**BL1/BSL-1/BL1-P SELF - INSPECTION CHECKLIST**

|  |
| --- |
| **Section 1: instructions** |

1. Using the checklist below, inspect your lab and note any deficiencies that need to be addressed (the PI may assign a senior lab member to complete the checklist but the PI must review, date and sign the checklist).
2. Sign and date the completed checklist.
3. Submission:
	1. For new and 3-year renewal protocols: upload the completed self-inspection in Section 5 of the protocol in IBC Protocol Management (<https://secure.research.vt.edu/ibc>).
	2. For annual reviews: upload the completed self-inspection into the annual review page of IBC Protocol Management (<https://secure.research.vt.edu/ibc>).
4. If you have any questions, please contact the IBC administrator at ibc@vt.edu, or 540-231-1910.

|  |
| --- |
| **Section 2: General Laboratory Information** |

|  |  |  |
| --- | --- | --- |
| Lab PI/Contact Person: | Inspection Date: | Inspected By: |
| Lab Location (Bldg/Room #) | Dept: | Phone #: |
| Inspection Type: ( ) Initial ( ) Follow up ( ) Annual ( ) Renewal |
| Type of Agents In Use( ) Recombinant DNA: ( ) Bacteria: ( ) Parasite: ( ) Toxin: ( ) Virus: ( ) Prion: ( ) Fungus: ( ) Plant: ( ) Human or primate cells, tissue, blood or body fluids ( ) Other: |
| **BL1 (Biosafety Level 1 - NIH):** Is suitable for work involving agents of minimal potential hazard to laboratory personnel and the environment. Laboratory personnel have specific training in the procedures conducted in the laboratory and are supervised by a scientist with general training in microbiology or a related science.**BSL-1 (Biosafety Level 1-BMBL):**  Is suitable for working with well-characterized agents/material not known to consistently cause disease in immunocompetent adult humans or pose a minimal risk to lab personnel or the environment. Lab does not have to be separated from general building traffic patterns. Work generally conducted on open bench tops using standard microbiological practices. No requirement for special containment equipment or facility design. Lab personnel are trained in general microbiological procedures/practices.**BL1-P (Biosafety Level 1 Plants - NIH:** moderate level of containment that is designated for experiments which there is convincing biological evidence that precludes the possibility of survival, transfer, or dissemination of recombinant/synthetic nucleic acid (rsNA) into the environment, or in which there is no recognizable and predictable risk to the environment in the event of accidental release is designed to provide a moderate level of containment for experiments |

