PROCEDURE

HS323 Biosafety Procedure

Area covered
University-wide

Version 2.7
Approval date 11 March 2016
Effective date 11 March 2016
Next review date March 2019

Procedure Statement

Purpose
Many biological materials, particularly microorganisms, have special hazards associated with them. UNSW, as an educational and research institution, seeks to provide a structured approach to protect the environment from accidental release, and to prevent exposure of workers and students in these areas to hazards presented by biological matter.

Scope
This Procedure is for workers, students and visitors who carry out work, research or study at UNSW, in a clinical environment, laboratory, research facility, plant, insect or animal facility, and who may handle or are potentially exposed to biological materials that have associated hazards. These hazards include, but are not limited to:

• microorganisms (such as bacteria, fungi, protozoa, viruses);
• animals (including their tissues, dander, blood or body fluids and excreta);
• plants and insects (including fluids, hairs, or parts of a whole organism);
• human blood, tissues, body fluids and excreta (or components of these);
• materials that have been contaminated or are potentially contaminated with infectious microorganisms;
• imported biological materials
• products and bi-products (including any of the items listed above) that could be toxic, allergenic or in other ways hazardous.

This Procedure was written to help workers and students identify biological hazards and meet various related legislative and regulatory requirements. The University will follow the relevant legislation and standards, such as those prescribed by the OGTR, Department of Agriculture, Department of Health, and the Australian Standards.

Are Local Documents on this subject permitted?
☐ Yes
☒ Yes, subject to any areas specifically restricted within this Document
☐ No

Procedure Processes and Actions

1. Biosafety Procedure

1.1. Regulatory Processes

All work, research, teaching or study involving microbiological organisms, diagnostic samples, human and animal tissues, blood or bodily fluids, plant materials, insects and general biological hazards must follow the requirements of this Procedure relevant to the use of the material.

The biological materials used at UNSW can be segregated into one or more of the following regulatory processes in order to help control the associated hazards:

1.1.1. Australian Standards

AS/NZS 2243.3 Safety in the Laboratories (Series): Part 3: Microbiological safety and containment, where-ever animal, insect, microorganism (including prions), diagnostic, research, teaching, quality control and regulatory analysis, is undertaken.

1.1.2. OGTR

When working with GMOs, workers must also follow the UNSW Gene Technology Procedure which is
based on the legislative requirements for gene technology. This includes workers having applications for their work assessed by the UNSW GTRC, and ensuring that their facility is appropriate, and where applicable, that their facility is certified with the OGTR before research begins.

Where a worker has a grant application approved through UNSW, but has their GMO work approved by a GTRC other than UNSW, the UNSW GTRC must be notified of the nature of the project.

1.1.3. Department of Agriculture and Water Resources

When working with imported materials for research and or teaching, workers, students and visitors must follow the specific requirements established by Biosecurity Australia (formerly AQIS). The biohazard and the facility may need to be registered with Biosecurity Australia.

1.1.4. SSBA

A small number of biological agents have been identified as posing a possible threat to National Security and must only be handled in a DoH-registered facility that has approved security measures and procedures in place. See Table 2 in paragraph 1.2.6 for the list of biological agents.

1.1.5. DOH

All research or teaching within a non-laboratory, clinical environment with patients must follow the requirements of DoH. These requirements are found in the Standard Precautions, defined below.

*Note – If you intend to use hazardous biological materials you must meet the requirements outlined in this document.*

There may be other requirements, such as complying with Radiation safety, UNSW Human and Animal ethics, and the transportation of biological materials. See the Register of Biosafety Legislation in section 3.2.

1.2. Biosafety risk management process

UNSW has provided this Procedure to help meet legislative and regulatory requirements, and to assist workers and students in continuously improving their ability to use biological materials in a safe, effective manner. This procedure is an element of the UNSW risk management process.

There are 4 main steps in the biosafety risk management process:

1. Identify any hazard posed by the biological material and identify any governing regulatory requirements.
2. Assess the risks associated with the hazards (what harm might occur). For microorganisms, use the risk grouping system from AS/NZS 2243.3 as an initial tool.
3. Identify the controls, and use the hierarchy of risk control described in the HS329 Risk Management Procedure. The containment facility level and containment controls are based on the risk group of the organism or material.
   - Facility type and containment level PC1 to PC4.
   - Containment equipment.
   - Work practices and other controls.
   - PPE
4. Identify, obtain, document and review:
   a. Identify training needs, obtain training.
   b. Identify and obtain relevant approvals and licences etc for the facility and the biological material.
   c. Maintain your documents, records and registers.
   d. Review your risk management procedures regularly.

