may require hearing protection	Hearing protection device selection depends on sound intensities.

*Advisory: Please contact Tufts Environmental Health and Safety for on-site assessment and advice.