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1. Welcome

Welcome to the Faculty of Health Undergraduate Teaching facilities of Q & W Block GP & E Block Caboolture which host practical classes over a broad range of disciplines, including the following:

- Physics on Q3
- Medical Radiation Science (MRS) on Q3
- Basic and Introductory Biology, Biochemistry, Microbiology and Pharmacy on Q4
- Cytology, Haematology, Histology, Immunology and Physiology on Q7
- Cell and Molecular and Plant Biotechnology on Q8

In order to pass the HSE induction test

- **Medical Radiation students** need to be familiar with sections 1 to 7
- **Students accessing the Physics laboratories** need to be familiar with sections 1 to 6
- **Students accessing laboratories on levels 4, 7 and 8** need to be familiar with sections 1 to 6 and 8 to 12

2. Introduction

Your personal health and safety is important to QUT and this document provides information on rules and regulations designed for your personal safety before, during and after performing experiments or participating in practical classes in the Gardens Point, Q & W Block GP & E Block Caboolture laboratories on levels 3, 4, 7 & 8. The laboratory environment is potentially hazardous as you will be working with a range of microorganisms, human and animal products; and specialised equipment, radiation and chemicals. The purpose of these rules is to minimise your exposure to any potential risk factors, and will form the basis of Workplace Health and Safety policies and procedures that will be enforced in your future workplaces.

The rules comply with the Queensland Government legislation enacted in the Work Health and Safety Act (2011) and the Queensland Radiation Safety Act 1999. Breaches may be punishable by personal fine or imprisonment. The penalties are dependent upon the nature or category of the breach/offence. Failure to follow the rules set out in this document could lead to your exclusion from the laboratory and serious breaches may have more serious consequences.

Under the Work Health and Safety Act 2011, Section 29, a student is classified as “other person at a workplace” and must comply with the duties of the other persons in the workplace as defined by the Act:

*A person at a workplace, whether or not the person has another duty under this part, must—*

(a) take reasonable care for his or her own health and safety; and
(b) take reasonable care that his or her acts or omissions do not adversely affect the health and safety of other persons; and
(c) comply, so far as is reasonably practicable, with any reasonable instruction that is given by the person conducting the business or undertaking to allow the person conducting the business or undertaking to comply with this Act.
It is mandatory for you to read and familiarise yourself with the Health and Safety rules of the laboratory and also complete the on-line health and safety quiz, available on QUT Virtual, before beginning your practicals.

Students will not be permitted to work in these areas until they have completed and passed this quiz EACH SEMESTER.

This will be monitored and enforced by your Academics and demonstrators.

### 2.1. Quick reference chart

<table>
<thead>
<tr>
<th>Items</th>
<th>Level 3</th>
<th>Level 4</th>
<th>Level 7</th>
<th>Level 8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bags</td>
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<tr>
<td>Food and drinks (including water)</td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>Enclosed footwear</td>
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<tr>
<td>Laboratory coat</td>
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<tr>
<td>TLD badge</td>
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</tbody>
</table>
3. General

3.1. Personal health and safety

- if you have an underlying medical condition or are pregnant, please notify your academic or, if a MRS unit, notify the Area Radiation Safety Officer. This disclosure will be treated confidentially in line with the Privacy Act. This information may require QUT to make reasonable adjustments (alternative arrangements) to your learning program to ensure the Health & Safety of you and your unborn child, including support for you to achieve your learning outcomes
- personal belongings, e.g. handbags, backpacks, are not permitted in the laboratories on levels 3, 4, 7 and 8
- lockers are provided for storage of personal belongings on levels 2, 7 and 8 of Q & W Block GP
- lockers on levels 2 are accessed using your student card – further details on the use of these lockers is provided in the laboratory induction booklet
- lockers on levels 7 and 8 require a padlock for use – please provide your own padlock - QUT will not accept responsibility for theft of items if lockers are not properly secured
- lockers are to be used only for the duration of the practical class and during activities undertaken in Q Block, and are not for daily storage
- items left in lockers for extended periods will be removed and handed over to Lost Property with QUT Student Services
- students attending classes at QUT must not be under the influence of illicit drugs or alcohol
- there is a no smoking policy within all QUT buildings and smoking is not allowed within ten metres of any building entry
- students are NOT permitted to enter laboratory without the permission of the academic, demonstrator, tutor or relevant technician
- cover all open wounds prior to entry to the laboratory. Should you have any concerns, consult with your academic, demonstrator, tutor or relevant technical staff