To control biological hazards at UNSW you must use the *UNSW Risk Management Procedure* to cover and document the activities identified in the Biosafety risk management process.

1.2.1. Identification of biological hazards and specific legislation

When a hazard associated with biological material has been identified it must be recorded on your Laboratory/Facility Microorganism/Biological/Biohazard Register and also the Workplace HS Hazard and Risk Register.

After identification of your biological hazard(s) you must identify any legislation that is relevant to the biological hazard you will be using. The specific legislation will determine any additional controls that may be required to be implemented. See Table 1: Approval Matrix and Legislation, and the Register of Biosafety Legislation for information about relevant legislation. Record the specific legislation on your HS Hazard and Risk Register.

1.2.2. Assessing the risk from a biological hazard

A risk assessment is to be conducted covering 2.1.2(a-j) of AS/NZS 2243.3. All microorganisms need to be assigned a risk group (1 – 4) using AS/NZS 2243.3 as the primary assessment tool. If it is unclear to
which risk group an organism or biological agent belongs, contact your local Biosafety Supervisor to assist you.

Projects involving biological agents that are identified as Risk Group 3 or 4 must be assessed by the UNSW GTRC.

It is also important to check whether the biological agent is listed in Table 2, paragraph 3.2.6 of this document. If your agent is listed in this table, you must contact the UNSW Biosafety Coordinator for advice. If confirmed, the RECS unit must be contacted to assist with the registering of your facility with DoH. Before bringing the agent into the University, DoH must also approve your research and the written procedures relating to the security of the biological agent and facility.

All other agents of biological origin must have their risks assessed and legislation identified in order to determine the appropriate containment and controls. On delivery, purchased biological goods need to be checked to ensure that the correct order has been received before being made available for use.

### 1.2.3. Identifying the controls, including containment facility level

When working with biological agents in a laboratory, animal house or any other facility, it is necessary to define the level of physical containment (PC 1 – 4). While this is based on the risk group of the biological agent if it is a microorganism, it also provides a basis for the safe handling and containment of other hazardous biological materials.

#### Control – containment facility level

There are 4 different physical containment levels ranging from PC1 to PC4. Each containment level corresponds directly to the 4 risk groups of biological hazards as set out in AS/NZS 2243.3. The higher the risk group rating, the higher the facility containment level required, and the higher the risk to laboratory workers, the environment and community. Access to PC1 to PC4 facilities must be restricted to authorised people. This includes SSBA and Quarantine facilities.

The level of physical containment that is identified will dictate the facility’s structural requirements, containment equipment, work practices and PPE requirements that are necessary to work safely with the designated risk group. The basic starting level for facilities is PC1, such as typical first year teaching laboratories, for the handling of low or no-risk biological materials.

If it is unclear which level of physical containment is required, contact your local Biosafety Supervisor to assist you. The UNSW Biosafety Coordinator can also assist.

#### Controls - containment equipment

All UNSW physical containment facilities are required to implement the controls described in AS/NZS 2243.3, Sections 4 to 8. These are considered best practice safety standards for working with biological hazards and help to provide good infection control.

There may be specific controls identified in legislation that need to be implemented and your risk assessment may identify additional control equipment or processes that might also be needed.

#### Controls - health management

- When working with pathogens of Risk Group 3 or 4, workers shall have an initial medical examination (including any specific tests such as a chest x-ray, if relevant) and periodic monitoring examinations. A baseline blood serum sample should be obtained and stored for future reference. Further information can be found in the UNSW Health Monitoring Guideline (HS091).

- Laboratory management shall inform female workers and students of risks of exposure to themselves or their foetus if pregnant, from certain microorganisms eg *Toxoplasma gondii*, *Listeria monocytogenes*, cytomegalovirus, parvovirus B19, rubella virus, human immunodeficiency virus (HIV), *Coxiella burnetii*, hepatitis B, C and E viruses, and some fungi.

- Those working with animals are given an initial health questionnaire (HS903 Health Monitoring form – Laboratory Animal Allergens). Any at-risk persons identified in the questionnaire should be referred for a follow-up health assessment which could include pulmonary function tests. Ongoing monitoring of symptoms should be carried out by the individual by regular completion of the questionnaire (3/6/12 months).

