Biological Safety Level 2 (BSL2)

Campus: ________________________________________________________________

Department: ______________________________________________________________

Building: ________________________________________________________________

Room: _________________________________________________________________

Roster Assignments (Email) ______________________________________________

Hazardous Waste Manager: ________________________________________________

Lab Manager: ____________________________________________________________

Principal Investigator: ____________________________________________________

Parent Questions/Child Questions

Access (BioSafety)
1. Is access to laboratory/facility controlled?
   a. Is access to laboratory controlled during experiments?

Acute Toxins
1. Are the labs Acute Toxins (of biological origin) practices compliant?
   a. Is the inventory accurate and arranged in such a way that it is easy to track?
   b. Are inventory entries written in ink?
   c. Is the inventory kept in a secure location (i.e. locked drawer) and is the key under the control of the PI or lab manager?
   d. Is an SDS sheet available for each toxin?
   e. Are the Acute Toxin SOPs completed and reviewed/revised annually?
   f. Is the toxin properly secured?
   g. Are non-essential personnel excluded from the work area when toxins are in use and is the “Toxin in Use” sign posted to warn/exclude personnel not directly involved in the work?
   h. Is the toxin properly inactivated and stored in the designated hazardous waste satellite accumulation area until pickup?
   i. Are Acute Toxins handled either in a BioSafety Cabinet or in a Fume Hood?
   j. Are safe sharps practices in use for manipulating Acute Toxins?

Annual Verification (BioSafety)
1. Is airflow at lab or animal room entrance negative (flowing into lab)?
2. Do windows (that open) have intact screens?

Biomedical Waste (BioSafety)
1. Is Biomedical Waste collection and specimen/agent transport being handled properly?
   a. Are all potentially contaminated waste materials from labs and animal rooms decontaminated before disposal or reuse?
Biomedical Waste, cont’d

b. Are serological pipettes discarded in the biohazard bag in a manner that decreases the risk for puncture of the bag and/or box?

c. Is infectious/potentially infectious waste or recombinant DNA waste that is being generated in the biosafety cabinets discarded into a disinfectable container?

d. Are Biomedical Waste container(s) not overfilled?

e. Are Biomedical Waste box(es) found to be lined with the correct bag?

f. Is biomedical waste awaiting autoclaving placed within a leak-proof secondary container (i.e. not found sitting directly on the floor)?

g. Are Biohazard Waste container(s) containing infectious materials covered?

h. Are clean gloves and other non-contaminated laboratory materials discarded as clean lab ware?

i. Are pipette tips discarded properly (not haphazardly into biomedical waste bags or into regular trash)?

j. Are Biohazardous Waste bags/box free of chemically-contaminated pipet tips and/or gloves?

k. Are biomedical waste bags free of liquid waste?

l. Is Biohazardous Waste generated in the biosafety cabinet (BSC) only being collected inside the BSC (not outside the BSC)?

m. Are biomedical waste bags free of regular trash (wrappers, bottles, etc.)?

n. Are open wire-basket(s) lined with a biohazard bags never used to discard infectious/potentially infectious biowaste?

o. Is potentially infectious material placed in a durable leak proof container during collection, handling, processing, storage, and transport within the facility?

p. Are transport containers surface disinfected with an appropriate disinfectant?

2. Is there a method available in the facility for decontaminating all wastes (i.e., autoclave, chemical disinfection, incineration, or other validated decontamination method)?

3. Are autoclaves used and maintained properly?

   a. Are autoclaves used to inactivate biomedical wastes/sharps containers tested for efficacy on schedule (every 40 hrs.)?

   b. Are stainless steel (recommended) or polypropylene or polycarbonate (not high density polyethylene) pans used to autoclave biowaste?

   c. Are temperature resistant red bags being utilized for autoclaving?

   d. Are autoclave(s) used for sterilization (not disinfection) tested for efficacy (initially and every 6 months)?