3.2. Emergency procedures

**In Case of Emergency**

**Medical emergency 000**  
(Then call +61 7 3138 8888)

**QUT Security**  
+61 7 3138 5585 / 1800 065 585 (free call)

**All other QUT emergencies**  
+61 7 3138 8888

TAFE Security @ Caboolture 0419738909

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Q & W Block GP & E Block Caboolture Student Induction Health Safety and Environment (HSE)

https://sharepoint.qut.edu.au/faculties/Health/General Documents/FOH_HS_GDL001.docx
3.3. Emergency contact numbers

Relevant emergency contact numbers are displayed in the elevator foyers next to the elevators. This includes a list of Fire Wardens, trained First Aiders and key emergency contact numbers. There is also a map of the emergency evacuation route to follow in the case of an evacuation.

SafeZone is a smart phone app that any student or staff member can download and use for free. Download SafeZone from either the iTunes App Store or the QR Code for iPhones, the Google Play App Store or the QR Code for android phones or the Windows Store or the QR Code for windows phones.

At Caboolture campus note: If you activate SafeZone while at Caboolture campus your phone will tell you that you are outside the zone and offer you a single-click button to dial 000. To save time we recommend contacting 000 in the first instance.

3.4. Evacuation route and assembly

- in an emergency, proceed quickly and calmly from the laboratory or teaching space to the external stairwell as instructed by your Academic, demonstrator, tutor or relevant technician
- the Floor/Building Warden, QUT Security or Emergency Personnel authority super-cedes all of the above, and their directions must be followed
- DO NOT sit or run in the corridors as this creates a hazard for others commuting within the building
First aid

First Aiders are listed on the “Emergency Information” notice next to the elevators. If an incident occurs where you require First Aid, notify the Academic in charge or demonstrator immediately.

3.6. Fire safety

- in the event of a evacuation alarm, cease all activities in the laboratory
- evacuate the building using the shortest emergency exit route to the assembly area – this could be via the external or internal fire stairs (refer to the map below)
- where possible, switch off any fuel or power sources, including mobile gas canisters and Bunsen burners
- where possible, cap any open bottles and containers, including any flammable liquids
- DO NOT use the elevators during an evacuation
- follow all instructions from the following personnel in Q & W GP E Block Caboolture:
  - Chief Fire Wardens (White hat)
  - Floor Wardens (Red Hats)
  - Security Officers
  - Emergency services

Do not re-enter the building until you have been given permission by the Chief/Floor fire wardens of emergency services

3.7. Disability services

Disability services offer support to students who have a disability, injury or health condition – permanent, temporary, episodic or fluctuating.

Appointments with disability services are free and confidential and information will not appear on your student record, or be made available to others without your prior consent, except where required by law (e.g. to preserve health or safety).

Please contact disability services if you think that special or additional arrangement need to be made for your participation in practical classes. You will be registered with disability services who will liaise with the academic and laboratory technical staff to assess and implement any additional measures to best assist your learning.