|  |
| --- |
| **Section 3: Self-Inspection Checklist** |

| ***Reference*** | ***STATEMENT*** | ***YES*** | ***NO*** | ***N/A*** | ***Comments*** |
| --- | --- | --- | --- | --- | --- |
|  | ***Standard Microbiological Practices*** |  |  |  |  |
| *BMBL:A1**NIH:G-II-A-1-a* | * Access doors to the laboratory are controlled. The Principal Investigator (PI) has determined how to limit or restrict access to the lab when work with biological organisms is in progress. It is preferred that lab doors are lockable and that they are locked when no one is in the lab for extended periods. **Please explain how access to the lab is controlled.**
 |  |  |  |  |
| *VT-EHS* | * An Emergency Contact Sign is posted on all access doors and the contact information is current and complete.
 |  |  |  |  |
| *BMBL:A9* | * A hazard warning sign incorporating the universal biohazard symbol is posted on all access doors to the laboratory, where materials involving organisms containing rDNA moleculesor anythingpotentially infectious are used or stored. The sign includes:
* the name and phone number of the PI, laboratory supervisor or other responsible personnel (can be on emergency contact sign)
* The biosafety level
* Required PPE for working with the material
* Any requirements (e.g., medical, escort) for entering the lab)
 |  |  |  |  |
| *VT-EHS* | * No eating, smoking or drinking signs are posted on each access door if there is no building policy is in place.
 |  |  |  |  |
| *BMBL:A2**NIH:G-II-A-1-f* | * Persons wash their hands after working with biological materials and before leaving the laboratory.
* If visitors touch anything in the lab they wash their hands before leaving the lab.
* Hand washing protocols are rigorously followed and enforced.
 |  |  |  |  |
| *BMBL:A3**NIH:G-II-A-1-e* | * Eating, drinking, handling contact lenses, applying cosmetics, and storing food for human consumption is not permitted in the laboratory. Food is stored outside the laboratory in cabinets or refrigerators designated and used only for this purpose.
 |  |  |  |  |
| *BMBL:A4**NIH:G-II-A-1-d* | * Mouth pipetting is prohibited; mechanical pipetting devices are used.
 |  |  |  |  |
| *BMBL:A5* | * Policies for the safe handling of sharps, such as needles, scalpels, razors, glass slides, pipettes, and broken glassware are in place and are enforced. Plastic ware has been substituted for glassware whenever possible. Improved engineering and work practice controls that reduce risk of sharps injuries have been adopted. Precautions, including those listed below, are taken with sharp items. These include:
* Careful management of needles and other sharps are of primary importance. Needles are not bent, sheared, broken, recapped, removed from disposable syringes, or otherwise manipulated by hand before disposal.
* Extreme caution is used when handling needles and syringes to avoid autoinoculation and the generation of aerosols during use and disposal.
* Hypodermic needles and syringes are used only for parenteral injection and aspiration of fluids from laboratory animals and diaphragm bottles.
* Only needle-locking syringes or disposable syringe-needle units (i.e., needle is integral to the syringe) are used.
* Used disposable needles and syringes and other sharps are promptly and carefully placed in conveniently located puncture-resistant containers used for sharps collection.
* Puncture –resistant sharps containers are decontaminated prior to being disposed of through the [Regulated Medical Waste](http://www.ehss.vt.edu/programs/waste_regulated_medical.php) (RMW) program. **Indicate the decontamination process** **used**.
* Non-disposable sharps are placed in a hard walled container for transport to a processing area for decontamination. **Indicate the decontamination process** **used.**
* Broken glassware is not handled directly. It is removed using a brush and dustpan, tongs, or forceps.
 |  |  |  |  |
| *BMBL:A6**NIH:G-II-A-1-g* | * All procedures are performed carefully to minimize the creation of splashes and/or aerosols.
 |  |  |  |  |
| *BMBL:A7**NIH:G-II-A-1-b* | * Work surfaces are decontaminated with appropriate disinfectant after completion of work and after any spill or splash involving biological materials.
 |  |  |  |  |
| *BMBL:A8**NIH:G-II-A-1-c* | * All cultures, stocks, and materials involving biological organisms or rsNA materials are decontaminated, using an effective method, before disposal. Autoclaving is the preferred method for decontamination. **Indicate the decontamination process** **used and if applicable where the autoclave is located.**
* All [Biological Waste Procedures](http://www.ehss.vt.edu/detail_pages/document_details.php?categories_document_categ1Page=2&document_id=200) are followed.
* Materials to be decontaminated outside of the immediate laboratory are placed in a durable, leak proof container which is secured and disinfected on the outside for transport.
* Materials to be removed from the facility for decontamination are placed in a primary leak proof container which is disinfected on the outside and then placed within a durable, leak proof secondary container. The outside of the secondary container is disinfected and secured for transport. A biohazard symbol is on the primary container.
 |  |  |  |  |
| *VT-EHS* | * Before being removed from the laboratory, biological materials are placed in a durable leak-proof container which is closed and disinfected on the outside. and disinfected on the outsdie al and agree to follow all procedures
* If biological materials are being removed from the building they are placed in a primary leak proof container which is disinfected on the outside and then placed within a durable, leak proof secondary container. The outside of the secondary container is disinfected and secured for transport. A biohazard symbol is on the primary container.
 |  |  |  |  |
| *VT-EHS* | * A current and accurate list of biological organisms and toxins is available on the inside of the lab access door or in the lab specific biosafety manual.
 |  |  |  |  |
| *BMBL:A10* | * A written effective integrated pest management program is in place (Sect. 17 of the lab-specific biosafety manual).
 |  |  |  |  |
| *BMBL:A11* | * All personnel directly or indirectly involved in experiments using potentially infectious, infectious, or rsNA material receive adequate instruction before working in the lab. At a minimum these instructions include:
* Biosafety for Research Labs training
* Information on the practices, procedures, techniques and duties required to ensure safety
* training in aseptic techniques
* training in the biology of the organisms used in the experiments so that the potential biohazards can be understood and appreciated
* training on all other hazards in the lab
* training on the proper use of personal protective equipment (PPE)
* training on the emergency plan that describes the procedures to be followed if an accident contaminates personnel or the environment
* information of the reasons and provisions for any precautionary medical surveillance/practices
* NIH Guidelines training for anyone handling rsNA material/organisms (see [IBC website](https://www.research.vt.edu/ibc/review-approval-training.html))
* Personnel receive annual updates and additional training when procedural or policy changes occur.