4. Is infectious Biomedical Waste / Biological waste and/or rDNA decontamination and waste transport compliant?

   a. Is infectious Biomedical Waste / Biological waste and/or rDNA decontaminated prior to disposal?

   b. Are materials to be decontaminated outside of the immediate laboratory placed in a durable, leak-proof container and secured for transport?

   c. Are waste materials to be removed from the facility packed in accordance with applicable local, state, and federal regulations?

   d. Are waste containers destined for decontamination surface disinfected prior to transport and are they being transported through non-public areas?

Biosafety Training (BioSafety)

1. Do lab personnel receive appropriate training regarding the potential hazards associated with the work involved, special microbial practices and manipulations of infectious agents, the necessary precautions to prevent exposures, and exposure evaluation procedures?

   a. Does the PI/Director ensure employees demonstrate proficiency prior to being allowed to work with infectious agents?
Biosafety Training, cont’d

2. Are records for annual training sessions, and staff attendance at the training sessions in evidence and complete?
   a. If work involves blood or OPIM, is Blood borne Pathogen / Biomedical Waste Training complete for personnel?
   b. Is Biomedical Waste training complete for all personnel?
   c. Are personnel receiving lab/facility-specific training annually and/or when changes in procedures occur?
   d. If the lab staff ships biological materials or Dangerous Goods is training certification for shipping biological materials/dangerous goods current?
   e. Are personnel trained initially and annually in spill handling?

BSC (BioSafety)

1. Are Biosafety Cabinets (BSCs) being used properly?
   a. Are Biosafety cabinet(s) (BSCs) neat (not cluttered with excess supplies)?
   b. Are Bunsen Burners forbidden in BSC(s)?
   c. Is UV light use discouraged in BSC(s)?
   d. Are the front grills of BSC(s) clear (unblocked)?
   e. Are lab doors closed (not propped open) while BSC(s) are in use?

2. Are BSCs located in such a way as to not compromise function?
   a. Is clearance around BCS(s) adequate
   b. Are BSC(s) located away from entrances?
   c. Are BSC(s) located away from HVAC supply?

3. Are BSC(s) certified annually or labeled as ‘not for use with infectious materials’ if not certified?
   a. Do Biosafety Cabinet(s) that are used with infectious materials have current certification(s)
   b. Does Biosafety Cabinet(s) not in use with infectious materials have a ‘not for use with infectious materials’ label?

Chemical Fume Hoods

1. Is storage of items in chemical fume hoods kept to a minimum?
2. Are the fume hood alarms working properly?
3. Are the side panels in place and sealed properly?
4. Is the fume hood velocity within range?
5. Is there sufficient visibility through the fume hood sash?
6. Is the fume hood sash at the proper height and closed if not in use?

Chemical Safety

1. Is an appropriate chemical spill kit available?
2. Are chemicals stored safely?
   a. Are liquid chemicals stored below shoulder height?
   b. Are dry and liquid chemicals kept separate?
   c. Are all containers in good condition, no rusted containers or broken bottles?
   d. Are all containers properly capped with a tight sealing lid?
   e. Are flammable solvents only stored in approved fridges or freezers?
   f. Are liquids stored in secondary containers (not stored directly on the floor)?

3. Are all containers of chemicals properly labeled in the lab?
   a. Are labels legible and easily read (not deteriorating or falling off)?
   b. If the lab is using abbreviations or chemical formulas, do they have an abbreviation sheet posted?
Chemical Safety, cont’d

c. Are all chemicals labeled (no unlabeled containers)?

4. Are chemicals stored by compatibility?
   a. Are organic and inorganic chemicals kept separate?
   b. Are acids and bases segregated?
   c. Are corrosives separated from metals, flammables, and oxidizers?
   d. Are oxidizers separated from metals and flammable chemicals?
   e. Are inorganic acids separated by compatibility?

