



Template - Laboratory Safety Review Questions
Northwestern University . Office for Research . Office for Research Safety

Lab Safety Review		
A	General Safety	
Question Text		Required
1	The PI's NSIS profile has been reviewed by the PI within the past 12 months. The list of laboratory hazards, lab locations and workers on the profile is current, and all safety modules have been reviewed within the past year.	Y
2	Training requirements are properly filled out for lab and lab workers are up to date on required training.	Y
3	Specialized SOPs have been uploaded into NSIS.	Y
4	Lab has an Emergency Procedures sign at each lab exit with a rally point listed. Emergency contact information is posted outside of each lab entrance. Hazardous Release alarm notices are posted outside of each lab entrance if a hazardous release alarm is present.	Y
5	Emergency phone label is near lab phone with building address.	Y
6	Lab fridges and freezers are labeled "Not For Food" or "For Lab Use Only".	Y
7	Appropriate eye, hand, and foot protection is used and in good condition.	Y
8	Appropriate type of lab coat is used and in good condition.	Y
9	Hearing protection is used above 80 dB (sound monitoring has been uploaded into NSIS).	Y
10	Respirator is used if risk assessment shows necessary (risk assessment has been uploaded into NSIS).	Y
11	The first aid kit is stocked and easily accessible.	Y
12	Calcium gluconate for HF safety is present and not expired.	Y
13	Spill kit or supplies are present and available for workers to use based on the hazards in the lab(s).	Y
Lab Safety Review		
B	Operational Safety	
Question Text		Required
1	Laboratory aisles and exits are 28 inches clear for easy exit access. The exit access path through the intervening space is free of high-hazards. Headroom in the exit access path is 80 inches or more. An 18-inch clearance from the ceiling is maintained to prevent obstruction of the sprinkler system.	Y
2	There is no evidence of eating or drinking in the lab space.	Y
3	An 18-inch clearance from the ceiling is maintained to prevent obstruction of the sprinkler system.	Y
4	Shelves, floors, and cabinets are free of protruding objects.	Y
5	Trays are present for equipment that may leak.	Y
6	Bench tops and floors are free of debris.	Y
7	Appropriate equipment guards for physical hazards are in place.	Y
8	Electrical panels and circuit breaker boxes are easily accessible (36" clearance).	Y
9	Electrical outlet, junction boxes and panels have covers.	Y
10	Electrical cords are in good condition (i.e., no fraying, cracks or breaks on rubber covering).	Y
11	Extension cords and power strips are not daisy-chained.	Y
12	Eyewash is present within 10 seconds travel time and is free from obstruction.	Y
13	Safety shower is present within 10 seconds travel time and is free from obstruction (36" clearance).	Y
14	Fire extinguishers are easily accessible and securely mounted on a wall, and are appropriate for the class of flammables present (A, B, C, D, and K).	Y
15	Lab atmosphere is at negative pressure.	Y
16	Chemical fume hood air flow performance testing has occurred within the past year. The alarm trips when the sash is fully opened. Snorkels or canopy hoods have been evaluated for proper venting.	Y
17	Vacuum pumps are properly vented.	Y
18	Lighting in space is adequate, working properly and has been professionally installed.	Y

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C	Chemical Storage & Waste	
Question Text		Required
1	All containers of hazardous waste are properly labeled, covered when not in use, in secondary containment, and removed from lab regularly.	Y
2	Containers with chemically contaminated sharps are rigid, and do not have punctures.	Y
3	All containers (including compressed gas cylinders) have labels with chemical name.	Y
4	Peroxide-forming chemicals are labeled with ORS peroxide-forming label.	Y
5	Chemicals are dated upon receipt and opening.	Y
6	Chemicals are segregated and stored based on hazard. Flammable, corrosive, and toxic chemicals are not stored above eye level. Large quantities of flammable liquids are appropriately grounded. Explosion-safe refrigerators are used when storing flammable liquids in a fridge.	Y
7	During experiments, chemicals are not stored in the fume hoods. No excess storage is present in fume hoods.	Y
8	All chemical containers and gas cylinders are capped appropriately.	Y
9	Chemical storage cabinets are in good shape, and have adequate support for shelving.	Y
10	Gas cylinders greater than 26 inches tall have a fall restraint system in place.	Y
Biosafety		
G	Select Agents & Controlled Substances	
Question Text		Required
1	All research using exempt quantities of Select Agent Toxin(SATs) is registered in NSIS.	N
2	The NSIS Toxin Inventory system is used to keep track of exempt quantities of SATs.	N
3	The Responsible Official is notified of and approves receipt and transfer of SATs.	N
4	Controlled substances listed on the Drug Enforcement Administration's drug schedule, are stored under supervision of a licensed individual and under lock and key.	N
Biosafety		
H	Human Cadavers and Body Parts	
Question Text		Required
1	All research using human cadavers and/or recognizable body parts adheres to the Use of Cadavers and Recognizable Human Body Parts for Educational and Research Purposes Policy.	N
2	Cadavers and /or recognizable body parts are inventoried annually.	N
3	Specimens are appropriately disposed when research are completed.	N
Lab Safety Review		
K	Supplemental Findings	
Question Text		Required
1	Supplemental Findings:	N
Biosafety		
E	Biosafety	
Question Text		Required
1	Biohazard entry signs are posted on the outside of doors to labs classified as BSL 2. The PI's name and phone number and special requirements are listed on the sign(i.e.; immunization).	N
2	When Biological Safety Cabinets (BSC) are used to prevent occupational exposure to infectious agents, the BSC has been certified within the last 12 months.	N
3	Storage in BSC is minimized.	N
4	BSC traps are in secondary containment and labeled with "Hazardous Waste" tags showing proper identification.	N
5	Appropriate disinfectant solutions are used to clean contaminated surfaces.	N
6	Researchers are protected from UV light exposure.	N

