

Photonics and Laser Safety Area Checklist

Building _____ Department _____ Room(s) _____ Contact Person _____

Inspection Performed by _____ Date: _____

				Y	N	N/A	References	Page 1 of 6
Administrative and Procedural Controls								
1	Laser sign posted on laboratory door (entrance).						OSHA Technical Manual, Section III	
2	Proper warning signs are posted around laser operation.						OSHA Technical Manual, Section III	
3	Access restricted to lab personnel/lab door kept locked.						OSHA Technical Manual, Section III	
4	New lasers have been registered with the Environmental Health & Safety Office.						Organizational policy/procedure	
5	Laser made or modified on campus registered with the Environmental Health & Safety Office.						Organizational policy/procedure	
6	Written Standard Operating Procedures (SOP) available (Photonics/laser usage).						OSHA Technical Manual, Section III	
7	Written operating, maintenance and alignment procedures kept with laser equipment.						OSHA Technical Manual, Section III	
Personal Protective Equipment (PPE)								
1	Goggles appropriate for the laser used are available and used.						29CFR1910.133(a)(2)(i); 21CFR1040	
2	Appropriate goggles are available for visitors.						29CFR1910.133(a)(2)(i); 21CFR1040	
3	Viewing cards for non-visible beam available.						SOP	
4	Class 3 and 4 lasers signage posted to indicate that the use of eyewear is required to operate the device.						OSHA Technical Manual, Section III; 21CFR1040	
5	Other appropriate PPE is available for intended use.						29CFR1910.1030(d)(3)(i)	
Beam Hazard Controls								
1	Protective housing intact and interlocks tested, or alternative controls reviewed by PI and stated in SOP.						OSHA Technical Manual, Section III	
2	Access to laser is controlled to prevent accidental exposure to the laser beams by posting or controlling the entrance.						OSHA Technical Manual, Section III	
3	Laser controlled areas posted and equipment labeled with approved signs and labels.						OSHA Technical Manual, Section III; 21CFR1040	
4	Are windows and ports, which could allow a laser beam to stray into uncontrolled areas covered or protected during laser.						OSHA Technical Manual, Section III	
5	Beam stops present at end of all beam paths.						OSHA Technical Manual, Section III; 21CFR1040	
6	Barriers/screens (if present) are designed to withstand either direct or diffusely scattered beams.						OSHA Technical Manual, Section III; 21CFR1040	
7	No exposed wiring or electrical circuits; device proper deenergized.						29CFR1910.147	

(Additional: [NFPA 115 Standards for Laser Fire Protection](#))

