



## STANDARD OPERATING PROCEDURE

<b>SOP NUMBER</b> <b>FSN-002-01</b>	<b>SOP TITLE</b> <b>GOOD MANAGEMENT PRACTICE FOR A BIOSAFETY LEVEL 2 LABORATORY</b>
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*PART 1*

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*PART 4 (To be filled in by OOS, QSU or RSSD)*

<input type="checkbox"/> This procedure has been revised and is no longer valid as from:  <div style="text-align: right;">(Write date)</div>	<input type="checkbox"/> Date of NEXT REVISION is extended until:  <div style="text-align: right;">(Max. 4 years)</div>	<input type="checkbox"/> SOP rendered obsolete on:  <div style="text-align: right;">(Write date)</div>
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**1. REASON FOR REVISION**

1.1 Not applicable. New SOP

**2. PURPOSE AND SCOPE**

2.1 The purpose of this procedure is to implement basic concepts in biological safety and to develop a code of practice for the safe handling of pathogenic microorganisms in laboratories designated for Biosafety Level 2 (BSL2) containment.

2.2 Within the scope of application for this procedure are all persons working in BSL2 labs including new personnel, research investigators, Head of Lab or delegate in the day to day management of such labs.

**3. DEFINITIONS**

3.1 **BSL2:** Biosafety Level 2

3.2 **HSO:** Health and Safety Officer

3.3 **RI:** Research Investigator

3.4 **BSC:** Biosafety Cabinet

**4. RESPONSIBILITIES**

**4.1 Role and Responsibilities of the HEAD OF LABORATORY**

The Head of Laboratory will develop and adopt a biosafety management plan and oversee the day to day management of the laboratory with the scope of ensuring that all safety policies are properly implemented at all times.

Other duties include:

- Induction and authorization of new personnel to ensure that these have a sufficient level of proficiency prior to working in a BSL2 laboratory environment.
- Provision of screening facilities and medical evaluation to laboratory personnel if deemed necessary and in cases of increased biohazard exposure to viral and highly contagious pathogens.
- Reporting of any major hazardous spillages and related incidents to the Health and Safety officer for proper evaluation and follow up.
- Ensuring that the contact details of a person are always available in case of any incidents or emergency situations arising both during and after working hours.

#### **4.2 Role and Responsibilities of the RESPONSIBLE PERSON**

- The person occupying this role will assist the department with the smooth running of the lab on a daily basis.
- He / she will also be primarily responsible to assist all personnel working within the lab to ensure the proper disposal of any waste chemicals generated.

#### **4.3 Role and Responsibilities of HEALTH & SAFETY OFFICER**

The primary role of the HSO is to provide tangible support to all personnel and ensure a safe working environment at all times. Other roles in this capacity include:

- Evaluation of any spillage incidents or exposure to contaminants that have been reported with concomitant follow-up for effective treatment if necessary.
- Risk assessments, if deemed necessary, of both the facility (lab design) and work practices for health and safety provisions. It will also be the responsibility of the HSO to support any risk assessment reports with recommendations to address any findings.

#### **4.4 Role and Responsibilities of LABORATORY PERSONNEL**

- All persons working in the lab will need to complete an induction training course before engaging in any work inside the lab.
- It will also be the responsibility of all laboratory personnel to ensure that they are knowledgeable and abide to all operating and safety procedures as defined in the relative Standard Operating Procedures and BioSafety Manual.

### **5 HEALTH AND SAFETY REQUIREMENTS**

- 5.1** The prime responsibility when working in a Biosafety Level 2 Laboratory lies in the implementation and compliance to a strict safety program, the aim of which should be to protect those working in the laboratory, others who may be exposed to hazards from the laboratory, and the environment. Hazardous materials should be handled and disposed of in such a way that people, other living organisms, and the environment are protected from harm.

