

## UON Key Risk Areas: KRA 1.7

### Laboratory Safety

#### 1. Purpose

The University of Newcastle is committed to ensuring all reasonably foreseeable risks to health and safety in laboratory work are identified, and management strategies put into place to eliminate or minimise such risks.

This document provides a guideline for the management of safety and associated compliance obligations within Laboratories and similar specialised facilities where higher level hazards may be encountered.

#### 2. Scope

This document applies to all Faculties, Divisions and organisational units of the University of Newcastle and its controlled entities.

#### 3. Definitions

- **Senior Managers/Managers:** Heads of School, Directors, Associate Directors and Managers of organisational units as well as equivalent roles to these positions.
- **Leaders/Supervisors:** Any member of the University who is responsible for supervising staff and/or undergraduate or postgraduate students and other workers, facilities and/or for leading research projects or teaching activities.
- **Facility Manager:** A particular person appointed in each laboratory area to oversee the implementation of all safety requirements. In addition, the H&S Committee or any other party can address any queries to this person during laboratory inspections. For the purposes of this document this person has been defined as the Facility Manager. A Leader/Supervisor may be a Facility Manager or may appoint a person to manage this area for them, although they remain responsible.

- **Workers:** As defined in the [NSW Work Health & Safety Act 2011](#) workers include employees, conjoints, students on work experience, contractors, sub-contractors and their employees. Staff, conjoints, students on work experience and contractors may be referred to collectively as workers, or separately as staff, conjoints, students, or contractors.
- **Laboratory:** is a facility where scientific or technological research, teaching activities, experiments and measurement can be performed within a controlled environment. The facility may be designated as a research, teaching or technical laboratory.
- **Safety Review:** refers to the [Safety Review process](#) managed by [Health and Safety Team](#).
- **Induction:** refers to the structured provision of information, instruction and requirements for people who are accessing the laboratory, in order to ensure they can undertake any activity without risk to their or others safety or health.

## 4. Responsibilities

### 4.1 The Vice-Chancellor, University Executive Committee and members of University Council

- Exercise due diligence by ensuring adequate resources are in place so that the requirements of this procedure are met.

### 4.2 Senior Managers/Managers

- Responsible for monitoring the implementation of this procedure;
- Ensure that appropriate resources are provided in order to achieve the requirements of this procedure in their delegated areas of control;
- Ensure that Heads of School and Service Portfolios oversee and are held accountable for the development and maintenance of safe systems of laboratory work;
- Ensure compliance with all relevant legislation and Standards so that exposure of persons to health and safety risks arising from laboratory activities is avoided or minimised.

### 4.3 Head of School or Administrative Unit

- Provide and make financial allocation for appropriate safety resources and risk control measures for staff and where required, other workers, students and visitors;
- Ensure appropriate risk management procedures are implemented which are relevant for laboratory work by:

- Hazard identification, through facility inspections and audits and safety review of research project and teaching activities;
  - Risk assessment of the hazards using the UON [Risk Assessment Checklist](#);
  - Risk control through providing appropriate facilities, equipment, SOP, induction and training.
- Ensure adequate training and supervision is available at all times for staff and other workers, students and visitors working in laboratories and specialised facilities;
  - Ensure procedures are adopted for the maintenance of laboratory and specialised facilities;
  - Communicate the requirements for staff and other workers, students and visitors to prepare and follow Safe Work Method Statements (SWMS) and Standard Operating Procedures (SOP) when required;
  - Ensure that clear and appropriate signage and access restrictions are in place and enforced where necessary;
  - Ensure staff who undertake teaching provide information on identifying hazards, assessing risks and following risk controls relating to laboratory work for students under their supervision;
  - Ensure that staff who undertake research provide information on identifying hazards, assessing risks and following risk controls relating to laboratory work for staff and students under their supervision;
  - Ensure that effective supervision is provided in laboratories through the appointment of a Facility Manager for each laboratory or other specialised facility under their control.

#### **4.4 Supervisors of staff and other workers, students and visitors**

- Ensure risk management procedures are implemented so that hazards are identified, risks assessed and risk controls selected and implemented to prevent injuries and incidents occurring in their area of responsibility;
- Ensure they SWMS and/or SOP are available and provided for all work involving laboratory hazards;
- Provide instruction and training so that students, staff, and other workers and visitors know and understand the requirements of the SWMS and SOP and monitor compliance;
- Supervisors of research projects or teaching activities which include higher level hazards are expected to submit an application for the Safety Review of the activity to ensure all compliance and safety obligations have been identified and managed;

- Ensure facilities used are appropriate for the work being undertaken.