3.8. Hearing loops

Hearing loops are available. Please contact the academic in charge or Disability Services to discuss your needs.
3.9.  Electronic devices

- the use of mobile phones in the laboratory is not permitted
- mobile phones must preferably be stored with your personal belongings in lockers (on silent) during practical classes
- MRS does not permit electronic images to be taken in the laboratories
- with approval and instruction from the Academic in Charge, iPads or other tablet devices, may be allowed, provided they are enclosed in a sealed snaplock (Ziploc) bag – the bag must be disposed of at the end of the practical class

3.10.  Personal protective equipment (PPE) -

3.10.1.  Footwear

- shoes must be non-slip, closed-in shoes that cover the toes, upper surface of the foot and the heel
- thongs, sandals, sling backs, high-heels and shoes with open sections or bare feet are not permitted
- avoid footwear with permeable sections if you know that you will be undertaking practical work using hazardous and high volumes of chemicals
- If you do are not wearing the appropriate footwear you will not be allowed entry into the laboratory

<table>
<thead>
<tr>
<th>Inappropriate Laboratory Footwear</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="inappropriate_shoes.jpg" alt="Inappropriate Shoes" /></td>
</tr>
<tr>
<td>These shoes do not cover the toe, top of the foot or heel and are not suitable for the laboratory</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Appropriate Laboratory Footwear</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="appropriate_shoes.jpg" alt="Appropriate Shoes" /></td>
</tr>
<tr>
<td>These shoes provide adequate cover and are considered fully enclosed. Leather shoes are ideal as they are impermeable</td>
</tr>
</tbody>
</table>

Q & W Block GP & E Block Caboolture Student Induction Health Safety and Environment (HSE)
4. Equipment hazards

Certain equipment used in the laboratory can cause serious harm if not used correctly. Do not use equipment until you have read the operating procedure, including all relevant safety advice, and have been instructed in its use by the Academic in charge, demonstrator, tutor or relevant technical staff.

Do not move or carry equipment in the laboratory unless instructed by the Academic in charge or demonstrators, and only do so if you feel confident or able to do so.

Some examples of equipment hazards include:

5. Electrical hazards

- take care when using water baths when lifting lids that condensation does not drip onto other instruments or electrical connections
- disconnect power supplies from outlets whilst assembling/disassembling electrophoresis equipment
- take care when using water baths when lifting lids that condensation does not drip onto other instruments or electrical connections

6. Thermal hazards

- high-temperature thermal hazards are more common in the undergraduate teaching laboratory e.g. heating blocks, water baths, and Bunsen burners and portable gas burners
- take care when raising lids on boiling water baths. Rising steam may cause scalding. Lids must be opened away from your body
- take care when inserting or removing tubes from heating blocks. Lids of tubes must be opened away from you
- do not force tubes into heating blocks as they will expand during heating and could break or explode under pressure
- do not touch the surface of heating blocks to determine if they are working or heated up
- incorrect calculation of radiation dose

7. Medical radiation science

Students participating in practical classes in the level 3 Medical Radiations laboratories will undertake HSE inductions as part of their course. They are also required to read the Radiation Safety Protection Plan (RSPP) and sign a declaration prior to using these laboratories. Students will clean up and return any used equipment to its initial position at lab completion.
8. PC2 laboratory hazards

Laboratories contain a number of potential hazards which may be harmful to the health or safety of a person or the environment. These include hazards such as equipment, chemical, biological and sharps.