### **6. PROCEDURE**

#### **6.1 Good Laboratory Practice**

- 6.1.1** All personnel working in the lab are to adhere strictly to the standard code of Good Laboratory Practices as defined in Appendix 1. This document, which defines a set of rules intended to ensure the basic safety procedures are followed at all times, needs to be read, understood and signed by each new person prior to engagement of work in the same lab.

- 6.1.2 Personnel must wash their hands after handling viable materials, after removing gloves aseptically and before leaving the laboratory. Ideally a hand dispenser containing a sanitizing disinfecting agent is to be provided and used each time hands are washed.
- 6.1.3 Written documents that are expected to be removed from the laboratory need to be protected from contamination while in the laboratory.
- 6.1.4 Only authorized persons should be allowed to enter the laboratory working areas. Anyone entering the lab is advised of the potential hazards and needs to comply with the specific entry/exit requirements.
- 6.1.5 Eating, drinking, smoking, handling contact lenses, applying cosmetics, and storing food for human consumption is prohibited in laboratory areas. Food is stored outside the laboratory area in cabinets or refrigerators designated and used for this purpose only.
- 6.1.6 Mouth pipetting is strictly prohibited; mechanical pipetting devices are to be used.
- 6.1.7 Materials must not be placed in the mouth. Labels must not be licked.
- 6.1.8 All procedures are performed to minimize as much as possible the creation of splashes and/or aerosols.
- 6.1.9 Work surfaces are decontaminated after completion of work and after any spill or splash of viable material (i.e. potentially infectious, contaminated with rDNA) with appropriate disinfectant. **Iso-propyl alcohol 70%** is the preferred disinfectant of choice for general use in such cases. Other specific agents can also be additionally applied depending on the nature of contamination risk (ex: sodium hypochlorite or hydrogen peroxide for moulds).
- 6.1.10. All cultures, stocks, and other regulated wastes (including rDNA) are decontaminated before disposal using an effective method - ideally through autoclaving. Materials to be decontaminated outside of the immediate laboratory are placed in a durable, leak-proof containers and secured for transport.
- 6.1.11 Materials to be removed from the lab for decontamination outside the facility are to be packed in sealed bags and placed in closed transport boxes purposely designed for the job and in accordance with applicable local regulations.
- 6.1.12 New lab personnel are to receive appropriate training regarding their duties, the necessary precautions to prevent exposures, and exposure evaluation procedures. Annual updates or additional training will also be provided in the event there are changes to the current procedures or policies in place.

- 6.1.13 Personnel with medical conditions that may make them more susceptible to infection (i.e. pregnancy, immune-suppressed) are to disclose this in private with their superiors and Head of the Lab to discuss their work prior to engagement and their induction training.
- 6.1.14 Potential infectious material is placed in a durable, leak-proof container during collection, handling, processing, storage, or transport within the facility.
- 6.1.15 Lab equipment is routinely decontaminated, as well as, after spills, splashes, or other potential contamination.
- 6.1.16 Animals and plants not associated with the work being performed are prohibited from the laboratory.

## **6.2 Laboratory management and design**

- 6.2.1 The international biohazard warning sign must be affixed on the doors or at the entrance of the rooms where micro-organisms of Risk Group 2 or higher risk groups are handled. Appropriate information to be displayed should include:
  - the biosafety level Class 2
  - the Research Investigator's name and telephone number
  - the name and telephone number of an additional contact person
  - procedures for entering and exiting the laboratory
- 6.2.2 Ample space must be provided for the safe conduct of laboratory work and for cleaning and maintenance.
- 6.2.3 Walls, ceilings and floors should be smooth, easy to clean, impermeable to liquids and resistant to the chemicals and disinfectants normally used in the laboratory.
- 6.2.4 Floors should be slip-resistant.
- 6.2.5 Illumination should be adequate for all activities. Undesirable reflections and glare should be avoided.
- 6.2.6 Space and facilities should be provided for the safe handling and storage of solvents, compressed and liquefied gases (as applicable).
- 6.2.7 Outer garments and personal items should not be kept inside the laboratory but in designated areas or offices outside the laboratory working areas.
- 6.2.8 Facilities for eating and drinking and for rest should be provided outside the laboratory working areas.