- The Head of School or research organisation or the Facility Manager must report immediately to the Faculty HS Coordinator or Manager of the HS Unit, any laboratory acquired illness related to a biological agent stored or used in the facility. This includes someone developing an infected wound from a sharps injury or animal scratch or bite, or contracting a zoonotic disease from an animal handled for teaching or research purposes.

#### Controls - immunisation

Workers and students who carry out research at UNSW may be at an increased risk from preventable
diseases if, as part of their work, they are handling or possibly exposed to:

- infectious organisms;
- human blood or body fluids;
- non-human primates;
- animals and/or insects;
- infected plants or soil;
- waste water;
- tetanus include workers and students who:
  - work with all types of animals;
  - may be exposed to raw sewage during work activities i.e. workers involved in water studies;
- a person who is immune-suppressed or immune-compromised, and is therefore considered to be at greater risk.

Other UNSW workers may need to consider immunisation, and the requirement will be described in relevant documentation covering their employment/placement conditions and UNSW travel requirements.

Immunisation requirements:

- Where a risk assessment has identified that a person is carrying out University-related work and where there is the potential risk from infectious diseases that are vaccine-preventable, the following must be offered:
  - relevant information relating to the person’s possible exposure, and relevant vaccination information;
  - prompt and appropriate immunisation.

Immunisation guidelines:

The following information and guidelines are available to assist in the identification of appropriate immunisation:

- The Australian Immunisation Handbook (NHMRC)
- HS066 Animal Research HS Risk Identification Guideline
- HS435 Immunisation Guideline: Tetanus, Hepatitis A, Hepatitis B, Q fever
- HS427 Immunisation Questionnaire and Authorisation Form
- HS079 Decline of Immunisation Form for those who choose not to be immunised.

Controls - work practices

AS/NZS 2243.3 identifies the work practices that are applicable for working at each of the physical containment levels for each type of containment facility – laboratory, animal, plant and invertebrate (Sections 5 – 8 respectively). These include:

- **Training**
  
  General and task-specific training requirements relative to the facility and to the research tasks must be identified and undertaken. Instruction and training in the handling of infectious microorganisms shall be provided to laboratory workers by supervisors, managers or principal investigators as appropriate, with regular updates, in any facility where these are being handled.

- **Containment Facility Signage**
  
  Once the physical containment level is determined, the laboratory/room must have correct signage placed on all entrances (see the biosafety pages on the UNSW HS website for PC1 and PC2 laboratory signs).

- **Minimising the volume**
  
  The volume of hazardous material being ordered and stored should be minimised as far as possible as this will help to reduce the risk associated with the hazard. In some instances, the risk associated with a larger volume might necessitate containment in a higher level containment facility.
• **Transport & containment**

Biological organisms and wastes from facilities must be appropriately contained for transport and the outer surfaces of the containers must be decontaminated before leaving the facility. This includes decontaminating the outer surface of chemical waste containers that have been kept in the facility.

Biological materials must be suitably double contained for transport between facilities, including to autoclave facilities and to waste stores. Wastes from biological containment facilities must be handled as described in HS321 *Laboratory Hazardous Waste Disposal Procedure*.

If being taken or sent off site, the transport of biological and infectious materials is regulated as described in detail in AS/NZS 2243.3 Section 13.

• **Documentation**

Laboratories are required to have in place documentation of all management system components, as described in AS/NSZ2243.1, (Sections 3 and 4). All appropriate procedures must be documented and implemented.

- Documentation includes:
  - Risk assessments, including for working in isolation and after hours
  - Safe work procedures
  - Register of biological materials, risk group and the associated facility or room. A copy of this register is to be sent to the UNSW Biosafety Coordinator annually following review.
  - Register of all facilities where biologicals are used or stored, including the name of the person responsible for the facility. A copy of this register is to be sent to the UNSW Biosafety Coordinator annually following review.
  - Identification of controls including PPE
  - A register of maintenance and inspection requirements for specific plant and equipment
  - Training requirements and records
  - Health surveillance
  - Emergency procedures such as spill response, any specific first aid actions or medical surveillance requirements, emergency shutdown of equipment, evacuation
  - Accident and incident reports, investigations and corrective actions

- A draft Laboratory Manual guideline and template, available on request from the Biosafety Coordinator, may assist laboratory managers and supervisors in developing their laboratory management system, if one is not already in place.