8.1. General laboratory rules

- you must complete the on-line safety quiz before you will be allowed entry into any laboratory for practical classes
- unsupervised access to laboratories by undergraduate students or unauthorised personnel is not permitted
- reckless or irresponsible behaviour will not be tolerated
- it is prohibited to eat, drink, smoke or apply cosmetics in the laboratory
- DO NOT put your laboratory coat on until you are in the laboratory
- REMOVE your gloves BEFORE you remove your laboratory coat and discard them into contaminated waste
- laboratory coats must be removed BEFORE leaving the laboratory and BEFORE washing your hands
- do not place pens, pencils or hands in, or around the mouth while in the laboratory
- appropriate Personal Protective Equipment (PPE) must be worn at all times in the laboratory
- shoulder length and long hair must be securely tied back, clip back or secure long fringes or hair that could hang in your eyes while working
- hats or peaked caps are not permitted, cultural attire is permitted, providing it does not pose a health and safety hazard or risk - if you have any concerns or uncertainties regarding this, please contact the Academic in charge or demonstrator
- mobile phones are to be turned off and stored away while in the laboratory
- all substances must be regarded as potentially hazardous
- pipetting by mouth of any substance is NOT PERMITTED
- sharps must be disposed of into sharps containers
- NEVER recap needles.
- NEVER remove a used scalpel blade other than the Click Smart Scalpel removal system
- no equipment or materials are to be removed from the laboratory unless permitted by the technical staff
- do not interfere with or change the operating conditions of any piece of equipment without the appropriate approval or training.
- inform the academic in charge or demonstrator immediately in the event of a spill or breakage
- report all accidents, hazards, incidents or injuries to the academic in charge or demonstrator
- if you are feeling unwell or consider yourself medically or physically unfit on the day of your practical class, it is your duty to inform the academic in charge or demonstrator of such a situation
- your work space must be left clean and tidy at the end of the practical session
- wipe down your workspace before and after your practical session
- dispose of all wastes as directed and according to the Laboratory Waste Management Procedures as outlined in the Waste Disposal section of this document
- unless instructed otherwise, no waste is to be poured down sinks or drains
- hands must be thoroughly washed before leaving the laboratory, at the completion of a task, or if contamination is suspected
8.2. Chemical hazards

Laboratories contain many potentially hazardous chemicals which have the ability to be harmful to the health or safety of a person or the environment. This definition includes flammable, corrosive, toxic and carcinogenic substances.

Safety Data Sheets (SDS) provide critical information required for the safe handling of chemicals used in the workplace, including chemical and physical properties, health hazard information, emergency procedures and safe storage, use, handling and disposal procedures. In addition, chemicals that you use in the laboratory will be labelled to include risk statements and details on their handling and use.

- special care must be exercised in handling acids, alkalis, hydrocarbons, cyclic hydrocarbons and cyanide-based compounds
- follow instructions from the Academic in charge and demonstrators regarding appropriate PPEs to wear while handling chemicals – this should include gloves and protective eyewear for any practical class where chemicals are used
- many organic solvents, such as alcohols, acetones, ethers and hydrocarbons, are flammable
- DO NOT OPEN bottles of flammable liquids near open flames, electric motors, hot-plates, or pilot lights

8.3. Gas hazards

Various gases are used throughout the laboratories for a range of practical activities. These include natural gas, CO₂, Helium, Nitrogen and Carbagen.

Gas is either supplied via gas bottles directly to instruments, or reticulated throughout the laboratory. Reticulated gas is also supplied via gas bottles stored in designated spaces.

- students must not disconnect or connect gas bottles unless instructed to do, and this must only be done under supervision of the academic in charge or demonstrator
- if you are unsure about working with the Bunsen burners, portable gas burners or other instrument using gas, notify the academic in charge or demonstrator

The laboratories are fitted with various alarms to monitor the gases in the laboratories. In the event of a significant gas leak, the alarms will be triggered and the gas and electricity to the laboratories will be isolated. There are also emergency isolators (red button) located throughout the laboratories in the event that an incident occurs which require the gas or electricity to be isolated by staff.

Level 4 and Q804 laboratories have visible gas alarms at the entries into the laboratory – if these alarms are flashing, do not enter the laboratory.
8.4. Biological hazards

Treat all biological cultures and samples as potentially infectious, and handle using prescribed PPE and preventative laboratory techniques to prevent inhalation, ingestion or skin penetration.

- aerosols of infectious materials may be formed when:
  - opening tubes after vortexing samples
  - accidental spillage of solutions,
  - during pipetting (expelling from pipettes and other sources may create aerosols),
  - during use of inoculation loops

- ingestion may occur by mouth via eating, drinking or by direct hand-to-mouth spread resulting from failure to wash hands thoroughly upon completion of the task and practicum.

  - MOUTH PIPETTING IS STRICTLY FORBIDDEN.