- 6.2.9 At Biosafety Level 2, an autoclave or other means of decontamination should be available in appropriate proximity to the laboratory.
- 6.2.10 Safety systems should cover fire alternative exit routes, emergency showers in the vicinity, eyewash facilities and a suitably equipped and readily accessible First Aid boxes.
- 6.2.11 A dependable supply of good quality water is essential. There should be no cross-connections between sources of laboratory and drinking-water supplies.
- 6.2.12 There should be a reliable and adequate supply of gas. Good maintenance of the installation is mandatory.
- 6.2.13 An effective integrated pest management program against rodents and insects is in place. Records of any finding by the contracted party should be available upon request.
- 6.2.14 Laboratory doors should have a vision panel, be self-closing and have locks.
- 6.2.15 The laboratory has a sink for hand washing ideally equipped with a hand disinfecting sanitizer.
- 6.2.16 The laboratory is designed so that it can be easily cleaned. Carpets and rugs are not permitted.
- 6.2.17 The laboratory should be kept neat, clean and free of materials that are not pertinent to the work.
- 6.2.18 Laboratory furniture must be capable of supporting anticipated loads and uses. 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. Work surfaces must be decontaminated after any spill of potentially dangerous material and at the end of the working day.
  - Chairs used in laboratory work are covered with a non-porous material that can be easily cleaned and decontaminated with appropriate disinfectant. No fabric chairs are allowed in labs.
- 6.2.19 Any windows in the laboratory that open to the exterior need to be sealed and preferably kept closed during work operation. When windows can be opened, these should be fitted with tight fitting insect screens.
- 6.2.20 The laboratory must always be working at a negative pressure relative to the immediate external corridor to ensure that air does not flow back out from the room.

- 6.2.21 Biological Safety Cabinets are:
- to be installed so that fluctuations of the room air supply and exhaust do not interfere with their proper operation.
  - located away from doors, windows that can be opened, from heavily travelled laboratory areas, and other possible airflow disruptions.
  - tested and certified annually and operated according to manufacturer's recommendations.
- 6.2.22 An eyewash station or disposable eyewash irrigation bottles must be readily available and within easy reach.
- 6.2.23 Any plans for new facilities need to have provisions in place to ensure that mechanical ventilation systems provide an inward flow of air without recirculation to spaces outside of the laboratory.
- 6.2.24 A method for decontaminating all waste is available in the facility (eg: autoclave, chemical disinfection or incineration). An operating manual for the proper implementation of the decontamination process needs to be available and readily accessible.

### **6.3 Special Laboratory Practices**

- 6.3.1 In cases when viral agents are going to be handled the following points are implemented:
- Lab personnel are provided medical surveillance, as appropriate, and offered available immunizations for agents handled or potentially present in the lab.
  - Depending on the agents handled in the lab and their pathogenicity, baseline serum samples from at-risk personnel are collected and stored.
- 6.3.2 The Head of Laboratory must ensure that personnel demonstrate proficiency in standard and special microbiological practices before working with BSL-2 agents. A checklist designed for this purpose needs to be completed (Appendix 2) and signed as proof of authorisation during on-boarding of new laboratory personnel.
- 6.3.3 All spills, accidents and overt or potential exposures to infectious materials must be reported to the laboratory director/ supervisor. A written record of such accidents and incidents should be maintained and also sent to the Health and Safety Officer for further evaluation and follow up as necessary.



- Spills involving infectious materials are contained, decontaminated, and cleaned up by personnel properly trained and equipped to work with infectious material.
- A written procedure for the clean-up of all spills must be developed and followed.
- Contaminated liquids must be decontaminated (chemically or physically) before disposal.