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Biosafety		
E	Biosafety	
Question Text		Required
7	When etiologic agents (BSL2) are transported between labs, the containment vessel is overpacked and a biohazard label is posted on the outside of all transport containers or bags.	N
8	Cold storage equipment (refrigerators, freezers, and liquid nitrogen dewars) has been cleaned out within the last year? Are all samples easily accessible? Is there minimal frost and ice buildup?	N
9	The cold storage inventory has been updated within the last year?	N
Biosafety		
F	Recombinant and Synthetic Nucleic Acids	
Question Text		Required
1	All recombinant or synthetic nucleic acid molecule research is registered in NSIS.	N
2	An annual update has been submitted within the past 12 months.	N
3	If recombinant and synthetic nucleic acids work has changed, ORS has been notified, and request has been submitted via NSIS.	N
Biosafety		
D	Biohazardous Waste	
Question Text		Required
1	Orange and/or red bags are used to collect biohazardous waste and bags are double bagged. Orange and/or red bags currently in use have a rigid secondary container to prevent leaks onto the floors.	N
2	Bio contaminated sharps are placed in appropriate container with bio-hazard symbol.	N
3	Bio waste receptacles are closed when work with biological materials is complete.	N
4	Serological pipettes are not placed directly into the orange/red biohazard bags.	N
Biosafety		
I	BSL3 Inspections	
Question Text		Required
1	Signage on the entrance to the laboratory that incorporates the universal biohazard symbol and include the laboratory's biosafety level, the name of the supervisor or PI, applicable phone numbers, required procedures for entering and exiting the laboratory. Agent information should be posted in accordance with institutional policy.	N
2	When organisms containing recombinant or synthetic nucleic acid molecules or experimental animals are present in the laboratory, a hazard warning sign incorporating the universal biosafety symbol is posted on all laboratory and animal room access doors. Signage should include the laboratory's biosafety level, the name of the supervisor or PI, applicable phone numbers, required procedures for entering and exiting the laboratory. Agent information should be posted in accordance with institutional policy.	N
3	All persons entering the laboratory are advised of the potential hazards and meet specific entry/exit requirements.	N
4	Access to the laboratory is restricted to individuals with specific clearance to work with the BSL3 laboratory space. No one under 16 is admitted.	N
5	The biosafety manual is available and accessible.	N
6	Lab equipment is routinely decontaminated as well as after spills, splashes, or other potential contamination.	N
7	Work surfaces and biological safety cabinets are decontaminated at least once a day (including at the end of the day) and after any spill of viable material.	N
8	All experiments are conducted under BSL3 laboratory practices, even if other organisms-used require a lower level of containment.	N
9	Reusable clothing is decontaminated before being laundered.	N
10	All lab members wears appropriate eye protection.	N