#### **4.5 Facility Managers**

The Facility Manager is responsible for the following duties, however, they are not necessarily the supervisor of the staff and students using the laboratory. It is essential that supervisors work with the Facility Manager to ensure that all people using the laboratory use the required risk control measures.

- Ensure that SWMS and SOP are provided, maintained and disseminated in their respective laboratories;
- Ensure all workers receive an induction and have adequate training before being granted access rights and commencing work in the facility;
- Ensure any identified hazards which have not been found/seen to be effectively managed are identified to their Supervisor;
- Work with laboratory users to ensure that for each assigned laboratory area a safety manual is developed;
- Ensure that the laboratory safety manual is maintained and is up to date and complete;
- Develop and maintain a (general) laboratory induction package using the laboratory safety manual as a basis;
- Maintain a record of induction of new laboratory personnel;
- Undertake regular safety walk-throughs and inspections of the laboratory;
- Participate in safety inspections of the laboratory by other groups such as Health and Safety Committee members;
- Ensure that when corrective actions are recommended following inspections that they are implemented and their effectiveness reviewed;
- Provide technical guidance and support and appropriate training to laboratory personnel, including hazard identification and risk control;
- Ensure non-laboratory workers such as contractors servicing equipment are suitably inducted and supervised whilst accessing and undertaking work in the facility.

#### 4.6 Staff and other workers, students and visitors

- Follow the requirements of SWMS and SOP that have been implemented and report circumstances where laboratory work poses hazards that need to be addressed;
- Report injuries, incidents and near-misses to the supervisor or Facility Manager;
- Follow any reasonable direction issued by the appropriate persons, with regard to safety;
- A member of staff, a student or a visitor may seek the review of a direction relating to safety and the direction may, on request, be reviewed by the Head of School or the administrative unit in consultation with the Health and Safety Team. The direction is presumed to be reasonable and is to be followed until it is reviewed and any alternative direction confirmed.

#### 4.7 Infrastructure and Facility Services

- Ensure services including air handling/extraction, autoclaves, fume hoods, piped gas, emergency equipment (e.g. emergency lighting, extinguishers, hose reels) are provided, serviced and maintained;
- Ensure that contractors who are required to undertake work in a restricted area such as a laboratory seek approval with the Facility Manager or supervisor prior to the work commencing

#### 4.8 Health and Safety Team

- Provide support and advice to assist in the implementation of this procedure.

#### 4.9 Technical Safety Committees

- The [Institutional Biosafety Committee \(IBC\)](#) and [Chemical and Radiation Technical Committee \(CRTC\)](#) will provide advice and assistance in problem resolution relating to technical issues.

## 5. Requirements

### 5.1 Risk Management

The principles of risk management should be applied to all laboratory work. The four steps of the process include:

- **Hazard identification:** This is achieved through regular safety inspections, considering the activities in the laboratory such as the equipment and materials used, the working environment and the existing processes and procedures.

- **Risk assessment:** The assessment considers the likelihood that a hazard will cause harm and the severity of the harm should it occur. Harm to the environment as well as harm to people should be taken into account.
- **Risk control:** Risk controls are selected to ensure that all hazards identified are managed in such a way that the risks are eliminated where practicable or minimised. This can be achieved through providing appropriate facilities, materials, procedures, induction and training, supervision and personal protective equipment.
- **Risk Review:** Periodically e.g. annually or if circumstances change, the risk management procedures should be reviewed to identify whether risk controls are effective or whether modifications are required to existing procedures, or when additional controls are required.

## 5.2 Risk Management Documentation

A Risk Register should be developed for all laboratories which lists the hazards present, the risk rating of the hazard, the risk controls that are in place to manage the hazard and whether additional risk controls are required to achieve a higher level of control. See the [UON Health and Safety Procedure 4.1 Risk Management](#) for information on managing hazard and risks and for a copy of a Risk Register template.

A laboratory Safety Manual should also be developed which documents all the known hazards and details the procedures to be followed to ensure the associated risks of the hazards are controlled. See Section 5.15 for more details on the Safety Manual.

## 5.3 Safety Reviews

The University has set processes in place to ensure that all research work which take place at the University have safety approval and human and animal ethics approval where appropriate.