6.3.4 Equipment is always to be decontaminated before repair, maintenance, or removal from the lab.

6.3.5 Incidents that result in exposure to infectious materials and/or organisms containing rDNA are immediately evaluated and referred to for medical evaluation. All incidents are reported to the Head of Lab/PI and the Health and Safety Officer.

6.3.6 If applicable, training certification for shipping biological materials/dangerous goods is to be provided which must be renewed every 2 years.

#### **6.4 Safety and Personal Protective Equipment**

6.4.1 Properly maintained biosafety cabinets (BSCs), preferably Class II, appropriate personal protective equipment, or other physical containment devices are used whenever procedures with a potential for creating infectious aerosols or splashes are conducted and whenever high concentrations or large volumes of infectious agents are used.

These may include pipetting, centrifuging, grinding, blending, shaking, mixing, sonicating, opening containers of infectious materials, inoculating animals intra-nasally, and harvesting infected tissues from animals or eggs.

6.4.2 When infectious materials are centrifuged in the open laboratory, sealed rotor heads or centrifuge safety cups are used.

6.4.3 Protective laboratory coats, gowns, or uniforms are worn at all times while working in the laboratory and are to be strictly removed before leaving for non-laboratory areas (e.g: canteens, offices, staff rooms, toilets).

6.4.4 Protective clothing is disposed of appropriately, or laundered by the institution. Laboratory clothing is not to be taken home unless sterilized by autoclaving before being taken out of the lab.

6.4.5 Eye and face protection (goggles, mask, face shield, or other splatter guard) is used for anticipated splashes or sprays of infectious or other hazardous materials when the microorganisms must be handled outside the BSC or

containment device. Persons who wear contact lenses in laboratories are also to wear eye protection.

6.4.6 Eye and face protection is disposed of with other contaminated laboratory waste or decontaminated before reuse.

6.4.7 Gloves are worn to protect hands from exposure to hazardous materials. Alternatives to latex gloves should also be made available upon request.

- Gloves are changed when contaminated, integrity has been compromised, or when otherwise necessary.
- Gloves are to be removed and hands are washed when work with hazardous materials has been completed and before leaving the laboratory. Ideally a suitable hand disinfectant is to be also applied after each wash.
- Used disposable gloves are not to be washed or reused but are to be disposed of with other contaminated laboratory waste.

6.4.8 Eye, face, and respiratory protection are used in rooms containing infected animals as determined by a pre- risk assessment.

6.4.9 A biological spill kit and spill management procedures are to be readily available in the lab.

## 6.5 Waste Handling

Waste is anything that is to be discarded.

In laboratories, decontamination of wastes and their ultimate disposal are closely interrelated. In terms of daily use, a few materials will require actual removal from the laboratory, decontamination or destruction whilst most glassware and instruments will be reused or recycled.

### Decontamination

Steam autoclaving is the preferred method for all decontamination processes. Materials for decontamination and disposal should be placed in containers, e.g. autoclavable plastic bags that are colour-coded according to whether the contents are to be autoclaved and/or incinerated. Alternative methods such as chemical decontamination may be envisaged only if they remove and/or kill microorganisms.

### Handling and disposal procedures for contaminated materials and wastes

An identification and separation system for infectious materials and their containers should be adopted. National and international regulations must be followed. Categories should include:

- (i) Non-contaminated (non-hazardous) waste that can be reused or recycled or disposed of as general, "household" waste.
- (ii) Contaminated (infectious) "sharps" – hypodermic needles, scalpels, knives, broken glass; these should always be collected in puncture-proof containers fitted with covers and treated as infectious.
- (iii) Contaminated material for decontamination by autoclaving and thereafter washing and reuse or recycling.
- (iv) Contaminated material for autoclaving and disposal.
- (v) Contaminated material for direct incineration.