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Biosafety		
I	BSL3 Inspections	
Question Text		Required
11	Alternatives to latex gloves are available.	N
12	Chairs are covered with a non-porous material that can be easily cleaned and decontaminated with appropriate disinfectant.	N
13	Vacuum lines are protected with HEPA filters (or equivalent) that are replaced as needed. Liquid disinfectant traps are used as needed.	N
14	A plan is in place for the careful management of needles and other sharps. Such items are not bent, sheared broken, recapped, removed from disposable syringes, or otherwise manipulated by hand before disposal (placed in a puncture-resistant container and decontaminated, preferably by autoclave).	N
15	Animal laboratories use hypodermic needles and syringes only for parenteral injection and aspiration of fluids from laboratory animals and diaphragm bottles.	N
16	Only needle-locking syringes or disposable syringe-needle units are used for the injection or aspiration of fluids containing organisms harboring recombinant or synthetic nucleic acid molecules.	N
17	Carcasses of animals governed by Appendix Q of the NIH Guidelines are disposed of in a manner to prevent use for food by humans or animals, unless food use is specifically authorized by an appropriate Federal agency. Authorization documentation should be available in the lab.	N
18	A record of the experimental use and disposal of each animal or group of animals is current and available. All animals are euthanized at the end of their experimental usefulness and the carcasses are decontaminated before disposal in an approved manner.	N
19	All contaminated liquid or solid waste is decontaminated before disposal.	N
20	An eyewash station is readily available in the laboratory.	N
21	Floor drains are filled with water and/or appropriate disinfectant to prevent the migration of vermin and gases.	N
22	Personnel are able to verify that the direction of the airflow into the BSL3 (including all associated areas and animal BSL-3) is appropriate.	N
23	Biological safety cabinets are certified at least annually to assure correct performance.	N
24	Seams, floors, walls, and ceiling surfaces are sealed.	N
25	Any incident involving spills and accidents that result in environmental release or exposure of animals or lab workers to organisms containing recombinant or synthetic nucleic acid molecules have been reported to ORS, the Animal Facilities Director, the IBC, NIH/OBA, and all other appropriate authorities. Medical evaluation, surveillance, and treatment are provided as appropriate and written records maintained.	N
26	Biological materials removed from the animal containment lab in a viable or intact state are transferred to a non-breakable, sealed, primary container and then enclosed in a non-breakable, sealed, secondary container. All containers are disinfected before removal from the animal facility. Advance approval for the transfer was obtained.	N
27	All genetically engineered neonates are permanently marked within 72 hours after birth, if their size permits. If their size does not permit marking, their containers are marked. Transgenic animals contain distinct and biochemically assayable DNA sequences that allow distinct identification between transgenic animals and non-transgenic animals.	N
28	A double barrier separates male and female animals, unless reproductive studies are part of the experiment or other measures are taken to avoid reproductive transmission. Reproductive incapacitation/sterilization may be used.	N
29	Centrifuge rotor and cup seals are checked and maintained frequently to ensure a tight seal.	N
Lab Safety Review		
J	Shop Questions	
Question Text		Required
1	Lockout/Tagout program is in place for equipment with hazardous energy, and posted.	N
2	PPE is worn and meets the specific needs of the work being done.	N

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J	Shop Questions	
Question Text		Required
3	Emergency stop/shut off are present and working properly on machines.	N
4	Policies are in place to prevent employees from working alone.	N
5	Defective equipment is identified and tagged out until repair.	N
6	Proper machine guarding is in place. Machines are cleaned and maintained regularly.	N
7	Tools are in good condition free from cracks and broken parts.	N
8	All welding equipment is in good condition, properly insulated and welding areas are clear of flammable materials.	N
9	Welding PPE meets general safety standards including jackets, helmets, gloves and shielding.	N
Laser Safety		
L	Laser Safety	
Question Text		Required
1	All Class 3b and 4 lasers must be registered in NSIS.	N
2	Per ANSI standards, hazard evaluations should be on file for all class 3b and 4 lasers in the lab. SOPs for operation and alignment of lasers are also on file.	N
3	Laser eye protection (LEP) is required when no other control measures are in place. The LEP must take into account the hazards established in the hazard analysis. The LEP must be maintained in satisfactory condition.	N
4	Laser operators have completed training within the past year.	N
5	Entrances to lab are properly posted. Posting should include appropriate signal word, hazard class of the laser, special precautionary instructions before entering the lab, optical density of laser eye protection to be worn while in the lab, and the name and contact number of the Laser Safety Officer.	N
6	Laser equipment must be properly labeled. The label must include the class of the laser or laser system, emitted wavelength, pulse duration (if pulsed), maximum output power and appropriate precautionary statement.	N
7	Class 3b and 4 lasers must meet the control measures listed in the ANSI standards Table 10c. These measures include interlocks, key control, entryway controls.	N
8	Good table management. Optics on the table are either secured or laying down out of the path of the beam. Cables and wires are under control and not laying in the path of the beam. Beam has been confined to the table (where possible). Beam path does not sit at eye level of the workers.	N
9	Non-beam hazards accounted for. Non-beam hazards include electrical hazards, emergency egress, laser generated air contaminants, laser dyes and solvents, and limited work space.	N
10	Supplemental findings:	N