5. Are proper dating/storage/use/disposal procedures followed for perchloric acid?
6. Are proper dating/storage/use/disposal procedures followed for peroxide forming compounds?

7. Are all transfers of liquid nitrogen done in a well ventilated area?

8. Are lab chemicals in use and within expiration dates (not unused or outdated)?

9. Is use of Chromic acid for cleaning glassware discouraged?

10. Is air quality in the lab acceptable (no particulates or chemical odors)?

11. Are cold rooms being used properly?
   a. Is cold room free of excess clutter and cardboard?
   b. Is the amount of flammables in the cold room kept to a minimum?

Compressed Gases

1. Are gas cylinders securely transported using a hand truck?
2. Are the UF Compressed Gas Rules posted in a prominent location?
3. Are cylinders stored away from heat sources?
4. Is the regulator connection leak tested after installation and before each use?
5. Are cylinders with no regulators capped (even when empty)?
6. Are contents of cylinders clearly labeled?
7. Are hydrostatic tests current (cylinders have not been stored more than 5-10 years)?
8. Are compressed gas cylinders adequately secured (even when empty)?
9. Are gas cylinders stored by compatibility?
10. If the lab has any high hazard gases is there an emergency plan in place?
11. Are highly toxic gasses kept in cabinets vented to the outside (not loose in the open room)?

Controlled Substances

1. Does the PI have a FL Department of Business and Professional Regulations medical exemption letter?
2. If controlled substances are used, is the DEA permit current?
3. Does the lab have an inventory of all in-use controlled substances?
4. Have all employees using controlled substances or novel compounds (neurotrophic or addicting) filled out an Employee Questionnaire?
5. Is the lab completing a biennial(every 2 year) inventory of all controlled substances?
6. Are controlled substances stored in a secure location?
7. Is the lab free of any outdated pharmaceutical products?
8. Are outdated or unwanted DEA substances disposed of appropriately?

Documentation

1. Is the lab’s CHP complete?
   a. Does the lab have a CHP?
   b. Is appendix D filled out and current?
Documentation, cont’d

c. Does the lab have sufficient SOPs?
d. Is the hazard assessment and PPE determination completed?

2. Does the lab have documentation of hazardous waste training for the lab's waste manager?

3. Is the lab's ChemTracker inventory compliant?
   a. Does the lab have an inventory listed in ChemTracker?
   b. Has the inventory been updated in the past 12 months?

4. Does the lab have SDSs for all of their chemicals in the lab?

5. Is the UF Laboratory Safety Manual readily accessible?

6. Is the UF Biological Safety Manual readily accessible?

7. Does the lab have Voluntary Use forms for lab members using N95 type respirators voluntarily and they are being used correctly?

Electrical Safety

1. Is access to circuit breaker panel unobstructed?
2. Are openings on breaker panel, receptacle boxes, etc. sealed?
3. Are Ground Fault Circuit Interrupters (GFCI) used near sinks and wet areas?
4. Is the lab only using extension cords temporarily?
5. Are extension cords manufactured commercially (not shop made)?
6. Are electrical cords undamaged (not frayed)?
7. Is the lab free of electrical hazards?
8. Do extension cords, power strips, and surge protectors have long enough cords (not inter-connected or Daisy Chained)?
9. Are electrical panel covers secure? Are all unused openings in electrical enclosures and fittings appropriately plugged or covered?
10. Are power strips UL listed?
11. Are all electrical cords routed properly (not running through doors, walls or partitions, under rugs/matts, or above drop ceilings)?
12. Are power strips being used only for small electronics?
13. Are all power strips either mechanically affixed or resting on a flat surface?