Each time a new project is planned to be undertaken, or when there is a variation to an existing project, it is the responsibility of the Chief Investigator to ensure that an appropriate application is submitted. This is to ensure that all the activities associated with the project can be risk assessed by subject matter experts to ensure that the risk control strategies for higher level hazards and associated compliance requirements for research projects and teaching activities have been independently reviewed. This is facilitated through the [Safety Review Process](#).

## 5.4 Induction Training and Supervision

Training is an essential element of risk management as it provides the means of communicating hazards and risk control methods. Training can take several forms:

- **Laboratory inductions for new staff and students:** This type of training should include emergency procedures, waste management, general facility requirements

and relevant procedures e.g. SWMS and SOP. Personal Protective Equipment (PPE) requirements must be identified and the appropriate equipment issued. Records of inductions must be maintained for all Laboratory workers.

- **On-the-job training:** This is provided by Supervisors, Facility Managers or equipment suppliers. This is particularly important when new procedures or equipment are introduced to the laboratory or when laboratory personnel take up work that they have not done before.
- **Training courses on University requirements:** Laboratory related Safety Courses are regularly scheduled by the University and laboratory workers (staff and students) are encouraged to attend when the subject is relevant to their work. The training calendar and further information can be found on [HROnline](#).
- **Minimum Training Requirements:** The following are the minimum requirements for granting laboratory workers access to laboratory facilities:
  - The University [Online Health and Safety induction](#);
  - The University [online Laboratory Safety training](#);
  - A local induction for the facility they are to work in which includes emergency and evacuation procedures, the Risk Register, the laboratory safety manual, relevant facility procedures, waste disposal, PPE usage and other requirements specific for the laboratory;
  - Training for any procedures to be undertaken or equipment to be operated or used.
- **Supervision:** Effective supervision is an essential element of risk management. It ensures that hazards and risk control methods are communicated and observed by all persons working in the laboratory and that work practices are regularly monitored.

## 5.5 Safe Work Practices

The following requirements apply to all personnel who use or enter the laboratory:

- Stay alert and be conscious of potential hazards;
- Report hazards, faults, incidents and injuries to the direct supervisor and ensure that it is reported through the UON [Online Incident Management System](#) (IMS);
- Secure long hair to keep it out of moving equipment. Only wear jewellery that cannot be caught in equipment or contaminated by infectious substances or chemicals or is protected from these hazards;
- Reckless behaviour in the laboratory is absolutely forbidden and could be subject to disciplinary behaviour;

- Regard all substances as hazardous unless there is definite information to the contrary;
- Become familiar with the physical properties and potential dangers of materials you plan to use. The Safety Data Sheet (SDS) should be consulted preferably before any new or unfamiliar chemical agents are purchased and especially before use;
- Consider the limitations of the equipment involved in the work/experiment;
- If in doubt, ask your Supervisor or another knowledgeable person for assistance;
- Headphones and earbuds should not be worn in the laboratory;
- Mobile phones should not be used in the laboratory;
- The following are forbidden in the laboratory:
  - Smoking, eating and drinking and associated material;
  - Mouth-pipetting;
  - Open toed or no footwear;
  - Unauthorised persons e.g. family member;
  - Applying cosmetics;
  - Handling contact lenses.
- All liquids or powders shall be clearly labelled or identified unless being in short term and immediate use.

## **5.6 Housekeeping**

Good housekeeping will prevent incidents and injuries, particularly slips, trips and falls:

- Keep corridors and doorways clear. Exercise care when opening and closing doors and entering or leaving the laboratory;
- Keep all emergency egress routes completely clear at all times;
- Keep only the minimum required quantities of chemicals in the laboratory area;
- Secure gas cylinders upright to prevent tipping or falling and only those cylinders attached to apparatus to be stored in the laboratory;
- Label all safety equipment and maintain in good operating condition;
- Clean up spills immediately and thoroughly using appropriate equipment and materials. If you are unable to rectify the situation, inform your supervisor immediately;



- All laboratory waste should be properly disposed of in the correct waste stream;
- Keep the laboratory free from clutter. Clean up work surfaces after each project or at the end of each day. Ensure that any chemicals, materials or equipment not in immediate use are properly stored;
- Always wash your hands (and remove gloves and lab coats) before leaving the laboratory. It may be necessary to wash your hands regularly while in the laboratory, especially when handling bacteria or other contaminated matter;
- Gloves must be removed before exiting the lab, opening door handles and using the telephone;
- Hand-washing sinks must only be used to wash hands in. They must be kept clean and not be used for any other purpose.