8.5. Sharps hazards

Sharps includes syringes, needles, scalpels, microtome blades, dissecting equipment, broken glass or any other sharp implement with the potential to cause a penetrating injury if not handled in a safe manner. Skin penetration may occur through small scratches on the skin, paper cuts on fingers, or broken cuticles, and through penetration by needle sticks or other sharps injuries.

HANDLE ALL SHARPS WITH EXTREME CARE

Always follow the directions of the Academic, demonstrator, tutor or relevant technician.
- always remove scalpel blades from the handle using the supplied scalpel blade remover (Click Smart)
- all sharps must be treated as contaminated/infectious
- NEVER re-cap needles
- disposable needle/syringe sets must be discarded as a single unit
- syringes and needles, even if ‘clean’, must be disposed directly into a sharps
- broken glassware must be disposed of in suitable sharps containers
- NO broken glass is to be disposed of into yellow clinical waste bags or clinical waste wheelie bins

Under no circumstances must the contents of sharps containers be emptied into general garbage bins or industrial waste bins, nor be emptied and re-used.

8.6. Bunsen burners and portable gas burners:
- always ensure that long or loose hair is tied back when working with gas burners – this includes pony-tails that could swing forward when working near a Bunsen burner
- Note: when using the portable Bunsen burners and natural gas, gradually turn the gas knob when starting – it is not necessary to fully open the gas valve
- if the gas does not ignite immediately, close off the gas and wait at least 30 seconds before trying again for any gas released to dissipate
8.7. Hand washing

- hands must be washed:
  - after taking part in practical classes
  - before leaving the laboratory
  - cleaning up spills or cleaning contaminated workbench
  - if a spill has occurred on the gloves – remove gloves and wash hands

8.8. Anatomy activities

- practical activities involving human cadaveric material take place in both Q and W blocks at Gardens Point; this may include but is not limited to embalmed human tissue and body parts, and potted human organs, potted human material is not to be handled by students; this material is very fragile and should only be transported or repositioned by staff
- any student undertaking practical classes involving the use of cadaveric material will undergo a detailed and specific induction into the use of these materials and personal protective equipment requirements
- access to cadaveric material is strictly controlled and there are legislative and ethical requirements that all students using these materials are responsible for; in particular, all students will treat organs and tissue in a professional, orderly and respectful manner at all times
- there is strictly no unauthorised photography of human bodies and their respective tissue and specimens
- Working with human tissue has potential to cause stress. At any time a student can contact their academic to discuss any issues they have about working with cadaveric material. Students can also access QUT’s free and confidential counselling services.

9. Personal protective equipment (PPE)

PPEs are equipment required to be worn by all undergraduate students undertaking practical classes in the laboratories on level 4, 7 and 8 of Q & W Block GP & E Block Caboolture. Only PPEs that comply with Australian Standards is to be worn in the laboratory.

The type of PPE that must be worn will be determined by the nature of the work being conducted and the outcomes of the Laboratory Risk Assessment process. At the very least, the following PPE must be worn at all times in the laboratory unless lesser requirements can be justified by a risk assessment:

- Laboratory coat or gown
- Enclosed footwear
- Safety glasses
- Gloves

9.1. General

- do not put your laboratory coat/gown on before entering the laboratory
- remove your gloves first before you remove your laboratory coat
• remove your laboratory coat /gown BEFORE you leave the lab, and place it in a plastic bag with your safety glasses

9.2. Laboratory coats or gowns

• a laboratory gowns must be rear closing and properly fastened and protect the arms and body

• long-sleeved cotton or cotton/polyester rear fastening laboratory gowns are recommended for general laboratory work

• when choosing your laboratory gown, try it on to ensure it sufficiently protects you and is not exposing your lap/upper legs when seated

• if you do not have your laboratory gown you will not be allowed entry into the laboratory

9.3. Safety Glasses

• contact lenses or prescription glasses are not a suitable substitute for normal eye safety protection

• over glasses must be worn with prescription glasses to ensure adequate protection