Emergency

1. Is a fully stocked First-Aid kit compliant?
   a. Is the first aid kit complete and are all contents within their expiration dates (unexpired)?
   b. Is a first aid kit in evidence? (check no if they need a new first aid kit)
   c. Is the first aid kit easily accessible/unobstructed?
2. Is calcium gluconate available where hydrofluoric acid (HF) is stored or handled?
3. Is the overhead emergency shower(s) compliant?
   a. Is overhead emergency shower(s) working properly?
   b. Is overhead emergency shower(s) tested regularly?
   c. Is overhead emergency shower(s) unobstructed?
4. Is the emergency eye wash station(s) compliant?
   a. Is eyewash station working properly?
   b. Is eyewash tested regularly?
   c. Does eyewash station does have dust covers?
   d. Is eyewash unobstructed?
5. Are chemical exposures in the lab being reported appropriately?
Emergency, cont’d

6. Is lab staff trained in the lab’s emergency procedures?

7. Are fire extinguishers compliant?
   a. Is a Fire Extinguisher located near or in the lab?
   b. Have fire extinguishers been checked monthly by Fire Safety?
   c. Is fire extinguisher unobstructed?

Emergency (BioSafety)

1. Are biological spill kits and spill management procedures compliant?
   a. Is a Biological Spill kit available and fully stocked?
   b. Is a biological spill SOP readily available?
   c. Are the spill and incident management procedures posted?
   d. Is the bleach in spill kit unexpired?
   e. Are infectious materials spills reported and evaluated?
   f. Is the biological spill kit kept segregated (in a separate container) from any chemical spill kits?

2. If any exposure incidents occurred, were they properly investigated/reported?

Equipment (BioSafety)

1. Is laboratory equipment clean?
2. Has equipment been decontaminated first before being removed from the lab or repaired?
3. Is use of equipment with sharp edges and corners avoided?
4. Are centrifuge rotors/buckets used for infectious agents sealed? (check for gaskets to be present and not cracked)
5. Is laboratory equipment safely operated and maintained in accordance with manufacturer instructions?
   a. Are vacuum lines protected with liquid disinfectant traps and HEPA filters? Is the HEPA filter changed as needed?
   b. Are continuous flow centrifuges or other equipment that may produce aerosols contained in devices that exhaust air through HEPA filters before discharge into the laboratory?

Facility Design (BioSafety)

1. Is Facility Design compliant? Check NO to reveal initial (commissioning) checklist.
   a. Are Laboratory doors self-closing and lockable?
   b. Is there a hand-washing sink available prior to exit?
   c. Is there a hand washing sink available in each laboratory or animal room?
   d. Is the laboratory floor easily cleanable?
   e. Are cabinets and bench surfaces lab-grade material (impervious to water and resistant to heat, organic solvents, acids, alkalis, and other chemicals)?

Fire Safety

1. Are large metal drums of flammable liquids grounded during transfer and storage?
2. Is no more than 10 gallons of flammable liquids stored in the open (outside of a flammables cabinet or safety can)?
3. Are sprinkler heads clear (i.e. at least 18 inch clearance)?
4. Are vents on flammable storage cabinets sealed?
5. Are flammable liquids stored in approved containers?
Fire Safety, cont’d
6. If the lab has any propane gas, is the quantity less than 2x 1lb cylinders loose in the lab with another 2x 1lb cylinders in a flammables cabinet?
7. Is the lab free of any gasoline and/or any gasoline containers?
8. Are all ceiling tiles in place in the lab?

General Safety
1. Are vacuum pumps (with a belt/pulley) equipped with a belt guard?
2. Are walkways clear of obstructions?
3. Are work surfaces and benches free of clutter to reduce risk of spills and accidents?
4. Is mouth pipetting prohibited; Are mechanical pipetting devices used?
5. Are lab appliances properly labeled?
6. Do all older style vacuum pumps have oil traps inline of their exhaust?
7. Is water conserved as much as possible?
8. Are lab rooms all closed and locked when no personnel are in the lab?
9. Is food consumption or storage, smoking, drinking, handling of contacts, or applying cosmetics prohibited within the laboratory work area?
10. Is there no food for human consumption stored in lab fridges/freezers?
11. Is lab space being utilized safely?
12. Are workspaces un-crowded?
13. Are benches and shelves never overloaded?
14. Are chairs appropriate for laboratory environment?
   a. Are chairs non-porous and cleanable?
   b. Are chairs undamaged?
   c. Do chairs have a 5 star base?