### **5.7 Security**

Most laboratories are identified as restricted spaces and access must be restricted to authorised personnel. Access must never be provided to an unauthorised person without approval from the Supervisor or the Facility Manager. Due to building design, it may be impossible to physically restrict unauthorised visitors in some locations. Therefore it is the responsibility of workers to ensure facilities are locked when unattended and to be alert to strangers, and, if warranted, question them about their need to be in that location.

Authorised visitors (including contractors) and students should be supervised at all times.

### **5.8 Laboratory Signage**

Due to the nature of the work and associated hazards laboratory areas are generally identified as restricted areas and signage identifying this should be posted at entry points. A [template](#) along with directions is provided under the [laboratory signage tab](#). This signage must be complete and current and displayed at the entrance to the facility to identify entry, PPE and contact requirements.

### **5.9 Solitary Work**

It is inadvisable to work alone in a Laboratory and only those deemed competent and with approval from their Supervisor may do so. Additional requirements and information around the risk management of working alone can be found in [KRA 2.4 Working Alone or in Isolated Situations](#).

### **5.10 After Hours Work (between 7pm and 7am, and weekends)**

Personnel working in laboratories out of hours must contact security on arrival to inform them of their arrival, location and expected time to finish their work and leave. Personnel should contact security as they are leaving to confirm they are exiting the laboratory and

campus. Further instructions and requirements are contained in [KRA 2.4 Working Alone or in Isolated Situations](#).

### 5.11 Incident/Accident Reporting System

All incidents/injuries/near misses and hazards in laboratories are to be reported initially to the Supervisor or Facility Manager responsible for the area and entered into the [UON Online Incident Reporting System](#). If a person is injured and requires medical treatment the UON Health and Safety Team must be called on extension 39999.

### 5.12 Safety Equipment

- **Safety showers and eyewash stations:** This equipment is provided in all laboratories where hazardous substances are handled. Their use will be included in laboratory inductions along with instructions to keep access to the shower and eye wash station clear at all times.

Note: Some safety showers including those in the Life Sciences Building are not connected to the drain, so when either the safety shower or the eyewash is used, water will accumulate on the floor. Infrastructure and Facilities Services should be notified if required to mop up the excess build-up of water on the floor. Signage should be placed to identify any slip hazard.

- **First Aid kits:** All laboratories will be provided with first aid kits with appropriate contents for the hazards present in the facility. The location of the kits and introduction to the First Aid Officers in the facility will be included in the laboratory induction.
- **Fire hoses, Fire extinguishers and Exit Signs:** This equipment is provided in every laboratory and its location will be included in the laboratory induction, along with the emergency evacuation instructions. The equipment is maintained by Infrastructure and Facilities Services (IFS).

### 5.13 Laboratory Equipment

Laboratory equipment covers a wide range of items, many of which have specific safety considerations that need to be managed by the Supervisors and/or the Facility Managers responsible for the area. Associated hazards may include; lasers contained within the equipment, sealed radiation sources, hazardous substances used with the equipment, electrical hazards, ergonomic issues, heat/cold exposures, sharps and noise.

The following requirements apply to the safe use of laboratory equipment:

- Documented procedures should be in place for laboratory equipment detailing operating, cleaning and maintenance requirements in line with manufacturer instructions;

- Equipment shall not be used by workers until instruction and assistance has been provided by the Supervisor or other responsible person, who is able to explain the applicable procedures. The worker will be deemed competent by the trainer before being allowed to use certain pieces of equipment.
- All equipment faults and problems shall be reported immediately to the Supervisor or Facility Manager. If there are immediate safety concerns about a piece of equipment it shall be removed from the energy source and an "Out of Service" tag attached to prevent further use.
- IFS arranges regular inspection and testing of electrical appliances (Refer to KRA 3.7 Electrical Testing and Tagging for further information), however, the user is still responsible to report any concerns about the safety of electrical equipment e.g. not functioning, frayed lead, exposed wiring.
- Double adapters ("piggy back plugs") must not be used in the laboratory. Only power-boards with a 10-amp overload protection and individually switched outlets can be used if there are not sufficient power outlets available.
- Electrical cords and power outlets must be kept clear of areas where liquids are in use.
- For more information refer to Key Risk Area [KRA 3.6 Electrical Safety and Energy Isolation](#)

#### 5.14 Ergonomic Considerations

Information on Ergonomics can be found [KRA 2.1 Manual Handling and Ergonomics](#).