1.2.4. **Obtaining approval for use of the biological material**

All research and teaching involving biological hazards must have documented approval from a UNSW approved authority (see Table 1).

You must also check whether your biological hazard is included in the list of agents that are considered a National Security Risk (see Table 2). If your biological agent is included in Table 2, you must contact the Biosafety Coordinator before any decision is made to bring the agent onto UNSW property.

1.2.5. **Table 1: Approval Matrix and Legislation**

<table>
<thead>
<tr>
<th>Biological Hazard</th>
<th>UNSW Approval Mechanisms</th>
<th>Governing Regulation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microorganism</td>
<td>HOS/Supervisor</td>
<td>AS/NZS 2243.3</td>
</tr>
<tr>
<td>Risk Group 1 - 2</td>
<td>HOS</td>
<td>AS/NZS 2243.3</td>
</tr>
<tr>
<td>Microorganism</td>
<td>UNSW GTRC DVC(R)</td>
<td>AS/NZS 2243.3</td>
</tr>
<tr>
<td>Risk Group 3 - 4</td>
<td>HOS DVC(R)</td>
<td>AS/NZS 2243.3</td>
</tr>
<tr>
<td>Genetically Modified Organisms</td>
<td>Project Supervisor HOS UNSW GTRC DVC(R) OGT R</td>
<td>AS/NZS 2243.3 Gene Technology Legislation</td>
</tr>
<tr>
<td>Security Sensitive Biological Agents</td>
<td>HOS UNSW GTRC DVC(R) DoH</td>
<td>National Security Act and Regulations</td>
</tr>
</tbody>
</table>
### 1.2.6. Table 2: List of SSBAs

<table>
<thead>
<tr>
<th>Tier 1 Agents</th>
<th>Tier 2 Agents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abrin (reportable quantity 5 mg)</td>
<td>African swine fever virus</td>
</tr>
<tr>
<td><em>Bacillus anthracis</em> (Anthrax—virulent strains)</td>
<td>Capripoxvirus (Sheep pox virus and Goat pox virus)</td>
</tr>
<tr>
<td>Botulinum toxin (reportable quantity 0.5 mg)</td>
<td>Classical swine fever virus</td>
</tr>
<tr>
<td><em>Ebolavirus</em></td>
<td><em>Clostridium botulinum</em> (Botulism; toxin-producing strains)</td>
</tr>
<tr>
<td>Foot-and-mouth disease virus</td>
<td><em>Francisella tularensis</em> (Tularaemia)</td>
</tr>
<tr>
<td>Highly pathogenic influenza virus, infecting humans</td>
<td>Lumpy skin disease virus</td>
</tr>
<tr>
<td><em>Marburgvirus</em></td>
<td><em>Peste-des-petits-ruminants virus</em></td>
</tr>
<tr>
<td>Ricin (reportable quantity 5 mg)</td>
<td>Yellow fever virus (non-vaccine strains)</td>
</tr>
<tr>
<td><em>Rinderpest virus</em></td>
<td></td>
</tr>
<tr>
<td>SARS coronavirus</td>
<td></td>
</tr>
<tr>
<td><em>Variola virus</em> (Smallpox)</td>
<td></td>
</tr>
<tr>
<td><em>Yersinia pestis</em> (Plague)</td>
<td></td>
</tr>
</tbody>
</table>

### 1.3. Registration and decommissioning of containment facilities

#### 1.3.1. Registration

All PC1 – PC4 laboratories should be registered with the HS Unit through the UNSW Biosafety Coordinator, using Containment Facility Registration (HS078). The containment level of facilities should be registered on Archibus, along with any radiation, quarantine and OGTR certifications.

For facilities where radioactive materials are to be handled, or where there will be the handling of GMOs or SSBAs, contact the RECS unit for advice on the registration or certification of the facility for those uses.

#### 1.3.2. Decommissioning of physical containment facilities

Any facility that will cease to function as a containment facility must be appropriately decommissioned and the Laboratory Decommissioning Checklist completed. A copy of the completed form must be sent to the School/Unit Biological Safety Officer and UNSW Biosafety Coordinator.

Where the facility is registered for radiation use, or is certified with the OGTR, the laboratory manager must contact the UNSW GTRC support officer in the RECS unit in order to have the certificate surrendered.