Hazardous Waste
1. Is the current SAA sheet posted?
2. Is the current SAA waste manager listed?
3. Is the Laboratory Hazardous Waste Manager trained?
4. Have all staff completed Hazardous Waste Management Training?
5. Is waste compatible with the container?
6. Are waste containers in good condition?
7. Are waste containers closed?
8. Is waste properly segregated?
9. Is the SAA free of spills and leaks?
10. Are waste containers properly labeled?
11. Is all waste identified (no unknown present)?
12. Is waste being properly disposed of (not poured down sinks)?
13. Is waste stored at or near the point of generation?
14. Is waste under the control of the generator?
15. Are SAA waste totals under the limit?
16. Is all waste being stored in the SAA (not in additional points throughout the lab)?
17. Is the monthly SAA self-audit up to date and available?
Pest Management (BioSafety)

1. Is an effective integrated pest management program in place?

PPE

1. Is PPE (e.g. gloves, safety glasses/goggles, lab coats, thermal protection, etc.) available (stored clean and in good repair) and worn for the activity being conducted?
2. Are full coverage shoes with good sole grips worn in the lab?
3. Is hearing protection worn for high noise areas (e.g. sonicators, grinders)?
4. Has a noise survey been conducted to determine the need for using hearing protection?
5. Are lab personnel are aware that contact lenses should not be worn in the labs, and that if contact lenses are worn they must be accompanied by goggles?
6. Are respirator wearers trained, fit tested and enrolled in the respiratory protection program and/or Biopath as appropriate?
7. Are cryogenic materials handled with the proper PPE?
8. Is PPE removed before leaving the lab?
9. Is lab staff wearing safety glasses or goggles for work that necessitates it?
10. Is laser specific safety glasses or goggles available if the lab is working with lasers?
11. Is the lab using the appropriate gloves for their work (have they consulted the glove compatibility reference chart)?
12. Is required PPE provided and its use enforced?
13. Is PPE stored in a manner to prevent damage or contamination?
14. Are Eye and face protection (goggles, mask, face shield, or other splatter guard) used for anticipated splashes or sprays of infectious or other hazardous materials when the microorganisms must be handled outside the BSC or containment device?
15. Are gloves being used and disposed of properly?
   a. Are gloves being changed when contaminated, integrity has been compromised, or when otherwise necessary?
   b. Are gloves being removed and hands being washed when work with hazardous materials has been completed and before leaving the laboratory?
   c. Are disposable gloves prohibited from being washed or reused?
   d. Are used gloves being disposed of with other contaminated laboratory waste?

PPE (BioSafety)

1. Are protective laboratory coats, gowns, or uniforms worn to prevent contamination of personal clothing and are they removed before leaving for non-laboratory areas (i.e. cafeteria, library, administrative offices)?
2. Is protective clothing disposed of appropriately, or laundered at the institution? Is laboratory clothing prohibited from being taken home?
3. Is eye and face protection compliant?
   a. Based on risk assessment, are eye and face protection (goggles, mask, face shield, or other splatter guard) used for anticipated splashes or sprays of infectious or other hazardous materials when the microorganisms must be handled outside the BSC or containment device? Do persons who wear contact lenses in laboratories also wear eye protection?
   b. Is eye and face protection disposed of with other contaminated laboratory waste or decontaminated before reuse?
   c. Inspector: check No here if you have found a unique non-compliance concerning eye and face protection. Remember that a note must be added that describes the finding.
PPE BioSafety, cont’d

4. Are gloves being used and disposed of properly?
   a. Are gloves worn when handling infectious materials, infected animals, and when handling contaminated equipment?
   b. Are gloves removed in a manner that prevents transfer of infectious materials?