• contact lenses are permeable, and if in doubt, confirm with the academic in charge that they are suitable for your practical activity

Standard safety glasses

Safety over-glasses
(worn over prescription glasses)
9.4. Gloves

- appropriate gloves chosen to suit the particular application or work
- for most activities in the laboratory, nitrile gloves provide adequate protection
- as determined by the practical activity, you might be provided with other types of
gloves – this is usually determined by the chemicals that you will be using during the
practical class
- if you suspect that you might have an allergic reaction to the gloves in the laboratory,
inform the academic in charge or demonstrators
- Other types of gloves include:
  - Latex/natural rubber
  - Neoprene
  - polyvinyl chloride (PVC)
  - Polyvinyl alcohol (PVA)

10. Emergency Spill Procedures

Spills in the laboratory may range from a minor incident to a significant hazardous event that may result in a
person(s) and/or the environment being harmed.

> Report all spillages and breakages to the academic, demonstrator, tutor or relevant technical staff
> All spills must be cleaned up immediately
> using the appropriate spill kit (biological/chemical) under supervision

The method(s) and material(s) used for spill containment will be dependent upon a number of key factors. These
include:

- toxicity of the substance
- nature and type of substance
- size of the spill
- location of the spill
- consequences of the spill
- incompatibility with other goods that could be spilt

If you are unsure of whether a spill is significant enough to require a spill kit, notify the academic in charge or
demonstrator before taking any further action.

Any spill greater than 1L must be handled by qualified staff – notify the academic in charge or demonstrator if this
occurs.
10.1. Spills on the body

Accidental skin contact must be treated immediately by rinsing under running water for at least 5 minutes, followed by a thorough wash with soap and warm water. If your laboratory coat has become contaminated due to a spill, remove it immediately to prevent skin contact.

If a significant spill has occurred on the body, which has penetrated the laboratory coat to the skin and clothing, wash the affected area under the safety shower and remove your laboratory coat.

10.2. Spills and splashes in the face and eyes

Splashes or spills on the face must be rinsed immediately using either the emergency shower or eye-wash station.

Avoiding splashes in the eye is the first priority and it is important to wear the appropriate eye protection while taking part in the practical classes.

If a splash should occur in your eyes, it must be irrigated immediately with running water for at least 20 minutes. Notify the academic in charge or demonstrator of the incident.

---

**Step 1: Immediate Care**

- **Skin**
  - Immediately wash with soap and water
  - Remove clothing and shower if necessary

- **Eye**
  - Rinse gently but thoroughly with water or saline with eyes open for at least 20 minutes
  - Remove clothing and shower if necessary

- **Mouth**
  - Spit out and rinse mouth thoroughly with water
  - Remove clothing and shower if necessary

- **Needlestick/Sharp Injury**
  - Encourage bleeding from the skin wound
  - Immediately wash with soap and water
  - Remove clothing and shower if necessary
  - Place the sharp implement in a rigid plastic container and retain

Notify the Academic in charge, demonstrator or technical staff who will administer First Aid as required, or contact additional Emergency personnel.
10.3. Chemical spills

Laboratories contain many potentially hazardous chemicals which have the ability to be harmful to the health or safety of a person or the environment. This definition includes flammable, corrosive and toxic substances.

Any spills, irrespective of material, is potentially hazardous, and must be dealt with immediately.

Notify the academic in charge or demonstrator of the spill

The following is basic guide on how to deal with hazardous chemical spills, and students are only to deal with hazardous chemical spills when under supervision of the academic in charge.

