Biological Safety Management

IMPLEMENTATION

Aim

To prescribe the responsibilities and actions required for biological safety management on University premises and/or during University-related activities to ensure the University meets the requirements of the Health, Safety and Wellbeing (HSW) Policy and the relevant sections of the Work Health and Safety Act 2012 (SA).

1 Objectives

1.1 To ensure that biological hazards are identified, assessed and appropriate control measures are in place to prevent an injury and/or minimise the risk of exposure.

2 Scope

2.1 Inclusions

This process is applicable to all workers who undertake University of Adelaide related activities, and/or are employed or engaged by the University or affiliated with the University in any capacity as a worker as defined under the Work Health and Safety (WHS) Act 2012 (SA).

This includes but is not limited to staff, title holders, volunteers, students, visitors or contractors.

2.2 Exclusions

This process does not include requirements for:

- Department of Agriculture (quarantine);
- GeneTechnology and Security Sensitive Biological Agents;
  (Contact The Office of Research Ethics, Compliance and Integrity for these requirements) or;
- Staff or students who have an infectious or communicable disease.
  (Further information is available in the Infectious and Communicable Diseases Information Sheet.)

3 Process: Set up of laboratory facilities to meet Physical Containment requirements

	Person Responsible	Actions
3.1	**Supervisor/person in control of the area/activity** (NOTE: A student is not to be the Supervisor/person in control of the area/activity.)	☐ Classify microorganism in accordance with the Classification of Infective Microorganisms (Appendix A). ☐ Classify containment required in accordance with the Classification of Laboratories, Practices & Procedures (Appendix B). ☐ Implement the physical containment requirements outlined in Appendix B and AS/NZS 2242.3 2010 "Safety in Laboratories Part 3 Microbiological safety and containment". ☐ Ensure workers are provided with information on the physical containment requirements for the laboratory.

3 Process: Set up of laboratory facilities to meet Physical Containment requirements

Person Responsible	Actions
3.2 Workers	☐ Ensure activities are conducted in accordance with physical containment requirements and the information provided (e.g. lab rules).

4 Process: Hazard Management

Person Responsible	Actions
4.1 Supervisor/person in control of the area/activity	☐ Ensure where there is a risk of exposure to biological hazards, the activity is risk assessed in accordance with the Hazard Management chapter of the HSW Handbook. Note: The following Information Sheets may also provide guidance if using Autoclaves, Working with human research subjects and patients, Working with Animals and Vaccinations. ☐ Ensure exposure is minimised to as low a level as is reasonably practicable using the highest level of control where possible. Examples of these controls are detailed in the Biological Hazard Management Information Sheet. ☐ Ensure workers are provided with the necessary Personal Protective Equipment (PPE) including information and instruction on use. ☐ Ensure that controls are implemented. ☐ Ensure activities that have a residual risk of "very high" or "high" are not undertaken unless the appropriate review and approvals have been obtained in accordance with the HSW Handbook Chapter Hazard Management. ☐ Ensure that risk assessments remain fit for purpose and are reviewed in accordance with the HSW Handbook Chapter Hazard Management when: ☐ the control measures do not control the risk; ☐ there are changes to legislation or new information becomes available which could eliminate or minimise the risk.
4.2 Workers	☐ Ensure all activities where there is a potential to be exposed to biological hazards are risk assessed in accordance with the HSW Handbook Chapter Hazard Management and in consultation with the Supervisor/person in control of the area/activity. ☐ Report to the Supervisor/person in control of the area/activity if you have concerns that the activity may place you or any other person at risk of injury/illness. For further information refer to the Information Sheet Biological Hazard Management.

5 Process: Provision of HSW information, training and instruction

	Person Responsible	Actions
5.1	**Supervisor/person in control of the area/activity**	☐ Ensure all workers who could potentially be exposed to biological hazards are provided with relevant HSW information, instruction and training which is suitable and adequate having regard to the: ☐ nature of the work carried out by the worker; and ☐ nature of the risks associated with the work at the time the information, training or instruction is provided; and ☐ control measures to be implemented.
5.2	**Workers**	☐ Conduct your activities in accordance with local task specific training.

