

Hazards	Task: hands-on work or being within reach ^(a) of potential hazards of described activity/items:	Minimum Requirements
Skin/eye damage, poisoning, inhalation of vapor or aerosol	Volume > 10 mL any unshielded ^(b) corrosive ^(c) liquids, organic liquids or liquid mixtures, or toxic ^(d) inorganic liquids/mixtures	Splash goggles, chemical resistant gloves ^(e) , lab coat, skin cover to knees/elbows/throat, closed shoes with socks. Work in hood ^(f) . Shower and eyewash must be available in work area.
	Volume > 1 L	Same, but cover to ankles/wrists/throat
	Volume > 5 L	Add face shield covering chin
Cataracts, flash burns to cornea	Work with infrared emitting equipment (glass blowing)	Appropriate shaded goggles Lab coat, closed shoe, pants
Conjunctivitis, corneal damage, erythema	Arc/TIG welding	Appropriate shaded goggles Working gloves
Skin/limb injury	Machine operation activities likely to catch clothing, hair, or jewelry	Bind vulnerable clothing/hair, remove jewelry
Eye impact	Metalworking, woodworking, other operations likely to throw particles	Safety glasses No loose clothing or jewelry
Head impact	Working or walking in area having potential of falling tools, equipment, or stored items	Hard hat
Skin/eye damage	Cryogenic liquids	Splash goggles, skin cover to elbows/knees/throat, closed shoe easily removed, socks. Cryogloves for dispensing.
	Volume > 1 L	Skin cover to throat/wrists/ankles
Skin/eye damage, asphyxiation, body injury, frostbite,	Transport of liquid nitrogen in hallways and elevators	See cryogenic liquids; also all wheeled vessels or carts must restrain Dewar and have wheels large enough to safely traverse elevator door and scales gap.
	Self pressurizing vessels weighing > 100 lb gross	Plus skin cover to wrists/throat/ankles, always position blow-off valve away from body
	Dispensing from main bulk tank	All above and hearing protection
Frostbite, eye impact	Dry ice, very cold frozen solids.	Safety glasses, insulated gloves, skin cover to elbows/knees/throat, closed shoe w/ socks
Skin/eye damage	Hot liquid (rxn mixture, water bath, oil bath, autoclave, still...)	Splash goggles, insulated gloves, skin cover to knees/elbows/throat, closed shoe w/ socks
	Volume > 1 L	Skin cover to throat/wrists/ankles, emergency shower available in work area
Eye damage, Erythema	UV radiation	UV blocking goggles, skin cover on all potentially exposed areas
	Potential face UV exposure	UV face shield

Hazards	Task: (hands-on work or being within reach^(a) of potential hazards of described activity/items	Minimum Requirements
Skin/eye damage	Laser radiation	Goggles appropriate to beam parameters, closed shoe, no jewelry/reflective items
	Class 3b and 4 lasers	Skin cover on all potentially exposed areas
Infectious disease	Human blood, cells, tissue, body fluids or materials derived from same	Safety glasses, "exam" gloves, skin cover on all potentially exposed areas, shoes/socks, work at Biosafety Level II.
	Liquid with vol > 1 mL	Same, but splash goggles, skin cover to throat/wrists/ankles
Skin/eye damage, poisoning, inhalation of airborne dust	Hazardous solids	Safety glasses, goggles for large quantities, chemical resistant gloves, skin cover to elbows/knees/throat, closed shoes/socks
	> 100 g any hazardous solid, or > 1 g "chemical requiring designated area," (list at REM web site ^(g)) or High potential for airborne particles	Same, except skin cover to wrists/ankles, and only work in hood
Cell damage, area contamination	Radioactive materials	Shielding and badging requirements prescribed in specific isotope SOP, use all appropriate chemical and/or biological safety personal protection

NOTES

- (a) Being within reach of potential hazards: "within reach" varies widely depending on scale and conditions of work and will be judged by affected staff in each room.
- (b) Unshielded: not behind a drawn hood sash or blast shield.
- (c) Corrosive: $\text{pH} \geq 12$ or $\text{pH} \leq 2.5$
- (d) Toxic: having any poisonous or irritating effects to human tissue or human health.
- (e) Chemical resistant gloves: glove thickness, length, and material must be chosen carefully and will be specific to the chemicals/mixtures used and the process conditions.
- (f) Hood: 100% exhaust to outside, current approval for "all work" and functioning properly.
- (g) Chemicals requiring designated areas: full list is at <http://www.purdue.edu/rem/home/booklets/crdalist.pdf>