Documentation of all training is maintained for a minimum of three years after the date of training. |  |  |  |  |
| *VT-EHS* | * All persons entering the lab are advised of the potential hazards and meet specific entry/exit requirements
 |  |  |  |  |
| *NIH: Appx.G1* | * An emergency plan that describes the procedures to be followed if an accident contaminates personnel or the environment is available and accessible. Everyone in the laboratory is familiar with both the potential hazards of the work and the emergency plan.
 |  |  |  |  |
| *VT-EHS* | * Lab specific Chemical Hygiene Plan and MSDS’s are available
 |  |  |  |  |
| *VT-EHS* | * All chemicals and disinfectants are properly labeled
 |  |  |  |  |
| *VT-EHS* | * Spill and emergency procedures are posted.
 |  |  |  |  |
|  | ***Special Practices*** |  |  |  |  |
| *BMBL:A11* | * Personnel monitor their health status daily
* Personal health status may impact an individual’s susceptibility to infection, ability to receive immunizations or prophylactic interventions. Therefore, all laboratory personnel and particularly women of childbearing age are provided with information regarding immune competence and conditions that may predispose them to infection. Individuals having these conditions are encouraged to self-identify to the institution’s healthcare provider for appropriate counseling and guidance.
 |  |  |  |  |
| *VT-EHS* | * A Lab-Specific Biosafety manual is available and has been adopted as policy. The biosafety manual is available and accessible to all personnel. Personnel are advised of special hazards and are required to read and follow instructions on practices and procedures**.**
 |  |  |  |  |
| *VT-EHS* | * Laboratory personnel have demonstrated proficiency in standard and special microbiological practices before working with biological material. This proficiency is documented.
 |  |  |  |  |
| *VT-EHS* | * Laboratory equipment used in the manipulation of materials involving biological organisms is routinely decontaminated with an effective disinfectant.
* Equipment is decontaminated after spills, splashes, or other potential contamination and before repair, maintenance, or removal from the laboratory.
 |  |  |  |  |
| *VT-EHS* | * Spills, accidents or incidents which result in exposures to biological organisms are immediatelyevaluated and treated according to procedures described in the laboratory biosafety manual/emergency plan. These events arereported to the Institutional Biosafety Officer or Committee at the earliest possible moment. Medical evaluation, surveillance, and treatment are provided as appropriate and written records are maintained.
* Spills involving biological materials are contained, decontaminated, and cleaned up by staff properly trained and equipped to work with the material.
 |  |  |  |  |
| *VT-EHS* | * Animal and plants not associated with the work being performed are not permitted in the laboratory.
 |  |  |  |  |
|  | ***Safety Equipment*** |  |  |  |  |
| BMBL:C2NIH:G-II-A-1-h | * Protective laboratory coats, gowns, or uniforms are worn, when working with biological materials and toxins, to prevent contamination of personal clothing.
* Protective clothing is removed and left in the lab before leaving for non-laboratory areas, e.g., cafeteria, library, and administrative offices. All university, departmental and building policies are followed.
* Disposable protective clothing is disposed of with other contaminated lab waste.
* Laboratory clothing is not taken home.
* Reusable clothing is decontaminated, either with an appropriate disinfectant or by autoclaving, before being laundered by the institution.
 |  |  |  |  |
| BMBL:C3NIH:G-II-A-1-h | * Eye and face protection (goggles, mask, face shield or other splatter guard) is used for anticipated splashes or sprays when working with materials when the materials are handled outside the BSC or containment device.
* Eye and face protection is disposed of with other contaminated laboratory waste or decontaminated before reuse.
* Persons who wear contact lenses in laboratories are encouraged to wear eye protection.
 |  |  |  |  |
| BMBL:C4NIH:G-II-A-1-h | * Gloves are worn to protect hands from potential exposure to materials. Glove selection is based on an appropriate risk assessment. Alternatives to latex gloves are available.
* In addition, workers:
1. Change gloves when contaminated, glove integrity is compromised, or when otherwise necessary
2. Remove gloves and wash hands when work with hazardous materials has been completed and before leaving the laboratory.
* Do not wash or reuse disposable gloves. Dispose of used gloves with other contaminated laboratory waste.
 |  |  |  |  |
| *VT-EHS* | * Biohazard labels are on all equipment or items that could be contaminated. (i.e., anything used to store or manipulate biological material)
