Biosafety Standard Work Practices Schedule

1 Purpose

To set out standard work practice expectations when undertaking biological activities.

2 Scope

This schedule applies to all University Members and Students conducting work with biological materials or accessing spaces where biological activities occur. These work practices must be applied as minimum practice within all facilities where biological work is carried out.

This schedule must be read in conjunction with the Biosafety Procedure and is subordinate to it.

3 Schedule

3.1 Hygiene

Eating, drinking, the application of cosmetics and chewing gum/cough lollies is strictly prohibited in University laboratory spaces and when handling biological materials.

Laboratory fridges must not be used to store any items for human consumption. Fridges must display a sign 'not for human consumption'.

3.2 Mobile Devices and Related Equipment

Mobile phones are permitted for emergency use (i.e. SafeZone application) and for researching or teaching documentation provided that all of the following rules are observed:

- Gloves must be removed, and hands decontaminated prior to touching the mobile phone.
- When mobile phones are not in use for the mentioned purpose, they must be stored in the laboratory gown pocket or other designated space protected from contamination. It is recommended that the mobile phone be stored in a snap lock plastic bag to further reduce the risk of contamination.
- If a mobile phone becomes potentially contaminated, the phone must be decontaminated with sanitising wipes prior to leaving the laboratory.

Regulated laboratories must follow certification requirements for mobile devices and related equipment.

3.3 Personal Protective Equipment (PPE)

PPE must be worn in the laboratory as outlined below. Additional PPE may be required depending on the biological material being used or procedures being undertaken. Where additional PPE is required, these must be outlined in an approved Risk Management Plan (RMP), Standard Operating Procedures (SOP) or as signed in each laboratory area.

3.3.1 Eye protection

- Safety glasses must be worn at all times when handling biological materials. Specialised safety glasses or a face shield may be required for specific tasks as outlined in RMPs, SOPs or as instructed by the Appointed Facility Officer.
- Where it may be considered impracticable to wear safety glasses for a task, an approved RMP must be in place to qualify an exemption (e.g. specific microscope use).
- Safety glasses must not be shared between users unless safety glasses have been disinfected.
- When safety glasses are not in use, the safety glasses must be kept in the laboratory gown pocket or a dedicated individual storage unit unless the safety glasses are undergoing disinfection.

3.3.2 Gloves

- Gloves must be worn when handling human or Animal blood, tissues, or bodily fluids, when conducting procedures with liquids or solids that contain or potentially contain Risk Group 2 organisms.
- Double gloves must be worn when recommended by the pathogen safety data sheet as specified, when working in a biological safety cabinet or when advised by the Appointed Facility Officer or Biosafety Advisor. Special glove removal procedures may apply. Any exceptions must be detailed in the RMP and approved by the Biosafety Advisor.
- Gloves must be worn at all times when handling biological materials.

3.3.3 Laboratory Coats/Gowns

- Individual laboratory coats must be used.
- For biological laboratories without chemical hazards, a rear fastening gown is preferable.

- For a biological laboratory with chemical hazards, a side or front fastening coat is preferable.

- Laboratory coats are to be removed and hands decontaminated before moving to areas outside the laboratories.

- Laboratory coats must not be worn outside the laboratory. This includes between buildings, stairwells, lift spaces, courtyards, and cafeterias. If a laboratory gown is required for work outside the biological laboratory, then a clean laboratory coat must be worn. Due to proximity of some facilities, an exemption may be approved by the Biosafety Advisor.

- Laboratory coats must be hung individually at the provided location near the laboratory exit (for Researchers and teaching staff) or stored in individual plastic bags or containers (undergraduate Students).

- Laboratory coats from laboratories with incompatible biological risk profiles must be segregated to reduce the risk of cross contamination.

- Unused, clean laboratory coats must be stored in a separate area to laboratory gowns in use, such as a cupboard dedicated for that purpose where they cannot be contaminated by biological materials or chemicals.

- **Undergraduate laboratory coats** removed from the University, must be stored in a sealed and labelled container or bag accompanied by safety instructions regarding use, storage, and cleaning.

- **All Researcher and teaching staff laboratory coats** must be retained and stored at the University.