Areas, equipment and surfaces that need to be disinfected must be identified (including bench tops, floors, surfaces of equipment, glassware and other potentially contaminated places such as hoods, water baths, centrifuges, refrigerators, incubators, walls, sinks etc). The appropriate disinfectant needs to be identified (see AS/NZS2243.3:2010 Appendix F) and used according to this Standard and the manufacturer’s recommendations.

A decommissioned laboratory must have all certificates and hazard stickers removed from the door(s).

A final Laboratory Clearance Certificate is to be completed and posted on the door of the laboratory certifying that the area is now able to be safely accessed by other workers and a copy of the certificate is to be retained with the laboratory records.

#### 1.3.3. Cessation of an individual’s work

The Cessation of Laboratory Activities checklist is intended to assist workers in ensuring that their
laboratory space is left in a satisfactory and safe condition once their research has been completed and before they leave. All biological materials, chemical hazards and hazardous equipment must either be disposed of, or the responsibility for the control of the hazard and all relevant documentation be assigned to another person.

The completed checklist is then given to the Principal Researcher or Head of School or Centre (as applicable).

1.4. HS incident reporting requirements

1. Any loss of a biological agent, either confirmed or suspected, including loss of a culture down the sink or an animal that is unaccounted for, is to be reported as an incident via the UNSW online reporting system, and investigated locally.
   - If the biological agent has been genetically modified or infected with a genetically modified agent, the RECS must be notified by contacting the GTRC support officer (email: genetechnology@unsw.edu.au, Ph: 9385 7244) as soon as possible.
   - A loss relating to SSBAs must follow paragraph 3.5.3.

2. Any illness or injury sustained in association with UNSW research activities must be reported using the UNSW online reporting system.

3. Any injury, or any suspected or actual laboratory acquired illness related to carrying out work with a research-related biological agent, must also be reported to the Head of School or research organisation. These are possible WorkCover reportable incidents.

4. WorkCover reportable incidents: - with respect to biological research, the Head of School/Research group or the Facility Manager must notify their Faculty HS Coordinator or the HS Unit Manager immediately on being notified about a WorkCover reportable incident which includes:
   - Death
   - Requiring immediate hospital admission as an in-patient
   - Requiring medical treatment within 48 hours of an exposure to a substance
   - An infection attributed to work with a microorganism, human blood or body substances, animals, animal parts or animal waste products
   - Contracting any of the following zoonotic disease while working with animals, animal parts or animal waste products:
     - Q-fever
     - Anthrax
     - Leptospirosis
     - Brucellosis
     - Hendra Virus
     - Avian flu virus
     - Psittacosis

For the full description of Incident Notification requirements refer to the:

- WHS Act 2011 Part 3, Section 35, and
- WHS Regulations 2011 Part 11.3, Clause 699

Refer also to:

- UNSW Animal Research HS Risk Identification guideline (HS066) for further information regarding risks associated with animals in research and suggested controls.

1.5. Responsibilities

1.5.1. The Head of School is responsible for:
   - ensuring research or teaching using biological agents is approved (Table 1)
   - ensuring containment facilities are appropriate for all teaching and research activities involving biohazards
   - ensuring that facilities are registered and/or certified as required
   - ensuring that registers of biological hazards and containment facilities are maintained, regularly reviewed, and a copy sent annually to the Biosafety Coordinator
   - appointing a containment facility manager for all containment facilities
   - appointing a Biosafety Contact Person for the School
   - ensuring that training needs are identified, all persons are appropriately trained and that training records are kept
1.5.2. The Principal Investigator (PI) or Facility Manager (FM) is responsible for:

- establishing and implementing systems to meet the objectives set forth in this procedure. This responsibility extends to all aspects of biological research involving all individuals who enter or work in the PI's/FM's containment facility or collaborate in carrying out the PI's/FM's research or teaching
- implementing and maintaining a register of all biological hazards within their control
- registering all PC1 – PC4 containment facilities with the HS Unit
- forwarding updated biological and facility registers to the UNSW Coordinator annually
- assessing the risk of exposure of workers and students to biological hazards and ensuring that the identified controls are implemented and maintained
- assessing the risk of exposure of workers and students to vaccine-preventable diseases and identifying the subsequent need for immunisation
- providing immunisation to all workers, post graduate and Honours research students where required
- storing immunisation records according to UNSW HS Records Procedure (HS733)
- obtaining all legislative approvals, licences and certificates that are required
- ensuring plant and equipment is decontaminated and a Laboratory Clearance Certificate is in place before contractors are brought in to service/repair plant and equipment
- ensuring that biological wastes generated by their activities, or the containment facility that they supervise, is stored, decontaminated and disposed of according to UNSW Laboratory Hazardous Waste Disposal Procedure
- ensuring that a facility is fully decommissioned once it ceases to function as a containment facility
- ensuring that departing workers make their work space safe and reassign responsibility for the control of any remaining biological, chemical and plant hazards to others before they leave