 |  |  |  |  |
| *VT-EHS* | * Spill equipment is available.
 |  |  |  |  |
|  | ***Laboratory Facilities*** |  |  |  |  |
| BMBL:D1 | * The lab has doors with locks for access control. Self closing doors are recommended.
 |  |  |  |  |
| BMBL:D2NIH:G-II-A-4-d | * The lab has a sink for hand washing. It should be located near the exit door
 |  |  |  |  |
| BMBL:D3NIH:G-II-A-4-a | * The laboratory is designed so that it can be easily cleaned. There are no carpets and rugs in lab.
 |  |  |  |  |
| BMBL:D4NIH:G-II-A-4-bNIH:G-II-A-4-c | * Spaces between benches, cabinets, and equipment are accessible for cleaning.
* Bench tops are impervious to water and resistant to heat, organic solvents, acids, alkalis, and other chemicals*.*
* Chairs are covered with a non-porous material that can be easily cleaned and decontaminated with appropriate disinfectant.
 |  |  |  |  |
| BMBL:D5NIH:G-II-A-4-e | * Laboratory windows that open to the exterior are fitted with screens.
 |  |  |  |  |
| *VT-EHS* | * An eyewash station is readily available within 50 ft. and 10 unobstructed seconds of any work area.
 |  |  |  |  |
| *VT-EHS* | * A method for decontaminating all laboratory wastes is available in the facility (e.g., autoclave, chemical disinfection, incineration, or other validated decontamination method).
* Autoclave has been verified as per the Autoclave Use and Verification Program
 |  |  |  |  |
|  |  |  |  |  |  |
|  | ***Greenhouse Facilities: BL1-P*** |  |  |  |  |
| *App P-I-A**App P-I-E* | The principal purpose of plant containment is to avoid the unintentional transmission of a recombinant/synthetic nucleic acid (rsNA)-containing plant genome, including nuclear or organelle hereditary material, or release of rsNA-derived organisms associated with plants.These containment practices include the use of plant tissue culture rooms, growth chambers within laboratory facilities, or experiments performed on open benches.  |  |  |  |  |
| *App P-II-A-2-a* | * The term "greenhouse" refers to a structure with walls, a roof, and a floor designed and used principally for growing plants in a controlled and protected environment. The walls and roof are usually constructed of transparent or translucent material to allow passage of sunlight for plant growth.
 |  |  |  |  |
| *App P-II-A-2-a* | * The term "greenhouse facility" includes the actual greenhouse rooms or compartments for growing plants, including all immediately contiguous hallways and head-house areas, and is considered part of the confinement area.
 |  |  |  |  |
| *App P-II-A-2-b* | * The greenhouse floor may be composed of gravel or other porous material. At a minimum, impervious (e.g., concrete) walkways are recommended.
 |  |  |  |  |
| *App P-II-A-2-b* | * Windows and other openings in the walls and roof of the greenhouse facility may be open for ventilation as needed for proper operation and do not require any special barrier to contain or exclude pollen, microorganisms, or small flying animals (e.g., arthropods and birds); however, screens are recommended.
 |  |  |  |  |
| *App P-II-A-1-a* | * Access to the greenhouse shall be limited or restricted, at the discretion of the Greenhouse Director, when experiments are in progress.
 |  |  |  |  |
| *App P-II-A-1-a* | * Prior to entering the greenhouse, personnel are required to read and follow instructions on BL1-P greenhouse practices and procedures. All procedures are performed in accordance with accepted greenhouse practices that are appropriate to the experimental organism.
 |  |  |  |  |
| *App P-II-A-1-b* | * A record is kept of experiments currently in progress in the greenhouse facility.
 |  |  |  |  |
| *App P-II-A-1-c* | * Experimental organisms are rendered biologically inactive by appropriate methods before disposal outside of the greenhouse facility. **Please describe the** **inactivation procedure.**
 |  |  |  |  |
| *App P-II-A-1-d* | * A program has been implemented to control undesired species (e.g., weed, rodent, or arthropod pests and pathogens), by methods appropriate to the organisms and in accordance with applicable state and Federal laws.
 |  |  |  |  |
| *App P-II-A-1-d* | * Arthropods and other motile macroorganisms are housed in appropriate cages. If macroorganisms (e.g., flying arthropods or nematodes) are released within the greenhouse, precautions are taken to minimize escape from the greenhouse facility.
 |  |  |  |  |
| *App P-II-A-1-e* | * Experiments involving other organisms that require a containment level lower than BL1-P may be conducted in the greenhouse concurrently with experiments that require BL1-P containment. Under these circumstances all work is conducted in accordance with BL1-P greenhouse practices.
 |  |  |  |  |

**By typing your name *below,* you agree *that this is valid as your signature***

|  |
| --- |
| *Electronic signature:*  |
| *Date:*  |