6 Process: Emergency contingencies

	Person Responsible	Actions
6.1	**Supervisor/person in control of the area/activity**	☐ Ensure emergency contingency plans are developed and tested where identified in the Risk Assessment in accordance with Appendix C Emergencies. ☐ Ensure spill kits appropriate to the hazards in the area are made available and workers are provided with information, training and instruction which is suitable and adequate. ☐ Ensure first aid kits are provided and that adequate numbers of workers are trained to administer first aid in accordance with the HSW Handbook Chapter First Aid.
6.2	**Workers**	☐ Ensure you are aware of the relevant emergency contingency arrangements, including the location and use of spill kits, emergency showers and first aid provisions in your area in accordance with the HSW Handbook Chapter First Aid. ☐ Participate in any testing of emergency contingency arrangements where required. ☐ Refer to Appendix C Emergencies for guidance when managing a spill.

7 Process: Transportation

	Person Responsible	Actions
7.1	**Supervisor/person in control of the area/activity**	☐ Ensure workers who transport biological material do so in accordance with Appendix D Transportation.
7.2	**Workers**	☐ Transport biological material in accordance with Appendix D Transportation.

8 Process: Waste Disposal

Person Responsible		Actions
8.1	**Supervisor/person in control of the area/activity**	☐ Ensure workers dispose of biological waste (e.g. infective materials/specimens) in accordance with Appendix E Waste Disposal.
8.2	**Workers**	☐ Dispose of biological waste (e.g. infective materials/specimens in accordance with Appendix E Waste Disposal.

9 Performance Measures

Human Resources will use performance measures to assist in identifying areas of success and/or where corrective action is required to meet the objectives and targets of this process. The level of compliance with the chapter and effectiveness will be determined during the internal audit process.

10 Definitions

Aerosol
Suspension in air of finely dispersed solids or liquids.

Aseptic technique
The exercise of special procedures for maintaining—
(a) the sterility of equipment, media, and other materials;
(b) the purity of cultures, by eliminating accidental contamination; and
(c) protection for the operator and environment.

Biological material
For the purpose of these guidelines includes specimens, cultures, bacteria, pathogens, viruses, vaccines, antibodies, cell lines, fungi, moulds and yeasts, infected blood products, whole animals, human and animal tissues, human and animal waste, plant material, soils, organic dusts, contaminated wastewater, sewerage or any article that has come into contact with such material or anything discarded in the course of teaching or research that poses a health risk to a person, other research samples and the environment which may come into contact with it.

Biological/Microbiological hazard
A source of harm, arising from biological material (including microbiological)

Infectious Agent
Any agent capable of producing infection, e.g. bacteria, parasites, fungi, viruses and prions existing on its own or in biological material.

Infectious microorganism
A microorganism capable of invading a susceptible host and multiplying in it, which may or may not cause a disease.

Microorganism
Includes bacteria, parasites, fungi, viruses and prions (infectious proteins responsible for degenerative diseases).

Pathogen
A microorganism capable of causing disease in a host.

Supervisor/person in control of the area/activity
In the context of this chapter the supervisor has two meanings:
1. the line manager of a staff member or the principal supervisor of a higher degree by research student. The responsibility of this type of supervisor should be read in relation to all activity other than where the worker's activity is supervised by someone as described in the second meaning below.
2. any other individual who (separate to the line manager/principal supervisor) has control of a laboratory, clinic, workshop, field activity or other activity in which the worker is participating or working. For example a workshop manager who has control of what is undertaken and/or who determines which workers may/may not work within the workshop they control. These supervisors also have the responsibility for the activities under their control.
(Note: Control means that these individuals have the right to deny access to or stop any activity until they are satisfied that the activity can occur safely.)

10 Definitions (Continued)

Vector
An insect/other organism that transmits a pathogenic fungus, virus, bacterium, etc. Or any agent that acts as a carrier or transporter, as a virus or plasmid that conveys a genetically engineered DNA segment into a host cell.