1.5.3. SSBA facilities

- The Responsible Officer (or Deputy Responsible Officer) of the SSBA facility must report to:
  - the Department of Health (Health) and the police if an SSBA is lost or stolen
  - UNSW RECS unit of any communications to or from DoH. Communication would include any report to DoH, notice of an annual inspection by DoH, inspection reports, corrective action notifications and responses, notice of changes to the registration of the facility (for example, changes in workers, additions or subtractions to the list of SSBAs, breaches in security, follow-up for corrective actions).

1.6. Local Documents

Local documents are permitted on this subject provided that all requirements of the procedure are included in each local document.

<table>
<thead>
<tr>
<th>Version</th>
<th>Approved by</th>
<th>Approval date</th>
<th>Effective date</th>
<th>Sections modified</th>
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<tbody>
<tr>
<td>1.0</td>
<td>Director, Human Resources</td>
<td>1 January 2007</td>
<td></td>
<td>Review</td>
</tr>
<tr>
<td>1.1</td>
<td>Director, Human Resources</td>
<td>30 May 2008</td>
<td></td>
<td>Minor changes</td>
</tr>
<tr>
<td>2.0</td>
<td>Director, Human Resources</td>
<td>14 April 2011</td>
<td>14 April 2011</td>
<td>Whole document reviewed, transferred to new format</td>
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<tr>
<td>2.1</td>
<td>Biosafety Coordinator</td>
<td>24 April 2012</td>
<td>24 April 2012</td>
<td>Minor terminology changes Add the reporting requirements for laboratory acquired illnesses and Notifiable Incidents Removal of reference to Containment Facility decommissioning form, and inclusion of reference to Laboratory decommissioning Checklist</td>
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<tr>
<td>2.2</td>
<td>Director, Human Resources</td>
<td>14 April 2013</td>
<td>14 April 2013</td>
<td>Updated Branding Logo in accordance with UNSW Branding Guidelines. Modified the document identifier from OHS to HS in accordance with WHS legislation review</td>
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<tr>
<td>2.3</td>
<td>Director, UNSW Safety and Sustainability</td>
<td>30 April 2014</td>
<td>30 April 2014</td>
<td>Reviewed for administrative updates</td>
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<td>2.4</td>
<td>Director, UNSW Safety and Sustainability</td>
<td>5 August 2015</td>
<td>5 August 2015</td>
<td>Minor review, particularly links to new safety website. Updated reporting re: loss of biological agent, SSBA. Added transport requirements, minimizing volumes held, training requirements and further information about documentation in 1.2.3. Revise re National Audit tool.</td>
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<td>2.5</td>
<td>Director, UNSW Safety and Sustainability</td>
<td>22 February 2016</td>
<td>22 February 2016</td>
<td>Added reference to HS723, revised definition of Standard Precautions (last dot point)</td>
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<td>2.6</td>
<td>Acting Head of Governance</td>
<td>26 February 2016</td>
<td>26 February 2016</td>
<td>Removed DAFF references as now has different name and amended broken link.</td>
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<td>2.7</td>
<td>Director, UNSW Safety and Sustainability</td>
<td>11 March 2016</td>
<td>11 March 2016</td>
<td>Added clarification on containment facility access in 1.2.3. Update Tier 2 list in Table 2. Transferred into new template with administrative updates.</td>
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**Supporting Information**

