

## Chemistry and Life Science Safety Checklist

Building \_\_\_\_\_ Department \_\_\_\_\_ Room(s) \_\_\_\_\_ Contact Person \_\_\_\_\_

Inspection Performed by \_\_\_\_\_ Date: \_\_\_\_\_

Y N N/A

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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 & 40CFR264.175
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, out-dated, 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)
<b>Hazardous Waste &amp; Materials Disposal and Recycling</b>				
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)
<b>Manuals, Training, SOPs, SDSs, Occ. Health</b>				
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)
<b>Safety Equipment and Emergency Preparedness</b>				
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)

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<b>Electrical Safety</b>			
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); NFPA70,210.8(A)&(B)
11	Energized parts, circuits, and equipment guarded against accidental contact.		NFPA 70E: 205.6
<b>Fire Prevention and Protection</b>			
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

<b>General &amp; Miscellaneous Safety</b>			
1	Hand washing sink, soap and towels available.		29CFR1910.141(d)(2)(iii) & (iv)
2	Sink faucets with backflow device or attached hoses above sink rim.		HHS Publication (CDC)21-1112 (12/2009)
3	Heavy objects stored at mid-body height, unless secured and stepladder provided.		OSHA 2236
4	Stepladder or stepstool available & in good condition for high storage access.		29CFR1926.1053(a)(1)(i)
5	Appropriate signs posted (First aid kit, safety shower, fire extinguisher, etc.).		29CFR1910.145
6	Proper handling & disposal of broken glass & sharps.		HHS Publication (CDC)21-1112 (12/2009)
7	Batteries charged in properly ventilated area away from sparks and flames.		29CFR1926.441(a)(1)
8	Work practices observed during inspection done safety.		University Safety Policy & Procedures
9	No food or beverages unless adequately separated from hazard areas.		HHS Publication (CDC)21-1112 (12/2009);29CFR1910.141(g)(2)
10	Benchtops impervious to water and resistant to chemicals.		OSHA 3404
11	Lab furniture is appropriate for loading and use.		OSHA General Duty Clause, Section 5(a)(1)
<b>General Work Environment &amp; Indoor Air Quality</b>			
1	All areas properly illuminated. Glare and reflections avoided.		29CFR1926.56
2	Noise levels are within acceptable limits or engineering controls established.		29CFR1910.95(c)
3	Areas with high noise levels posted and hearing protection required to be used.		29CFR1910.145
4	Work areas clean, sanitary, and orderly. (garbage disposed properly, etc.)		29CFR1910.141(a)(3)(ii)
5	Work area properly ventilated for type of equipment or chemicals in use.		29CFR1910 Subpart G
6	Vacuum systems used when possible instead of blowing or sweeping dusts.		NFPA 654,61,484,664 & 655
7	Temperature and humidity seem to be within acceptable ranges.		OSHA 3430-04 (2011)
8	Areas free of visible fungal/mold growth and associated odors.		OSHA 3304-04N (2006)
9	Walls ceilings, floors free of signs of mold or moisture damage.		OSHA 3304-04N (2006)
10	Air intake areas free of odor causing materials or hazardous chemicals.		OSHA Technical Manual, Section III: Ch. 2
<b>Personal Protective Equipment (PPE)</b>			
1	Appropriate eye/face protection is available and used if hazard present.		29CFR1910.133(a)(2)(i)
2	Appropriate hand protection is available and used if hazard present.		29CFR1910.138
3	Appropriate hearing and foot protection available and used if hazards present.		29CFR1910.95;1910.136 & 1910.94(a)(5)(v)(a)
4	Protective clothing - coveralls, aprons, gowns, etc. available & used if needed.		29CFR1910.1030(d)(3)(i)
5	Protective clothing and gloves removed before leaving lab.		29CFR1910.1030(d)(3)(vii)
6	Non-disposable protective clothing laundered on site or by commercial service.		29CFR1910.1025(g)(2)(ii)
7	Approved respirators available and used if needed.		29CFR1910.134(a)(2)
8	Respirator users medically certified, properly trained and fit tested.		29CFR1910.134(a)(3)
9	PPE is properly stored, clean and in good condition.		29CFR1910.134(b)5-(b)7