Photonics and Laser Safety Area Checklist

Building _____ Department _____ Room(s) _____ Contact Person _____

Y N N/A

References

Page 3 of 6

Chemical Storage & Safety			
1	Chemical containers properly labeled or tagged.		29CFR1910.1200(f)(6) & 1910.1450(h)(1)(ii)
2	Chemicals segregated and stored by compatibility.		NFPA 45:8.2.4.2
3	Peroxide formers dated at purchase and again upon opening.		NFPA 45:13.4.2
4	Peroxide formers disposed of within proper time frames.		NFPA 45:13.4.2
5	Secondary containment used where appropriate.		40CFR261.175
6	Vacuum equipment trapped and/or filtered.		OSHA General Duty Clause, Section 5(a)(1)
7	Chemical storage areas free of ignition sources.		29CFR1926.152(i)(2)(viii)(E)
8	Refrigerators/Freezers properly labeled.		NFPA 45
9	Refrigerators/Freezers properly rated if flammable liquids are stored within.		NFPA 45:11.3.2.1
10	Fume hoods and/or biosafety cabinets not used for general storage.		NFPA 45:8.2.4.7
11	Cryogenic materials stored properly and proper PPE available.		29CFR1910.138 (Hand Prot.)
12	Flammable liquids in containers over 4 L are in approved safety cans.		29CFR1910.106(d)(2)(i)
13	Corrosive storage cabinet used if more than 10 gal of corrosives present.		29CFR1910.106(d)(3)(i)
14	Chemicals purchased in amounts that can be used within a reasonable time.		NFPA 45:12.3.1.1
15	Chemical stocks purged of old, outdated, and unusable chemicals.		NFPA 45:13.4.2
16	Chemical inventory up to date.		40CFR704(Reporting & Record Keeping)
Compressed Air and Compressed Gases			
1	Air compressors equipped with pressure gauges and pressure relief valves.		29CFR1910.101(c)
2	Compressed hoses (piping, fittings, etc.) shall be removed from service if defective.		29CFR1926.350(f)(3)
3	Compressed air 30 psi or less for machine/parts cleaning.		29CFR1926.302(b)(4)
4	Compressed air cleaning nozzles with chip/particle deflection device.		29CFR1926.302(b)(4)
5	Gas cylinders w/30 lb. or more water capacity have valve protection capability.		29CFR1910.253(a)(4)(b)(iv)
6	Gas cylinders legibly marked as to their contents.		29CFR1910.253(a)(4)(b)(ii)
7	Gas cylinders stored away from high heat, flames, etc.		29CFR1910.253(b)(2)
8	Gas cylinders stored in secure area and secured from tipping or falling.		NFPA 45:10.1.5.1 & 29CFR1926.350(a)(7)
9	Gas cylinders transported on special carts/regulators removed/ and protected.		29CFR1926.350(a)(6)
10	When in use, gas cylinders kept away from elevators, stairs, and ramps.		29CFR1926.350(a)(11)
11	Valve protectors used when cylinders not in use or when being transported.		29CFR1926.350(a)(1)
12	Liquefied gas cylinders (acetylene) always shipped and stored valve-end up.		29CFR1926.350(b)(3)

13	Proper type of regulator used for type of gas cylinder in use.				29CFR1910.101(c)
14	Gas cylinders, valves, couplings, regulators kept free of oil and grease.				29CFR1926.350(i) & 29CFR1910.253(b)(5)
15	Gas cylinders lacking obvious defects, leaks, damage, etc.				29CFR1926.350(c)(3)
16	Gas cylinders hydrotested at appropriate intervals.				49CFR173.40(d)(2)
17	Empty gas cylinders labeled "Empty," valves closed, and caps on and stored.				29CFR1926.350(a)(8)
18	Oxygen and Acetylene in storage are separated by 5' noncombustible barrier.				29CFR1926.350(a)(10)
Hazardous Waste & Materials Disposal and Recycling					
1	Waste storage areas (bins, totes) designated.				40CFR261.172
2	Waste containers properly labeled (chemical components, amounts, etc.).				NFPA 45:13.4
3	Waste containers compatible with waste to be stored.				NFPA 45:9.1.1
4	Only compatible chemical wastes stored in the same container.				NFPA 45:8.2.4.2
5	Waste containers kept closed except when adding waste.				40CFR265.173(a)
6	Waste containers stored compatibly.				NFPA 45:8.2.4.2
7	Fluorescent, HID, Mercury vapor lamps proper waste management used.				40CFR273.13(d)
8	Used oil collected and recycled properly.				40CFR279.22 & 40CFR279.24
9	Non-alkaline batteries (lead acid, Ni-cad, silver, etc.) managed properly.				40CFR273.13(a)
10	Mercury containing devices (thermostats, barometers, etc.) managed properly.				40CFR273.13(c)
11	Electronic devices, (monitors, TVs, circuit boards, etc.) managed properly.				40CFR273.13(c)
12	Biohazardous materials & animal carcasses managed & disposed properly.				HHS Publication (CDC)21-1112 (12/2009)
Manuals, Training, SOPs, SDSs, Occ. Health					
1	Appropriate safety manual(s) available.				29CFR1910.1450(e)(2)
2	Standard Operating Procedures & Safety Data Sheets readily available.				29CFR1910.1450(e)(3)(i) & 1910.1200(g)(11)
3	Applicable initial/refresher training completed.				29CFR1910.1450(f)(1)
4	Personnel in occ. health program, if required.				29CFR1910.1450(e)(3)(iii)
Safety Equipment and Emergency Preparedness					
1	Eyewash & safety shower shall be available.				29CFR1910.151(c)
2	Eyewash & safety shower unobstructed and inspected as required.				ANSI/ISEA Z358.1 - 2014 {7.5.5. & 4.6.5.}
3	Fume hoods, biosafety cabinets, glove boxes, properly located and certified.				29CFR1910.1450(e)(3)(iii)
4	Appropriate spill control kit available and stocked (Chem, Rad, Bio).				29CFR1910.151(b)
5	Spill & accident reporting procedures understood by lab personnel.				29CFR1910.120
6	Appropriate first aid kit available and stocked.				29CFR1910.151(b)
7	Emergency contact information posted by entrance (and by phone if present).				29CFR1910.1450 App A.D. (Signs)
8	Laboratory under negative pressure in relation to other areas.				HHS Publication (CDC)21-1112 (12/2009)