**Parent Document (Policy)**

<table>
<thead>
<tr>
<th>Health and Safety Policy</th>
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<tbody>
<tr>
<td>**UNSW <strong><a href="#">Biosafety</a> website</strong></td>
</tr>
<tr>
<td>Gene Technology Research Procedure</td>
</tr>
<tr>
<td>Risk determination of human biological material - Guideline (HS651)</td>
</tr>
<tr>
<td>Classification of microorganisms (HS076)</td>
</tr>
<tr>
<td>Health Monitoring Guideline (HS091)</td>
</tr>
<tr>
<td>Animal Research HS risk identification guideline (HS066)</td>
</tr>
<tr>
<td>HSMS Review Procedure (HS319)</td>
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<td>Risk Management Procedure (HS329)</td>
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<tr>
<td>Microorganism/Biohazard Register (HS075)</td>
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<tr>
<td>Health monitoring form – Laboratory Animal Allergens (HS033)</td>
</tr>
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<td>Health &amp; Safety Records Procedure (HS733)</td>
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<td>Hazard and Risk Register (Workplace) (HS653)</td>
</tr>
<tr>
<td>Register of Biosafety Legislation (HS430)</td>
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<tr>
<td>Immunisation Guideline: Tetanus, Hepatitis A, Hepatitis B, Q fever (HS435)</td>
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<tr>
<td>Immunisation Questionnaire and Authorisation Form (HS427)</td>
</tr>
<tr>
<td>Decline of Immunisation Form (HS079)</td>
</tr>
<tr>
<td>Laboratory decommissioning checklist (HS047)</td>
</tr>
<tr>
<td>Laboratory Hazardous Waste Disposal Guideline (HS321)</td>
</tr>
<tr>
<td>Containment Facility Registration (HS078)</td>
</tr>
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<td>Cessation of laboratory activities checklist (HS726)</td>
</tr>
<tr>
<td>Laboratory Clearance Certificate (HS700)</td>
</tr>
<tr>
<td>Laboratory and Equipment Decommissioning / Project Cessation Procedure (HS723)</td>
</tr>
</tbody>
</table>

**Supporting Documents**

- Animal Ethics
- Gene Technology
- Human Research Ethics
- Radiation safety
Related Documents

| Department of Agriculture and Water Resources | website for quarantine and biological importation |
| Department of Health (DoH): |
| • OGTR |
| • SSBA |
| • NHMRC National Health and Medical Research Council |
| o Australian guidelines for the prevention and control of infection in health care, 2010 |
| Australian Standards: |
| • AS/NZS 2243 Safety in laboratories, 10 part series |
| o Part 1: Planning and operational aspects |
| o Part 3: Microbiological safety and containment |

Superseded Documents

<table>
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<th>HS323 Biosafety Procedure V2.4</th>
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UNSW Statute and / or Regulation

| Any variation to Policy or Procedure must remain consistent with the parent statute or regulation |
| Nil |

Relevant State / Federal Legislation

| Work Health and Safety Act 2011 |
| Work Health and Safety Regulations 2011 |

Accountabilities

| Responsible Officer |
| Director, UNSW Safety and Sustainability |

| Contact Officer |
| Manager, UNSW Work Health & Safety |
| Adam Janssen, Ph: 9385 2214 |
| Email: a.janssen@unsw.edu.au |

Further Information

Key words for search engine

Definitions and Acronyms

| Biological Hazard, Biohazard, Biologically Hazardous Material |
| Any biological agent, substance or material (whether alive or not) present in or arising from living organisms, that are or may be hazardous to the health or well-being of the environment or individuals in the (UNSW) community. |

| Biosafety |
| A combination of systems and practices intended to reduce the risk of accidental exposure to, or release of, agents that may cause an infectious disease in humans, animals, plants, insects or ecosystems. |

| Biosafety Coordinator |
| The UNSW Health and Safety Coordinator for Biosafety. |

| Biosafety Officer or Supervisor |
| The local person assigned by the school or research group who is the contact person for the exchange of information with the Health and Safety Unit (relating to all matters of Biosafety). |

| Diagnosis |
| The process of determining the nature of a disease or disorder and distinguishing it from other possible conditions. |
**Diagnostic Specimen**

- Any human or animal material, including (but not limited to) excreta, secreta, blood and its components, sputum, tissue and tissue fluids, submitted for the purposes of diagnosis.
- Diagnostic specimens from humans or animals would normally be regarded as Risk Group 2 and applies in all microbiology and other pathology laboratories, e.g. pathology or mortuary. Diagnostic samples shall be handled in Physical Containment Level 2 facilities (see definitions), unless accompanied by clinical notes where it is suggested that a higher risk group is indicated.
- If a microorganism of a higher risk group is isolated from a specimen, it shall be handled according to the corresponding risk group, and at the appropriate physical containment level.