3.3.4 Cleaning of PPE

Laboratory coats and safety glasses must be cleaned routinely as appropriate to the risk rating of the organism and laboratory containment rating. In order of descending risk:

- **Regulated laboratories:** Approved Arrangement and OGTR Certified PC 2 laboratories must follow the authority instructions required to maintain certification.

- **PC 2 non-regulated laboratories:** In PC2 laboratories where Risk 2 organisms may be handled or in PC1 laboratories where Risk Group 2 organisms have been approved for use in biological safety cabinets.

    - Gown laundering and safety glasses cleaning may be conducted in house in dedicated facilities with appropriate disinfection (i.e. chemical disinfection agents such as Trigene or Napisan); or

    - Conducted commercially by cleaning companies approved by the Biosafety Advisor.

- **PC 1 non-regulated laboratories:** In teaching or Research laboratories where only Risk Group 1 organisms may be handled, laboratory gowns and safety glasses may be laundered inhouse in dedicated facilities, cleaned by the Student/s following an approved laboratory coat cleaning protocol or commercially cleaned (gowns). Cleaning protocols must be approved by the Biosafety Advisor and recorded in the relevant RMP.

3.3.5 PPE Removal

PPE shall be removed and hands decontaminated in a predetermined and appropriate sequence, with consideration to potential contamination loading, before leaving the laboratory. This is usually:

1. Removal of gloves followed by;
2. laboratory coat followed by;
3. hand decontamination; then
4. eye protection; and
5. secondhand decontamination.

3.4 Extraction Cabinet Rules (Biological Safety Cabinet, Laminar Flow and Fume Cupboards

The following rules apply to Biological Safety Cabinets (BSC's), Laminar Flow and Fume Cupboards:

- Under no circumstances are chemicals to be used in BSC other than those required for disinfection or biological procedures.
- Under no circumstances are chemicals to be stored in a BSC.
- A fume cupboard must be used when working with chemicals that present a chemical inhalation risk.
- A fume cupboard must not be used for handling biological materials.
- A laminar flow may be used only when working with a sterile cell culture that does not contain a biological hazard.

3.5 Biological Material Handling Practices

The following practices are regarded as key risk reduction processes to reduce the risk of exposure to biological materials. All Students and Employees must comply with the following practices where applicable to their learning or Research Activities. Deviations or preferences must be addressed the relevant RMP.

- All clinical and diagnostic specimens shall be regarded as potentially hazardous.
- Leaking containers must be handled in a biological safety cabinet if practicable. The outside of the container must be decontaminated as appropriate according to the pathogen and risk level.
- Where possible, the use of sharps such as syringes, needles and scalpels must be minimised.
- Where infectious material is being injected under high pressure, luer-lock fittings should be used to reduce the risk of splash back.
- Laboratory doors must remain closed at all times. Propping doors open is prohibited.
- Aerosol production must be minimised, particularly where work is carried out on the open bench. If aerosols may be produced, a Biological Safety Cabinet must be used. Forcing out residual volumes from pipettes creates aerosols; do not use pipettes that require forced expulsion to deliver the nominal volume.
- Mouth pipetting is strictly prohibited in all Research and teaching settings.
- It is recommended that disposable loops are used. If using a wire loop, appropriate techniques can be used to reduce risk such as flaming the wire loop correctly by drawing the loop gradually from the cooler to the hotter parts of the Bunsen burner flame, by using a hooded or an 'electric' Bunsen burner or by using a glass bead sterilizer.
- All containers of viable microorganisms must be double contained and sealed within an unbreakable plastic container (which can be readily decontaminated) during movement from one laboratory to another. This also applies when demonstrating Risk Group 2 organisms to undergraduate Students in PC1 teaching laboratory spaces.
- Diagnostic kits, control sera and products manufactured from microbiological sources must be handled with care as infectious microorganisms may be still present.
- Culture management (to be read in conjunction with section 3.7 Biological Materials Storage and Inventory):
    - Biological and cell cultures must be registered in the University Primary Materials management system.