To neutralize a spill:

- contain the spill by surrounding it with a non-combustible material e.g. sand
- neutralize acid spills with lime, soda ash, calcium carbonate, sodium bicarbonate or limestone -only do this if you are certain of the properties of the spill, and refer to the SDS for full details
- use only dry products with acid spills as water reacts violently with concentrated acids
- neutralize alkali spills with a dilute solution of hydrochloric or acetic acid
- after the neutralization reaction is complete, collect the end-product by absorbing with a non-combustible material and then scoop up the material
- seal material in an appropriate container prior to disposal
10.4. Chemical spills in fume cabinets

The basic steps for chemical spills in fume cabinets are as follows:

- notify the academic in charge or demonstrator of the spill
- follow the standard operating procedures for chemical spills e.g. use appropriate personal protective equipment etc.
- always leave the fume cupboard exhaust running while cleaning up spills
- small liquid chemical spills should be contained and absorbed with absorbent towel, pads or mats, leave the absorbent material in the fume cupboard to allow fumes to extract before disposing appropriately
- refer to chemical MSDS for detailed spills management information as required
- in the event of a fire or large liquid chemical spill, immediately activate the emergency isolator button, to isolate all electrical or gas services, and leave the exhaust running - allow sufficient time for fumes to extract before cleaning up the spill

10.5. Biological spills

All laboratory spills including biological spills must be dealt with immediately to minimise the risk of infection and contamination. Treat all cultures and samples as potentially infectious.

The basic steps for biological spills management are:

- notify the academic in charge or demonstrator of the spill
- use standard operating procedures for biological spills e.g. use appropriate personal protective equipment etc.
- confine and contain the spill
- do not exacerbate the risks by generating aerosols during the clean-up
- do not use an aerosol disinfectant to decontaminate the spill, e.g. Glen20

Biological spills may be decontaminated using one of the following:

- sodium hypochlorite (bleach)
  - concentration of 0.5-1.0%
  - the contaminated area must be treated with the solution for at least 10 minutes
  - wipe away any excess sodium hypochlorite with water
  - DO NOT use sodium hypochlorite on any metal parts, including biosafety cabinets and centrifuge rotors

- 70% Ethanol
  - To be effective, 70% ethanol must be in contact with the contaminated area or material for at least 20 minutes
- **Viraclean**
  - Surfaces of equipment wiped down with Viraclean must also be wiped down with 70% Ethanol as viraclean is corrosive to metals and some plastics

- **Tuffies**
  - Hospital grade Tuffies can be used to wipe down surfaces or equipment as it does not contain any corrosives or solvents

- **Trigene**
  - Suitable for general disinfection of all surfaces (floors and walls). May be used on rubber, vinyl and most hard surfaces, including food preparation areas.
  - TriGene is effective against bacteria, fungi, viruses and bacterial spores.

### 10.6. Spills in biosafety cabinets

As with other biological spills, spills in the biosafety cabinets must be dealt with immediately to minimise the risk of infection and contamination. These spills are not considered as hazardous as they are contained in the cabinet, but cleaning and disinfecting of the cabinet needs to be thorough:

- notify the academic in charge or demonstrator of the spill
- ensure that the cabinet remains turned on
- place absorbent material soaked in a suitable disinfectant over the spill and leave for at least 10 minutes
- after spill clean-up, disinfect gloved hands and remove gloves in the cabinet
- if the spills has penetrated beneath the deck of the cabinet, clean the spill from the deck first before removing the deck plates to continue disinfecting and cleaning – wear appropriate PPE
- repeat above steps to clear away spill
- replace the deck plates
- wash hands and arms and put on clean PPE
- decontaminate adjacent surfaces, materials and equipment and appropriately discard any material associated with the spill
- wipe down the work area and front grille of the cabinet with fresh disinfectant

### 10.7. Spills in centrifuges

- notify the academic in charge or demonstrator of the spill
- for centrifuges with non-sealed rotors or non-autoclavable centrifuges:
  - allow 30 minutes for aerosols to settle
  - put on appropriate PPE
  - put rotor or bucket in a suitable non-corrosive disinfectant solution
10.8. Gas leaks and alarms

- alarms will be triggered in the event of a significant gas leak in the laboratories – there will be visible alarms indicating that the laboratory must be evacuated or that entry is not permitted
- these alarms will also isolate the gas and electricity to the laboratories
- emergency isolators (red button) located throughout the laboratories can also be triggered manually in an emergency to isolate the gas and electricity
- in the event that you suspect a gas leak, immediately notify the academic in charge or demonstrator

11. Disposal of laboratory waste

QUT has adopted waste management procedures to protect the health and safety of persons in control of, or exposed to hazardous waste in the workplace, and the community in general. These control measures aim to be environmentally responsible and comply with relevant Federal and State legislation and any other regulatory requirements.