*Note - All diagnostic samples shall be treated with care as they may contain multiple types of pathogens.*

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**DoH**

Australian Government’s Department of Health

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**Gene Technology**

Any technique for the modification of genes or other genetic material, but *does not* include:

- sexual reproduction;
- homologous recombination;
- mutations that occur naturally or through damage by radiation or chemicals; or
- any other technique specified in the regulations for the purposes of this paragraph.

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**Genetically Modified Organism (GMO)**

- an organism that has been modified by gene technology;
- a mutation that involved the introduction of foreign nucleic acids;
- an organism that has inherited particular traits from an organism (the *initial organism*), being traits that occurred in the initial organism because of gene technology; or
- anything declared by the regulations to be a genetically modified organism, or that belongs to a class of things declared by the regulations to be genetically modified organisms;

*but does not* include:

- a human being, if the human being is covered by paragraph (a) only because the human being has undergone somatic cell gene therapy; or
- an organism declared by the regulations not to be a genetically modified organism, or that belongs to a class of organisms declared by the regulations not to be genetically modified organisms.

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**GTRC**

Gene Technology Research Committee (formerly IBC – Institutional Biosafety Committee)

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**OGTR**

Office of the Gene Technology Regulator (DoH)

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**PC1, PC2, PC3 and PC4**

- Physical Containment level 1 to level 4 (lowest containment level through to highest)
- As described in AS/NZS 2243.3, for handling material that may contain microorganisms of the corresponding Risk Group level.
- As described by the OGTR to explain the categories of organisms and types of dealings intended to be contained in each facility type. These levels are intended to harmonise as closely as possible with the Risk Group levels described in AS/NZS 2243.3

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**Physical Containment (PC) Facility**

- The laboratory, room, facility or building that has been constructed and furnished to specific Australian Standard (AS/NZS 2243.3) requirements, in order to physically contain microorganisms, animals, plants, insects or biological hazards, and in order to protect people and the environment.
- A defined place where research and teaching involving biohazards is undertaken.
- Includes laboratories, animal houses, plant houses, invertebrate rooms etc and may include constant temperature rooms.
| **PPE** | Personal Protective Equipment (includes clothing) |
| **Principal Investigator or Facility Manager** | That person responsible for the allocation of tasks to workers, students and visitors; and/or the oversight of a facility or research project. |
| **RECS unit** | UNSW Research Ethics and Compliance Support unit |
| **Risk Group** | - The classification of microorganisms based on criteria such as the pathogenicity of the agent, the mode of transmission, host range, availability and effectiveness of preventative measures, and availability of treatment.  
- Risk Group 1 through to Risk Group 4 (lowest risk through to highest risk) as described in AS/NZS 2243.3, to be handling in the corresponding level of Physical Containment.  
- The risk group classifications in AS/NZS 2243.3 describe infectious microorganisms for humans and animals, plants and invertebrates. |
| **Sharps injury** | Also known as needlestick or stick injury – any penetrating skin injury by a sharp object or device that is or might be contaminated with an infectious agent, and in particular a pathogen with the route of exposure via the blood stream. Sharp objects include needles (e.g. syringe and suture), scalpel blades, fine-tipped scissors and forceps, and broken glassware. |
| **SSBA** | Security Sensitive Biological Organisms according to the Department of Health (See Table 2). |
| **Standard Precautions** | - For basic infection control: the basic risk minimisation strategy for the handling of human blood and body fluids, secretions and excretions (excluding sweat), and for the exposure of non-intact skin and mucous membranes. The strategy is recommended by DoH (see the DoH, Infection control guidelines).  
- Work practices required for the basic level of infection control include:  
  - demonstrating good microbiological practices (e.g. aseptic techniques);  
  - demonstrating good hygiene practices (particularly washing and drying hands before and after patient, specimen and sample contact);  
  - using appropriate protective barriers (including the wearing of gloves, gowns, plastic aprons, masks, eye shields and goggles);  
  - applying waterproof coverings over any break in skin integrity;  
  - having appropriate procedures in place for the handling and disposal of contaminated wastes; and for the handling and disposal of sharps; and  
  - Having appropriate procedures in place for cleaning work benches, equipment and such, and cleaning up after spills.  
- The work practices are described in AS/NZS 2243.3 for each of the types of containment facility (laboratory, animal, plant, and arthropod). PC2 work practices are the combined PC1 & PC2 work practices which meet the requirements for implementing Standard Precautions. |
| **Worker** | A person who undertakes activity (works) on behalf of UNSW |