Worker means according to the WHS Act 2012 (SA) a person where the person carries out work in any capacity for a person conducting a business or undertaking, including work as -

a) an employee; or
b) a contractor or subcontractor; or
c) an employee of a contractor or subcontractor; or
d) an employee of a labour hire company who has been assigned to work in the person's business or undertaking; or
e) an outworker; or
f) an apprentice or trainee; or
g) a student gaining work experience; or
h) a volunteer; or
i) a person of a prescribed class.

The person conducting the business or undertaking is also a worker if the person is an individual who carries out work in that business or undertaking. Note -Higher Degree by Research students and Academic Visitors are likely to be workers under the WHS Act 2012 (SA).

Zoonosis
Any infectious disease that can be transmitted (in some instances, by a vector) from animals (non-human), both wild and domestic, to humans or from humans to animals (the latter is sometimes called reverse zoonosis). Many serious diseases fall under this category.

11 Useful information and resources

11.1	**University related documents and resources** Hazard Management Provision of HSW information, instruction and training Biological Hazard Management Information Sheet Emergency Safety Shower and Eyewash Maintenance Information Sheet Autoclave Information Sheet Cryogenic Information Sheet Vaccinations Information Sheet Working with Animals Information Sheet Working with human research subjects and patients Information Sheet
11.2	**Related Legislation** Work Health and Safety Act 2012 (SA) Work Health and Safety Regulations 2012 (SA) Australian Code of Practice for the Care and Use of Animals for Scientific Purposes NHMRC Australian Code for Transport of Dangerous Goods by Road or Rail (ADG Code) Australia Post dangerous and prohibited goods packaging and post guide (2020) AS 1319 (1994) Safety signs for the occupational environment AS/NZS 2243.3:2010 Safety in Laboratories Part 3 Microbiological safety and containment AS 2252.5:2017 Controlled environments Part 5: Cytotoxic drug safety cabinets (CDSC) – Design, construction, installation, testing and use
11.3	**Other Resources** SA Department of Health South Australian Infectious Disease Control Guidelines Government of Canada - Pathogen Safety Data Sheets The University of Adelaide – Research Branch, Animal Ethics Civil Aviation Safety Authority (CASA) guidelines.

CLASSIFICATION OF INFECTIVE MICROORGANISMS

A microorganism or microbe is an organism that is microscopic (i.e. too small to be seen by the naked human eye). Microorganisms include bacteria, parasites, fungi, viruses and prions.

Risk Group of Microorganisms

Microorganisms are classified into risk groups. The following four classifications of infective microorganisms are based on the pathogenicity of the agent, the mode of transmission and host range of the agent, the availability of effective preventative measures, and the availability of effective treatment:

Risk Group 1 (low individual and community risk) - a microorganism that is unlikely to cause human, plant or animal disease.

Risk Group 2 (moderate individual risk, limited community risk) - a pathogen that can cause human, plant or animal disease, but is unlikely to be a serious hazard to laboratory workers, the community, livestock, or the environment; laboratory exposures may cause serious infection, but effective treatment and preventative measures are available, and the risk of spread is limited.

Risk Group 3 (high individual risk, limited community risk) - a pathogen that usually causes serious human or animal disease and may present a serious hazard to laboratory workers. It could present a risk if spread in the community, but there is usually effective preventative measures or treatment available.

Risk Group 4 (high individual and community risk) - a pathogen that usually produces life-threatening human or animal disease, represents a serious hazard to laboratory workers, and is readily transmissible from one individual to another. Effective treatment and preventative measures are not usually available.

Determining the Risk Group

Before using a microorganism for the first time you must determine which risk group (1-4) it has been classified in.

Examples of microorganisms according to risk groups 2, 3 and 4 are available in clauses 3.2 – 3.7 in AS/NZS 2243.3: 2010 Safety in Laboratories Part 3 Microbiological safety and containment.

To find a microorganism's classified Risk Group, the American Biological Safety Association has a useful database at https://my.absa.org/Riskgroups.

Diagnostic specimens from humans or animals would normally be regarded as Risk Group 2.
(If a microorganism from a higher risk group is identified then it must be regarded as that higher risk group.)

CLASSIFICATION OF LABORATORIES, PRACTICES AND PROCEDURES

What is 'physical containment'?
There are four levels of physical containment (PC1, PC2, PC3 and PC4).