- students are to dispose of laboratory practical materials into the appropriate discard containers, which include:
  - yellow clinical waste bags
  - yellow sharps containers
  - autoclavable biohazard bags
  - stainless steel containers
  - cardboard sharps containers

11.1. Types of waste

Waste can be classified in various classes, including the following:

- special waste (including clinical and related waste, asbestos waste)
- liquid waste
- hazardous waste, including solids and liquids

Special waste has unique regulatory requirements due to the risk of harm to human health and the environment. Clinical and related waste means any of the following:

- clinical waste, or
- cytotoxic waste, or
- pharmaceutical, drug or medicine waste, or
- sharps waste
11.2.  Chemical and solvent waste

- no liquids are to be directly decanted into any discard container, including sharps containers and stainless steel containers
  - unless instructed, do not dispose of any liquid waste down sinks or drains
- do not overfill liquid waste containers – liquid waste containers must not be filled more than two-thirds (2/3 or 60%)
  - Do not overfill waste containers:
    - Clinical waste bags and sharps containers must only be filled two-thirds (60%)
- unless instructed to do so, do not mix chemicals as they might be incompatible

11.3.  Clinical and biological waste

- no liquids are to be directly decanted into any discard container, including sharps containers and stainless steel containers
- do not overfill waste containers:
  - clinical waste bags and sharps containers must only be filled two-thirds (60%)
- no waste is to be disposed of directly into yellow clinical waste bins (wheelie bins)
- only sealed sharps containers and sealed yellow clinical waste bags are to be placed in the yellow clinical waste bins
- all gloves and disposable laboratory coats must be disposed of in yellow clinical waste bags

11.4.  Sharps waste

- sharps containers, once filled, will be sealed and placed into suitable contaminated waste bags for disposal by technical services staff.
- broken glass must be disposed of into a suitable sharps container whether it is clean or contaminated
11.5. Waste disposal containers

<table>
<thead>
<tr>
<th>Waste</th>
<th>Yellow Biohazard Discard Bags</th>
<th>Autoclavable Biohazard Bags</th>
<th>Yellow Sharps Containers</th>
<th>Cardboard Sharps Container</th>
<th>Stainless Steel Containers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Broken Glass</td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Contaminated non sharps e.g. Gloves, paper, paper towel used to wipe down benches, used Tuffies</td>
<td>✓</td>
<td></td>
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<tr>
<td>Graduated Disposable pipettes (Serological pipettes)</td>
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<tr>
<td>Non-contaminated materials e.g. hand wash paper towel, paper</td>
<td>✓</td>
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</tr>
<tr>
<td>Plastic Transfer Pipettes, Swabs, Tongue Depressors, Spreaders</td>
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<tr>
<td>Syringes, needles, pipette tips, microscope slides, coverslips, microfuge tubes, Glass pasteur transfer pipettes, scalpel blades*</td>
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<tr>
<td>Transgenic material &amp; contaminated plasticware e.g. Agar Plates, API strips, culture tubes, tissue culture flasks</td>
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</tr>
</tbody>
</table>

*DO NOT remove scalpel blades from handles. Only use Click-Smart devices to remove scalpel blades from scalpel handles. For disposable scalpels, discard the whole scalpel and handle unit in the sharps container

12. Clean workspace

- Always follow Good Laboratory Practice and keep your workspace clean and tidy. Wipe down the bench before and after your practical session, as well as any instruments that you used.
- Wiping down (decontaminating) your workspace is important for Health and Safety, as it protects you as well as the next group of students from infection or exposure to hazardous chemicals.