- **Pipetting:** Excessive and incorrect use of pipettes can result in finger, arm and shoulder injuries. Workers must consult the relevant Instruction Manual or procedure for instruction on correct use and risk reduction. They must be advised to report symptoms of pain and discomfort during use if this occurs, so that work methods can be checked and alternative equipment can be sourced if necessary. Reports shall be made to the Facility Manager or Supervisor and an incident report will be lodged.
- **Microscopes:** Microscopes should be used when seated on a chair than can be adjusted to provide the correct support for backs, thighs and feet with ample legroom. Microscope tasks should be broken up at regular intervals so the user can stretch neck, back, shoulders, arms and hands and to rest the eyes. Try to avoid prolonged and take frequent breaks to stretch.
- **Lighting:** If there is concern over the level of lighting in the laboratory, IFS should be contacted to discuss solutions. In the case of a broken bulb or a flickering or buzzing light, a Maximo report should be submitted to that the problem is logged with IFS who can then arrange for maintenance or repair.

- **Noise:** Hearing protection, such as earmuffs, should be used if laboratory noise levels exceed safe levels e.g. when using a sonicator. Concerns about laboratory noise levels, should be reported to the Facility Manager or Supervisor. Further information can be found in KRA 1.6 Noise Management Guidelines.

### 5.15 Laboratory Safety Manual

The Laboratory Safety Manual provides valuable information for managing laboratory risks and it is generally the responsibility of the Facility Manager to oversee the development and maintenance of the Manual.

The Manual should form an integral part of the induction program for new staff/students who will be working in the laboratory. A record of this induction should be retained by the Facility Manager, as well as being kept in the Manual.

While it is expected that those working in the laboratory are best positioned to identify key sections for the Manual, the following are recommended for inclusion:

- Standard Operating Procedures (SOP) undertaken within the laboratory for equipment and processes;
- Reference to relevant University Health and Safety Policies and Procedures;
- Relevant Australian Standards and Guidelines;
- Reference to the Chemwatch inventory of all chemicals used in the laboratory which includes all the relevant Safety Data Sheets (SDS);
- A register of all radioactive materials used in the laboratory;
- A register of microbiological materials used, including genetically modified organisms and those acquired following Australian Quarantine and Inspection Service (AQIS) approval;
- A current list of personnel (indicating title, name, department, and telephone, fax and email contact details) authorised to access the laboratory including date of authorisation, receipt and return of keys/access card on resignation;
- Records of training undertaken and induction of new persons into the practices of the laboratory;
- Records of in-house routine safety audits of the laboratory;
- Copy of the Risk Register for the laboratory including (see Section 5.2).

### 5.16 Other Documentation

- **Standard Operating Procedures (SOP) or Safety Work Method Statements (SWMS):** These documents provide detailed instructions for safe use of laboratory

processes and equipment. They provide step by step instructions for carrying out the activity and can be used for training and record keeping purposes.

- **Risk Assessments:** Are undertaken for activities and processes where hazards may be identified so that the likelihood and consequence of the hazard causing harm can be assessed and the appropriate risk controls determined. Risk assessments are documented using a [Risk Assessment template](#).
- **Authorisation and Review:** SOP and risk assessments need to be authorised by the Supervisor or Facility Manager with responsibility for the area, and signed and dated by the persons developing the SOP or conducting the risk assessment. The documents must be reviewed regularly e.g. annually or if an incident or a change to the process has occurred.

### 5.17 Personal Protective Equipment and Clothing (PPE)

- The minimum requirements for PPE in a University laboratory are laboratory clothing (laboratory gown), protective eyewear (safety glasses), and closed shoes unless lesser requirements can be justified by a risk assessment as outlined in Australian Standard AS/NZS 2243.1:2005.
- Dependant on the hazard/s and activity further PPE may be required for work undertaken in the laboratory and this will be identified by risk assessment and managed for all workers working on the activity or with the hazard.
- Laboratory PPE should be removed upon leaving the laboratory and must not be worn in corridors, offices, toilets or where food is consumed.

Further information on PPE can be found in [KRA 1.5](#).

## 5.18 Laboratory Inspections

Laboratory inspections are an important part of the risk management process, serving to both identify hazards and review the adequacy of risk control measures. Inspections must be conducted regularly and can involve people from the local area and people from outside the immediate work area so that there is an opportunity to share and build-on common experiences.