Physical containment refers not only to the facilities, but also to the safety equipment, work practices and techniques, and health monitoring requirements.

Physical containment for microorganisms
The physical containment level correlates directly with the risk group level of the microorganism (see Appendix A Classification of Infective Microorganisms for determining the risk group), i.e. Risk Group 1 can be used in PC1, Risk Group 2 in PC2 and so on.

Physical containment for diagnostic specimens
Diagnostic specimens from humans or animals would normally be regarded as Risk Group 2 and must be handled as Physical Containment Level 2. If a microbial pathogen of a higher risk group is isolated from a specimen, it must be handled according to the corresponding risk group and at the appropriate physical containment level (see AS/NZS 2242.3 2010 Safety in Laboratories Part 3 Microbiological safety and containment Section 6 for details).

Physical containment for animals
Animals inoculated with organisms from defined risk groups must be housed in containment facilities appropriate to the particular physical containment level (see AS/NZS 2242.3 2010 Safety in Laboratories Part 3 Microbiological safety and containment Section 6 for details).

Physical Containment Requirements
For PC1 or PC2 level facility requirements including the personal protective and safety equipment, practices (including labelling and storage requirements), techniques and health monitoring procedures, refer to AS/NZS 2242.3 2010 Safety in Laboratories Part 3 Microbiological safety and containment.

If intending to use any material that falls into the PC3 or PC4 requirements contact the local HSW Team before use.

MANAGING SPILLS AND EXPOSURES

SPILLS

1 Spills inside a Biosafety Cabinet

Droplet-size spills or those up to 1 mL may be treated easily by wiping or flooding with a suitable disinfectant solution. If a larger spill or breakage occurs, more extensive treatment may be needed.

However, spills inside a biological safety cabinet are generally not as hazardous as those outside the cabinet as they are contained and aerosols are removed by the cabinet air stream. Clean-up may be commenced immediately.

The suggested procedure is:

- ☐ Ensure that the cabinet remains operating to retain aerosols.
- ☐ Wear two layers of gloves, labcoat and safety glasses while cleaning up spill.
- ☐ Place absorbent material wetted with suitable disinfectant over the spill. Alternatively, proprietary absorbent materials which release hypochlorite may be used.
- ☐ Allow approximately 20 minutes to ensure effective disinfection.
- ☐ Change outer layer of gloves in the safety cabinet after cleaning up the spill.
- ☐ Remove clothing for sterilisation, if contaminated, and wash hands and arms. Put on a clean set of gloves and protective clothing for carrying out the remainder of the clean-up.
- ☐ After initial disinfection of the spill, remove any sharp objects with forceps and discard as contaminated sharps then remove excess fluid with absorbent material and discard into a container for sterilisation. Discard culture bottles, petri dishes and solid material associated with the spill into the same container. Decontaminate (or remove for sterilisation) cultures, media and disposable materials adjacent to the spill.
- ☐ Wipe down the work floor, cabinet work zone and remaining items of equipment with fresh disinfectant solution. Disinfect both sides of the front grille and work floor within the cabinet. Regardless of whether there is a solid work floor, check that the spillage has not contaminated the sump. If the sump is contaminated, add sufficient disinfectant solution to completely cover the sump floor. If the spill is large, use sufficient disinfectant to dilute and inactivate the infectious material.

2 Spills outside a Biosafety Cabinet

Biological spills (human or animal) outside biological safety cabinets will generate aerosols that can be dispersed in the air throughout the laboratory.

2.1 Minor Spill (low aerosol production or PC1/PC2 risk level)

- ☐ Remove contaminated PPE, and alert those nearby
- ☐ Wear two layers of single-use, disposable gloves (made of latex, rubber or nitrile), lab coat and glasses
- ☐ Soak paper towels in disinfectant and place over spill area.
- ☐ Place towels in plastic bag for disposal.
- ☐ Clean spill area with fresh towels soaked in disinfectant.
- ☐ Report the incident using the on-line app or on-line form

2.2 Major Spill (high aerosol production or PC3/PC4 risk level)

- ☐ Attend to injured or contaminated persons.
- ☐ Remove contaminated PPE, alert those nearby and leave the laboratory immediately.
- ☐ Close doors and restrict access to the area close to the spill for at least 10 minutes.
- ☐ Plan the next steps, using the spills procedure and risk assessment for this activity.