    - Clearly identify and date cultures.
    - Minimize the time for which cultures are kept on the bench.
    - Transfer the culture to a dedicated storage area, such as a refrigerator or part of a cold room.
    - Cover or seal cultures of spore-producing fungi as appropriate to prevent dispersal. Consult with the Biosafety Advisor as to the determination of spore-producing fungi.
    - Never sniff bacterial cultures.
- Ensure all surfaces and materials are effectively disinfected after the completion of work with methods appropriate to the biological materials being used;
- A 'Notice of Experimental Activity Card' accessed via Safety Central must accompany experimental biological work in progress that is unattended for any length of time. The card must provide Information that is appropriate and relevant to the type of work in progress and (as a minimum) provide the following Information:
    - the nature of the work in progress including the biological risk; **and**
    - key safety and emergency Information; **and**
    - Name and contact details of the person responsible for the work **and** an emergency contact number(s); **and**
    - critical first aid Information if required.

3.6 Cleaning and Decontamination

3.6.1 Housekeeping

Employees and Students with authorised access must maintain the PC facility in a clean state by following good housekeeping.

- Using dedicated cleaning equipment for physical containment spaces only.
- Cleaning and decontaminating work benches at least daily and after every experiment involving microorganisms with an appropriate disinfectant. Refer to pathogen data safety sheets for guidance or contact the Biosafety Advisor.
- Keeping bench areas tidy.
- Cleaning and decontaminating equipment with an appropriate disinfectant.

- Maintaining clear walkways.
- Cleaning up spills.
- Ensuring cleaning of high touch points (such as door handles, fridges, autoclaves telephones, keyboards, reading and writing materials) is conducted at least fortnightly. A local roster and records should be maintained to demonstrate completion.
- Utilising disposable lab ware where possible. If reusable labware is used or potentially contaminated it must either be autoclaved or soaked in an appropriate disinfectant before washing.
- Placing biohazardous and clinical waste into the approved bins with regular disposal by an authorised waste contractor.
- Placing contaminated broken glassware should be placed directly into a puncture resistant container for biohazard disposal.
- Placing collapsed cardboard boxes in the designated disposal or collection location.

3.6.2 Equipment Decontamination and Maintenance

The following decontamination rules apply for equipment:

- When maintenance activities are required for equipment that has been used for biosafety relevant activities, the equipment is to be appropriately cleaned and disinfected, and decontamination certificate issued by the Biosafety Advisor (upon request from the Appointed Facility Officer) prior to work commencing.
- When equipment that has been used for biosafety relevant activities is to be removed from a laboratory (e.g. maintenance, servicing, or relocation), the equipment is to be appropriately cleaned and disinfected. The Appointed Facility Officer must request a decontamination certificate from the Biosafety Advisor and attach to the equipment. Any laboratory specific stickers such as 'quarantine' are to be removed from equipment.
- When significant maintenance and renovation activities for a physical containment facility occur; activities in the facility (or portion of) are to be suspended for that period of time and the facility decontaminated. The facility must be inspected by the Biosafety Advisor to ensure the intended physical containment standard has been reinstated prior to recommencement of biological activities. Refer to section 4.18 Proposal and Commissioning of a PC Facility for additional Information relating to facility refurbishment.

Regulated physical containment spaces may have additional requirements that apply.

Apply for a decontamination certificate through Safety Central.

3.7 Biological Material Storage and Inventory

Researchers and Employees are required to keep accurate inventories and records of biological materials stored within PC facilities to comply with regulatory requirements and align with the Australian Code for the Responsible Conduct of Research.

Refer to Research Data and Primary Materials Management Procedure and the UniSQ Biological Material and Storage Inventory and Labelling Guideline on Safety Central for minimum Inventory requirements.

4 References

Nil.

5 Schedule Information

Accountable Officer	Deputy Vice-Chancellor (Enterprise Services)
Responsible Officer	Chief People Officer
Policy Type	University Procedure
Policy Suite	Work Health and Safety Policy
Approved Date	31/1/2024
Effective Date	31/1/2024
Review Date	31/3/2026
Relevant Legislation	*Work Health and Safety Act 2011* (Qld) *Work Health and Safety Regulation 2011* (Qld)
Policy Exceptions	Policy Exceptions Register
Related Policies	
Related Procedures	Biosafety Procedure Research Data and Primary Materials Management Procedure
Related forms, publications and websites	AS2243.3 Safety in Laboratories - Microbiological Safety and Containment Government of Canada Biosafety and Biosecurity Pathogen Safety Data Sheets