Practices (BioSafety)

1. Are medical surveillance and/or immunizations available as appropriate for lab personnel?
   a. Are records maintained?
2. Are staff aware that immune-suppressed conditions can make them more susceptible to the agents they are working with and do they know they should discuss their conditions with Occupational Health?
3. Are all open manipulations involving infectious materials, procedures with a potential for creating aerosols or splashes, or procedures with high concentrations or large volumes conducted in a Class II or Class III Biological Safety Cabinet?
4. When a procedure or process involving infectious agents cannot be conducted within a BSC, are appropriate combinations of PPE (e.g. respirators, face shields) and physical containment devices (centrifuge safety cups or sealed rotors) then used?
5. Are all project(s) personnel list(s) current?
6. Are non-research animals or plants prohibited in the laboratory?
7. Are sink traps and floor drains filled with water, and/or appropriate disinfectant to prevent migration of vermin and gases?
8. Are personnel washing their hands after removing gloves and before exiting the laboratory?
9. Are soap and paper towels available at wash station?
10. Are procedures performed to minimize the creation of splashes and/or aerosols?
11. Are laboratory equipment and work surfaces decontaminated routinely, after work with infectious materials is finished, and especially after overt spills, splashes, or contamination with infectious materials?
12. Is bleach or an appropriate disinfectant (not ethanol) being used to disinfect surfaces?
13. Is bleach being used properly for disinfection?
   a. Is there sufficient bleach in the BSC aspirator flask?
   b. If aspirator flasks are used over the course of several days, is there adequate chlorine to disinfect the waste?
   c. Is bleach properly diluted and made fresh each day?
   d. Is bleach un-expired?

Roster

1. Is the Lab Safety Manager assigned?
2. Is a Hazardous Waste Manager assigned?

Sharps

1. Are sharps handled and disposed of properly?
   a. Are non-disposable sharps placed in a hard-walled container for transport to a processing area for decontamination, preferably by autoclaving?
   b. Are containers of contaminated needles, sharp equipment, and broken glass decontaminated before disposal, and disposed of according to any local, state, and federal regulations?
   c. Are sharps containers conveniently located to the work being performed?
   d. Are sharps containers not overfilled?
Sharps, cont’d
   e. Are sharps properly segregated (gloves, paper towels or other 'soft' items are never in the sharps containers)?
   f. Are needles not bent, sheared, broken, recapped, removed from disposable syringes, or otherwise manipulated by hand before disposal?
   g. Is broken glassware being handled properly (removed using mechanical means such as a brush and dustpan, tongs, or forcep)? Is plastic ware substituted for glassware whenever possible?
   h. Are safety devices being chosen for sharps being used with infectious material/rDNA?
   i. Are sharps generated in the BSC being collected into sharps containers within (not outside) BSC?

Signs and Postings
   1. Are the Notice Board (NB) with Emergency Call list and hazard warning labels compliant?
      a. Is the Notice Board posted at the lab entrance?
      b. Is the notice board legible? (check no if they need a new NB)
      c. Are the hazard stickers on the NB complete (none need to be added)?
      d. Does the emergency call list have two names with after hours phone numbers?
      e. Does the NB have a current emergency call list? (check no if they need a new ECL sticker)
      f. Does the lab have signage identifying the lasers present in the lab?
      g. If the NB has a privacy ECL, is it updated?
   2. Is warning signage posted to alert entrants what PPE is required?

Signs & Postings (BioSafety)
   1. Is Laboratory (Biosafety) Signage compliant?
      a. Does the sign contain the BIOHAZARD symbol with the appropriate biosafety level written in?
      b. Does all laboratory equipment have the appropriate hazard stickers?
      c. Are people entering the lab advised of hazards present?
      d. Are entry and exit procedures/requirements posted as appropriate?