2.2.1 If clean-up is possible using your spill procedures

- ☐ Clean the area with disinfectant, wearing appropriate PPE.
  This PPE includes lab coat with long sleeves or back-fastening gown, disposable gloves, disposable shoe covers, ~~and~~ safety goggles and face mask overlay with absorbent material and disinfectant.
- ☐ Cover spill with paper towels or other absorbent materials.

Continued

MANAGING SPILLS AND EXPOSURES

SPILLS (Continued)

2.2 Major Spill (high aerosol production or PC3/PC4 risk level) (continued)

2.2.1 If clean-up is possible using your spill procedures (continued)

- ☐ Carefully pour a freshly prepared 1 in 10 dilution of household bleach around the edges of the spill and then into the spill. Avoid splashing.
- ☐ Allow a 20-minute contact period.
- ☐ Use paper towels to wipe up the spill, working from the edges into the centre.
- ☐ Clean spill area with fresh towels soaked in disinfectant.
- ☐ Place towels in a plastic bag and decontaminate in an autoclave.
- ☐ Report the incident using the on-line app or on-line form.

2.2.2 If clean-up is not possible by the laboratory staff and the spill poses a risk to the wider community

- ☐ Contact the emergency services (0) 000 and Security 831 35444
  No attempt should be made to clean-up until emergency personnel are in attendance.
  Have a person who is knowledgeable of the incident and laboratory to assist emergency personnel on their arrival.
- ☐ Report the incident using the on-line app or on-line form.

3 Management of Blood Spills

3.1 For smaller spills:

Spots or drops of blood or other small spills can easily be managed by wearing two layers of single-use, disposable gloves made of latex, rubber or nitrile (vinyl gloves are not recommended for handling blood). Wipe the area immediately with paper towelling, then clean with detergent and water. Where cleaning is difficult (e.g. between tiles) and there is a possibility of bare skin contact with that surface, then a disinfectant (such as bleach) may be used after the surface has been cleaned with detergent and water.

3.2 For larger spills:

- ☐ Wear disposable cleaning gloves, checked first for holes or tears.
- ☐ Wipe up spill immediately with absorbent material e.g. damp cloth, tissue or paper towel.
- ☐ Place contaminated absorbent material into leak proof container or plastic bag for disposal.
- ☐ Clean the area with warm water and detergent, using disposable cleaning cloth or sponge.
- ☐ Where contact with bare skin is likely, disinfect area by wiping with bleach and allow to dry.
- ☐ Discard contaminated materials (absorbent towelling, cleaning cloths and disposable gloves) as general waste.
- ☐ Wash hands.

4 Spill inside a centrifuge

4.1 Centrifuges with sealed rotors or buckets that are able to be pressure steam sterilised

- ☐ Steam sterilise intact at 121°C for an appropriate time.

4.2 Centrifuges with non-sealed rotors and centrifuges not able to be pressure steam sterilised

- ☐ Where breakage or spillage is observed, allow 30 minutes for aerosols to settle.
- ☐ Place the rotor or bucket in an appropriate non-corrosive disinfectant solution (see Appendix F of AS/NZS 2243.3: 2010 Safety in Laboratories Part 3 Microbiological safety and containment.
- ☐ Remove larger pieces of broken glass to the sharps container with forceps and use material such as cotton wool moistened with disinfectant to pick up the finer pieces.
- ☐ Wipe internal surfaces of the centrifuge bowl with disinfectant.
- ☐ Spills and leaks of human blood and body fluids should be cleaned up in a similar fashion.

MANAGING SPILLS AND EXPOSURES

5 Spill Kits

- ☐ Spill kits appropriate to the hazards in the area should be made available and personnel trained in their use.