#### 6.5.1 Contaminated sharps

The use of hypodermic needles and syringes should be limited. They must not be used as substitutes for pipetting devices or for any purpose other than parenteral injection or aspiration of fluids from specimen. Sharps, such as needles, scalpels, pipettes, and broken glassware have to be disposed of in an appropriate manner as follows:

- Needles are not to be bent, sheared, broken, recapped, removed from disposable syringes, or otherwise manipulated by hand before disposal.
- Used disposable needles are placed in conveniently located puncture-resistant containers used for sharps disposal and suitably labelled. Containers are not to be filled to capacity. When they are three-quarters full they should be placed in "infectious waste" containers and incinerated or taken specific landfill site facilities purposely licensed for this scope.
- Non-disposable sharps are placed in a hard-walled puncture-proof containers for transport to a processing area for decontamination, preferably by autoclaving.
- Only needle-locking syringes or disposable syringe-needle units (i.e. needle is integral to syringe) are used for injection or aspiration of fluids containing potentially infectious material/rDNA molecules.
- Broken glassware is not handled directly. It is removed using mechanical means such as a brush and dustpan, tongs, or forceps and placed in the container specifically intended for this. Plastic ware is substituted for glassware whenever possible.

### 6.5.2 **Contaminated (potentially infectious) materials for autoclaving and reuse**

No pre-cleaning should be attempted of any contaminated (potentially infectious) materials to be autoclaved and reused. Any necessary cleaning or repair must be done only after autoclaving or disinfection.

### 6.5.3 **Contaminated (potentially infectious) materials for disposal**

- Apart from sharps, which are dealt with above, all contaminated (potentially infectious) materials should be autoclaved in leak-proof containers, e.g. autoclavable, colour-coded plastic bags, before disposal.
- After autoclaving, the material may be placed in transfer containers for transport to the incinerator. If an incinerator is available in the vicinity of the laboratory site, autoclaving may be omitted: the contaminated waste can be placed in designated containers (e.g. colour-coded bags) and transported directly to the incinerator.
- Reusable transfer containers should be leak proof and have tight-fitting covers. They should be disinfected and cleaned before they are returned to the laboratory for further use.
- When disinfectants are used, waste materials should remain in intimate contact with the disinfectant (i.e. not protected by air bubbles) for the appropriate time, according to the disinfectant used. The discard containers should be decontaminated and washed before reuse.

## 7. **REFERENCES**

- 7.1 Laboratory Biosafety Manual; 3<sup>rd</sup> Ed. World Health Organization - Geneva 2004.  
ISBN 92 4 154650 6 (LC/NLM classification QY25) WHO/CDS/CSR/LYO/2004.11

## 8. **LIST OF APPENDICES/WORKSHEETS**

- 8.1 Appendix 1: Good Laboratory Practices - Induction to Laboratory Rules  
8.2 Appendix 2: Competence and proficiency check list



## Appendix 1

### Good Laboratory Practices - Induction to laboratory rules

All personnel and students must **read, understand** and **agree** to the information in this document with regards to laboratory safety prior to the first laboratory session. Previous experience in the laboratory is considered a must!

#### 1. General Laboratory rules

- Conduct yourself in a responsible manner at all times in the laboratory.
- Be alert and proceed with caution at all times in the laboratory. Notify the supervisor or whoever is responsible for your work (research or laboratory officer) immediately of any unsafe conditions you observe.
- Always make sure that necessary permission has been granted from the Head of Laboratory and that the lab officer has been informed prior to working in the lab.
- Keep good housekeeping practices. Work areas should be kept **clean and tidy at all times**.
- Know the locations and operating procedures of all safety equipment including: first aid kit(s), and fire extinguisher. Know where the fire alarm and the exits are located.
- Windows and doors have to be kept **closed at all times**.
- **DO NOT EAT, DRINK, SMOKE, HANDLE CONTACT LENSES, APPLY COSMETICS OR STORE FOOD AND BEVERAGES FOR HUMAN CONSUMPTION IN THE LABORATORY.**

#### 2. Cleaning and general hygiene

- The work space and equipment has to be cleaned and disinfected **after finishing work and at the end of the day**.
- Keep hands away from face, eyes, mouth, and body while working in the lab. Wash your hands thoroughly with soap and water followed by an application.