	Safety Central Decontamination Certificate Application Form
Definitions	**Terms defined in the Definitions Dictionary**
	Animal Any live non-human vertebrate (that is, fish, amphibians, reptiles, birds and mammals, encompassing domestic Animals, purpose-bred Animals, livestock, wildlife) and cephalopods. Information Any collection of data that is processed, analysed, interpreted, organised, classified or communicated in order to serve a useful purpose, present facts or represent knowledge in any medium or form. This includes presentation in electronic (digital), print, audio, video, image, graphical, cartographic, physical sample, textual or numerical form. Inventory Assets that are either held for sale in the ordinary course of business, in the process of production for such sale or in the form of materials or supplies consumed in the production process or in the rendering of services. Notice A Notice from the University is a document, whether physical or electronic. A Notice may be: given by hand to the addressee or delivered to the address provided by the addressee to the University; or sent by registered or pre-paid mail to the address provided by the addressee to the University; or sent by electronic communication to the University-issued email account provided by the University to a Student during the period of Enrolment until the completion of their program; or sent by electronic communication to the email address provided to the University by an addressee not enrolled at the University. A Notice is taken to be received if: given by hand to the addressee or delivered to the address provided to the University by the addressee; or sent by registered or pre-paid mail - three University Business Days after the date of posting; or sent by electronic communication - at the time that would be the time of receipt under the Electronic Transactions Act 1999 or its succeeding legislation. A Notice that would be deemed to have been received out of business hours or on a non-University Business Day will instead be deemed received on the next University Business Day.

Primary Materials

Physical objects acquired through a process of scholarly investigation from which Research Data may be derived. Includes, but is not limited to, ore, biological material, survey questionnaires, measurements, recordings, artefacts, texts, photographs, and computer results. In some instances, Primary materials may be considered research data, and may be required to be retained to validate the outcomes of research.

Research

Research is the creation of new knowledge and/or the use of existing knowledge in a new and creative way to generate new concepts, methodologies, inventions and understandings. This could include the synthesis and analysis of previous research to the extent that it is new and creative.

Research Activities

Refers to activities that result in the creation of new knowledge and/or the use of existing knowledge in a new and creative way so as to generate new concepts, methodologies and understandings. This could include synthesis and analysis of previous research to the extent that it leads to new and creative outcomes.

Research Data

Researchers have a responsibility to retain clear, accurate, secure and complete records of research data. It is critical that data includes records necessary for the reconstruction and evaluation of reported results and processes leading to those results. Research data relates to facts, observations, measurements or experiences on which an argument, theory or test is based. Research Data may be numerical, descriptive, visual or tactile. It may be raw, or analysed, experimental or observational and may be held in any format or media. Examples include, but are not limited to: Laboratory notebooks; Field notebooks; Primary Research Data; Questionnaires; Audio and video recordings; Photographs; Films; Test responses, and Any other records that are necessary for the reconstruction and evaluation of the reported results of research. Research Collections may include slides, specimens, samples and artefacts; with related provenance information. Research data (and primary materials) includes evidence supporting findings. For example, in the Creative Arts this may include early drafts and concept documents prior to the final output of the creative work.

Researcher

	Any person/s involved in Research Activities at, or on behalf of the University. This includes, but is not limited to Employees, Students, visiting scholars, research partners, research affiliates, holders of Honorary or Adjunct positions. Student A person who is enrolled in a UniSQ Upskill Course or who is admitted to an Award Program or Non-Award Program offered by the University and is: currently enrolled in one or more Courses or study units; or not currently enrolled but is on an approved Leave of Absence or whose admission has not been cancelled. University The term 'University' or 'UniSQ' means the University of Southern Queensland. University Members Persons who include: Employees of the University whose conditions of employment are covered by the UniSQ Enterprise Agreement whether full time or fractional, continuing, fixed-term or casual, including senior Employees whose conditions of employment are covered by a written agreement or contract with the University; members of the University Council and University Committees; visiting, honorary and adjunct appointees; volunteers who contribute to University activities or who act on behalf of the University; and individuals who are granted access to University facilities or who are engaged in providing services to the University, such as contractors or consultants, where applicable.
	Definitions that relate to this schedule only
Keywords	Biological, PPE, biosafety, RG1, RG2, gloves, hygiene, decontamination, cleaning
Record No	21/175PL