Suggested contents for a spill kit:

- ☐ Disposable gloves (latex, rubber or nitrile)
- ☐ Disposable shoe covers
- ☐ Protective clothing (e.g. lab coat with long sleeves)
- ☐ Safety glasses
- ☐ Mask or full face shield
- ☐ Absorbent material, e.g. paper towel, proprietary material containing hypochlorite (note: do not use hypochlorite on acidic spills)
- ☐ Chemicals available to prepare fresh disinfectant solution
- ☐ Forceps
- ☐ Cotton wool
- ☐ Plastic or autoclave bags or leak-proof container

EXPOSURE

1 Procedure for managing an exposure to blood/body fluids/substances

These include sharps injuries (including needlestick) and splashes into/onto mucous membranes or bare intact skin.

Exposure is an injury that involves direct skin contact with a body fluid listed below and there is compromised skin integrity such as an open wound, abrasion or dermatitis, or if there is direct mucous membrane contact. For exposure to skin, the larger the area of skin exposed and the longer the time of contact, the more important it is to verify that all the relevant skin area is intact.

Occupational hazards for workers from sharps injuries (including needlestick injury) and other blood or body fluid incidents include human immunodeficiency virus (HIV), hepatitis B virus and hepatitis C virus.

The following body fluids pose a risk for blood-borne virus transmission:

- blood, serum, plasma and all biological fluids visibly contaminated with blood
- laboratory specimens that contain concentrated virus
- pleural, amniotic, pericardial, peritoneal, synovial and cerebrospinal fluids
- uterine/vaginal secretions or semen.

2 Immediate action

2.1 Percutaneous exposure

If a worker has a percutaneous exposure, for example needle stick or a cut then:

- ☐ Treat the puncture wound or cut by liberal washing with soap and water and/or dilute hypochlorite solution.
- ☐ Seek medical attention. If a needle/sharp was involved, place it in a rigid-walled container. Take it with you to the doctor.
  Due to the risk of further injury do not attempt to cover or recap a needle.

2.2 Eye Contact

Promptly flush eyes with water for a prolonged period (15 minutes) and seek medical attention (take SDS if available).

MANAGING SPILLS AND EXPOSURES

EXPOSURE (Continued)

2.3 Ingestion

The treatment for ingestion of a biological sample will depend on the biological that has been ingested - seek medical attention (take SDS if available). Note that it is against University policy to eat and drink in the laboratory and mouth pipette.

2.4 Skin Contact (includes face and mouth)

Promptly flush the affected area with water and remove any contaminated clothing, you may need to seek medical attention (take SDS if available).

- ☐ If the face is splashed with blood, rinse the eyes and mouth (which present exposed membranes) gently with water to minimise the risk of infection.
- ☐ If blood gets in the mouth, spit it out and rinse with water several times.

2.5 Inhalation

Seek medical attention (e.g. University Health Practice, 8313 5050 or the Royal Adelaide Hospital, 7074 0000) Take SDS if available.

REPORTING

- ☐ Ensure that the incident is reported to the laboratory supervisor, that the incident has been entered into the on-line incident reporting system and that medical attention is sought.

COUNSELLING

Counselling is available to affected staff through the Employee Assistance Program (EAP).
Counselling is available for students through Student counselling support

TRANSPORTATION

1.1 TRANSPORTING OF BIOLOGICAL SAMPLES WITHIN OR OUT OF THE LABORATORY

Special care should be taken when choosing containers for the transportation of biological samples into, through and out of the laboratory.

Primary containers must be leak-proof and sealable; snap-top lids are not recommended.

If transporting biological material on dry ice use a container with venting holes. Under no circumstances can the container be sealed. See the Cryogenic Substances Information Sheet for further information on the storage, handling, transport and contingency arrangements for dry ice.

1.2 TRANSPORT BY ROAD, RAIL, AIR OR POST

1.2.1 Transport by Road

There are legislative requirements for transportation by road or rail of biological material if the material falls into the categories of infectious substances, biological products, diagnostic specimens and waste.

1.2.1.1 Infectious Substances

Infectious substances are those substances known or reasonably expected to contain pathogens. They are subject to the road transport regulations and the Australian Code for Transport of Dangerous Goods by Road or Rail (ADG Code) if they are capable of spreading disease through exposure.