### 3. Clothing and general appearance

- It is obligatory to wear a **lab coat** inside the lab at all times.
- The lab coat should not be worn outside the lab.
- Lab coats should be kept clean and **hung behind the doors** (in the microbiology lab) when not in use.
- Long hair, dangling jewellery and baggy clothing are a hazard in the laboratory. Hair must be tied back, dangling jewellery and baggy clothing must be secured. Shoes must **completely cover the foot. NO SANDALS OR OPEN FOOTWEAR ARE ALLOWED.**

### 4. Handling equipment

- Follow all written and verbal instructions carefully. If you do not understand a direction or part of a procedure, **ASK YOUR SUPERVISOR BEFORE PROCEEDING WITH THE ACTIVITY.**
- Perform only those experiments authorized by your supervisor. Carefully follow all instructions, both written and oral. Unauthorized experiments are not allowed.
- Be prepared for your work in the laboratory. Read all procedures related to your experiments thoroughly before starting.
- Experiments must be personally monitored at all times. Do not leave on-going experiments unattended (ex. Bunsen burner or media on the hot plate without supervision).
- Students have to register their daily activities **in a logbook.**
- It is not allowed to pipette anything with the mouth; mechanical syringe pipettes are to be used.
- Labels and equipment instructions must be read carefully before use. Set up and use the equipment as directed by your supervisor.

### 5. Chemical Safety

- Treat every chemical as if it is hazardous.
- Make sure that all chemicals and solutions are labelled with the substance name, concentration, date and name of the individual responsible.
- Never return chemicals to reagent bottles (try for the correct amount and share excess). All chemical waste needs to be decanted in waste bottles/containers intended for the purpose according to their categories. Ask the Responsible Person if further clarification is needed regarding chemical waste disposal.

- Comply with fire regulations concerning storage quantities, type of approved containers and cabinets, proper labelling etc. If uncertain about regulations, contact the lab Responsible Person.
- Use volatile and flammable compounds only in a fume hood. Procedures that produce aerosols should be performed in a hood to prevent inhalation of hazardous material.
- Never allow a solvent to come in contact with your skin. ALWAYS USE GLOVES.
- Clean up spills immediately as indicated in the standard operating procedure and ensure that the laboratory director is immediately notified.

## 6. Biological Waste Procedure

- Biological waste must ALWAYS be disposed in autoclavable bags situated under the media autoclave or under the sink in the microbiology preparation room and placed next to the waste autoclave. NEVER throw biological waste in the bins intended for general uncontaminated waste.
- The biological waste produced during an experiment (petri dishes, plastic tubes, pipette tips, micro-titer plates, stomacher bags etc.) can be disposed of in the small biological waste bags located on the lab table. These bags have to be replaced with new ones when you finish your work for the day. The filled bags must be disposed in the big waste bags intended for autoclave.
- Waste must be cleared and disposed of in a timely manner as defined in the standard operating procedure.
- Contaminated plastic waste and contaminated glass ware must be placed in separate autoclave bags prior to decontamination.
- Contaminated liquids (not chemicals!) from glass ware can be disposed to the sink only after autoclaving. All glass ware must be rinsed with tap water and placed in the dishwasher.
- Autoclaved plastic waste can be disposed in the yellow bag under the bench in the microbiology preparation room.

## 7. Handling broken (contaminated) glassware

- Never handle broken glass with bare hands. Use a brush to clean up if the cleaner is not available. Place broken glass in disposal container specific for glass.
- In case of spillages of contaminated waste, special care should be taken. Broken glass and paper towels used for the cleaning of the spillage should be collected in an autoclave able bag and autoclaved before disposal.
- Contaminated surface must be disinfected with bleach afterwards.