Building _____ Department _____ Room(s) _____ Contact Person _____

Inspection Performed by _____ Date: _____

Y N N/A

References

Page 5 of 6

Electrical Safety			
1	Extension cords are not used as permanent wiring.		NFPA 70
2	Extension cords and power strips not daisy-chained one to another.		29CFR1910.303(b)(2), 1926.403(b)(2)
3	Electrical cords not under carpets/rugs, through doorways, or high traffic areas.		NFPA 70
4	Multi-outlet power strips are UL listed and have circuit breakers.		UL1283
5	Power cords are in good condition with no splices or broken insulation.		29CFR1926.405(a)(2)(ii)(I)
6	Grounding prongs not removed from 3-way plugs.		29CFR1926.405
7	Outlet, switch and junction box covers are in place and in good repair.		NFPA 70E: 215.1
8	Circuit breaker panels and emergency shut offs unobstructed and labeled.		NFPA 70E: 205.8, 205.10 & 205.11
9	Electrical outlets not overloaded with appliances, i.e. splitters used.		29CFR1910.304(b)(4)
10	Ground Fault Interrupters installed, labeled and operating correctly.		29CFR1910.304(g)(6)(vi)(c)(5);NFPA 70,210.8(A)&(B)
11	Energized parts, circuits, and equipment guarded against accidental contact.		NFPA 70E: 205.6
Fire Prevention and Protection			
1	Fire extinguishers properly mounted, located, and identified.		29CFR1910.157(a)(1)
2	Fire extinguishers adequate in number and type.		29CFR1910.157(a)(4)
3	Fire extinguishers inspected, recharged, and maintained as required.		29CFR1910.157(a)(1)
4	Fire aisles, exit ways, stairways, and fire equipment kept unobstructed.		29CFR1910.36(b)(1) & 36(b)(4)
5	Exit lights properly illuminated and emergency lighting operable.		29CFR1910.36(b)(2)
6	Fire doors not blocked open or are on magnets connected to fire alarm system.		NFPA 105: 5.5
7	Flammable liquids stored in approved safety cans.		29CFR1910.106(d)(2)(i)
8	Flammable liquid containers kept closed when not in use.		29CFR1910.106(e)(2)(ii)
9	Flammable liquids of 25 gallons or more stored in flammable storage cabinet.		29CFR1926.152(b)(2)
10	Flammable storage cabinets labeled "Flammable - Keep Fire Away."		29CFR1926.152(b)(2)(iii)
11	Connections on drums and combustible liquid piping leak free.		29CFR1910.106
12	Flammable liquid drums grounded and bonded to containers when dispensing.		29CFR1926.152(k)(3)(iii) & 29CFR1926.152(e)(2)
13	Proper storage of flammable/combustible materials to reduce risk of fire.		29CFR1910.106,152; NFPA 30, 45
14	Fire extinguishers undergone annual maintenance inspection.		29CFR1910.157(e)(3)
15	No penetrations through walls or ceilings and all ceiling tiles are in place.		NFPA 70, Article 300-21, 29CFR1910.37(a)(4); NFPA 101
16	Sprinkler heads clean and no storage within 18 inches (24 inches non-sprinklered)		NFPA13: 8.6.6.1
17	Sprinkler heads protected by metal guards when exposed to physical damage.		NFPA13: 6.2.8