1.2.1.2 Biological Products

Biological products are those derived from living organisms and used either for prevention, treatment or diagnosis of disease in humans or animals, or for related development, experimental or investigational purposes. They include, but are not limited to, finished or unfinished products such as vaccines and diagnostic products. For the purposes of the road transport regulations and the Australian Code for Transport of Dangerous Goods by Road or Rail the biological products are those known or reasonably expected to contain pathogens in risk groups 2, 3, or 4. Substances in this group should be classified in Class 6.2.

1.2.1.3 Diagnostic Specimens

Diagnostic Specimens are any human or animal material including, but not limited to, excreta, secrete, blood and its components, tissue and tissue fluids being transported for diagnostic or investigation purposes, but excluding live infected animals.
For the purposes of the regulations and the ADG Code they are divided into the following groups:

- Those known or reasonably expected to contain pathogens in risk groups 2, 3 or 4. Such substances should be classified in class 6.2. Specimens transported for the purpose of initial of confirmatory testing for the presence of pathogens fall within this group.
- Those where a relatively low probability exists that pathogens of risk groups 2 or 3 are present. Specimens transported for the purpose of routine screening tests or initial diagnosis for other than the presence of pathogens fall within this group.
- Those known not to contain pathogens.

1.2.1.4 Waste

Waste derived from the medical treatment of animals or humans or from bio-research where there is a relatively low probability that infectious substances are present. Decontaminated wastes which previously contained infectious substances are considered non-dangerous unless the criteria of another class are met (e.g. radioactive).

If biological sample is being transported by rail or road then it must be packed in accordance with Australian Code for Transport of Dangerous Goods by Road or Rail. Refer to the Guidance Notes for the Transport of Class 6.2 (Infectious Substances) Dangerous Goods.

TRANSPORTATION

1.2 TRANSPORT BY ROAD, RAIL, AIR OR POST (Continued)

1.2.2 Transport by air

If chemicals or biological samples are to be transported by air refer to the Civil Aviation Safety Authority (CASA) guidelines.

1.2.3 Transport by post

- If biological samples are being transported by post, refer to Australia Post guidelines.
- Documentation must accompany the specimen and should be protected from contamination. Double-walled clear plastic bags are recommended.
- Recipients must be informed of all known hazards associated with material in advance of delivery.

1.3 FURTHER INFORMATION

- Further information regarding requirements for transportation is available in Section 13, AS/NZS 2243.3 Safety in Laboratories Part 3 Microbiological safety and containment.

WASTE DISPOSAL

Always wear a lab coat or gown when disposing of biological samples and wear heavy gloves and cover all cuts and lesions on the hands with waterproof dressings.

Choosing the correct path for waste disposal
If you are unsure of the correct waste disposal plan please consult with your supervisor.

Animal/human tissue

All wastes to be placed in double plastic bags, sealed and placed into yellow bio-waste bins. Bins collected for removal by contractor when full.

Pathogenic waste & Biohazard waste

All material is to be autoclaved at 121°C for 30 minutes at 15psi prior to disposal via yellow bio-waste bins.

Animal house waste

All sawdust, straw, earth and cage scraps are to be placed into designated green waste bins. These green bins are collected by Campus Services.

Sharps

Sharps include items such as glass, scalpels, razor blades, needles, Pasteur pipettes and any other sharp object that may present a risk of infection. Sharps must not be discarded into general waste but are to be immediately placed in labelled puncture-proof containers located in laboratories. When full they are to be sealed and discarded via yellow bio-waste bin.

Infected re-useable glassware

Glassware and content can be disinfected overnight with a 1% Sodium hypochlorite solution or autoclaved (134°C for 10mins at 15psi) then the glassware is processed for re-use.

Infectious solutions and/or solids

This material must be placed in appropriate vessels, such as autoclavable jars, bottles or bags, labelled and autoclaved at 121°C for 30 minutes at 15psi. Solid residue is then disposed of via the infectious waste bin and solutions tipped down the sink or incinerated.

Waste solutions can alternatively be chlorinated overnight and disposed of via the sewer.