## Appendix 2

### Competence and proficiency check list

Check Parameter	Yes	No	Comment (if applicable)
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#### 1. Personal Protection

- Awareness on:

- Proper laboratory attire to wear	<input type="checkbox"/>	<input type="checkbox"/>	
- PPE available and use	<input type="checkbox"/>	<input type="checkbox"/>	
- Protocol for use of overcoats in/outside labs	<input type="checkbox"/>	<input type="checkbox"/>	
- Waste procedure for disposable of used eye/ face protection	<input type="checkbox"/>	<input type="checkbox"/>	
- Frequency of hand washing.	<input type="checkbox"/>	<input type="checkbox"/>	
- Washing protocol of overcoats and protective clothing	<input type="checkbox"/>	<input type="checkbox"/>	

#### 2. Safety procedures and handling of equipment

- Demonstrates proficiency in the use of:

- Pipetting techniques	<input type="checkbox"/>	<input type="checkbox"/>	
- Streaking and plating	<input type="checkbox"/>	<input type="checkbox"/>	

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<i>Check Parameter</i>	<i>Yes</i>	<i>No</i>	<i>Comment (if applicable)</i>
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- Has competence in the following areas:

- BSC operation, maintenance, decontamination	<input type="checkbox"/>	<input type="checkbox"/>	
- Centrifuge operation, maintenance, decontamination	<input type="checkbox"/>	<input type="checkbox"/>	
- Autoclave operation, maintenance, decontamination	<input type="checkbox"/>	<input type="checkbox"/>	
- Fire extinguishers location and difference between types	<input type="checkbox"/>	<input type="checkbox"/>	
- Awareness for decontamination prior to repair	<input type="checkbox"/>	<input type="checkbox"/>	

### 3. Biosafety Management

• Awareness and competence on use of spill kit	<input type="checkbox"/>	<input type="checkbox"/>	
• Requirement to report spillage incidents	<input type="checkbox"/>	<input type="checkbox"/>	
• Minimization of airborne droplet techniques.	<input type="checkbox"/>	<input type="checkbox"/>	
• Need for daily decontamination of work surfaces	<input type="checkbox"/>	<input type="checkbox"/>	
• Awareness of location for procedures and MSDS documents	<input type="checkbox"/>	<input type="checkbox"/>	
• Proper management of facility (closed doors & windows)	<input type="checkbox"/>	<input type="checkbox"/>	

### 4. Biological waste

• Knowledgeable in use of autoclave and decontamination	<input type="checkbox"/>	<input type="checkbox"/>	
• Use of proper waste bags for transport & autoclaving	<input type="checkbox"/>	<input type="checkbox"/>	

<i>Check Parameter</i>	<i>Yes</i>	<i>No</i>	<i>Comment (if applicable)</i>
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- Shows competence and knowledge for the different disposal procedures of:

- Non-hazardous waste	<input type="checkbox"/>	<input type="checkbox"/>	
- Contaminated sharps	<input type="checkbox"/>	<input type="checkbox"/>	
- Reusable contaminated material	<input type="checkbox"/>	<input type="checkbox"/>	
- Contaminated material for autoclaving and disposal	<input type="checkbox"/>	<input type="checkbox"/>	
- Contaminated material for direct incineration	<input type="checkbox"/>	<input type="checkbox"/>	
- Broken glassware	<input type="checkbox"/>	<input type="checkbox"/>	

#### 5. Chemical waste

• Competence on:			
- Use and interpretation of MSDS information	<input type="checkbox"/>	<input type="checkbox"/>	
- Segregation of chemical waste generated	<input type="checkbox"/>	<input type="checkbox"/>	
- Use of spill kit for chemicals	<input type="checkbox"/>	<input type="checkbox"/>	

***Additional Comments:***

Name: \_\_\_\_\_

Date: \_\_\_\_\_