Inspections can vary in their purpose and degree of formality, and whilst there is no consistent nomenclature, are often categorised as follows:

- **Walk-throughs:** As the name suggests, these consist of a simple walk around the laboratory to check for things that might be out of the ordinary, either in equipment operation or people's behaviour. Generally these are conducted by Facility Managers or Supervisors, and are done on a frequent basis e.g. daily or weekly depending on the activities.
- **Safety Inspections:** These are intended to identify situations in the laboratory that do not comply with a set of risk control standards. These standards are often used to generate a checklist that acts as a prompt during the inspection. There is a [Laboratory Safety Checklist template](#) provided. This checklist addresses the principal aspects of laboratory safety across the breadth of laboratories at the University. Only the sections of the checklist that are relevant should be used for a given laboratory and if relevant additional specific safety issues should be appended to it. Inspections are typically conducted by Faculty Safety staff, H&S Committees, Technical Committees (Institutional Biosafety Committee, Chemical and Radiation Technical Committee) or the Health and Safety Team.
- **Safety Audits:** These are the most formal type of inspection and typically focus on risk management systems – e.g. their implementation, performance, adequacy, and their application. Verification of compliance, through inspection of documentation and records, is often a key outcome of an audit. Audits may look at specific activities or compliance with certain legislation across the University, or they may cover the spectrum of risk management programs in a particular work area.

Laboratories will therefore be subject to number of these different "inspections" during a year. An important outcome of each type of inspection is the documentation of the identified hazards, and the actions required to control their risks. In the case of the Laboratory Safety Checklist, these form part of the record of inspection.

## 5.19 Laboratory Waste Management

- **General Waste:** Waste such as packing, paper and paper towels is placed into the grey/black waste bags provided. Large boxes should be placed next to the general waste bin and labelled as general waste. Non-contaminated glass (broken glass, washed bottles) should be packed in a clearly labelled "Caution: clean glass" box and placed next to general waste bins for removal. The cleaners remove all general waste daily.
- **Laboratory General Waste:** This waste (excluding categories mentioned below) is placed into yellow contaminated waste bags. When  $\frac{3}{4}$  full they must be sealed with tape and placed in the yellow whiz bin in the area.
- **Sharps:** (e.g. broken contaminated glass, contaminated glass, glass pipettes, needles, scalpels, slides). This waste is placed in sharps bins after use but should only be filled up to the line shown on the bin. The full bin must be sealed and placed in the yellow contaminated waste whiz bin in the area. All full yellow whiz bins are to be locked and they are removed weekly by the waste contractor. Refer to KRA 1.1, Hazardous Substances and Dangerous Goods and 1.2, Genetically Modified Organisms for further information.
- **Cell Culture and Liquid Microbial Waste (Including Genetically Modified Waste):** This waste must be autoclaved or diluted in bleach at a final concentration of 0.5% for a minimum of 30 minutes before being washed down the sink with water. Refer to KRA 1.1 and 1.2 for further information (see references above).
- **Solid Microbiological Waste (Including Genetically Modified Material):** Solid waste containing microorganisms, infectious material or genetically modified material must be placed into autoclavable contaminated waste bags or sealed in autoclavable vessels and autoclaved. The bags are then placed in a yellow contaminated waste wheelie bin located in the autoclave room for disposal through the waste contractor. Refer to KRA 1.1 and 1.2 for further information (see references above).
- **Animal Carcasses/Tissue:** This waste is placed into black plastic body bags, (provided by the animal house) and transported to a freezer in the animal facility area for storage prior to disposal.
- **Radioactive Waste:** Refer to KRA 1.10, Radiation Management
- **Chemical Waste:** The contractor Toxfree conducts chemical waste collections for the University on a monthly basis. The [Toxfree collection schedule \(PDF, 704KB\)](#) can be referred to for collection dates. Waste collection can be arranged as follows:
  - The waste must be stored in the appropriate packaging and clearly and correctly labelled;

- Waste is to be stored in a safe location (e.g. flammable waste in flammable cupboard) where it does not impede walkways and spill trays should be used to minimise the risk of spills;
- Material must be segregated if required;
- The [Toxfree order sheet \(XLS, 106KB\)](#) must be completed and emailed to [wastecollection@newcastle.edu.au](mailto:wastecollection@newcastle.edu.au);
- The order sheet must be submitted at least two weeks before the pickup, late orders will be held over to the following month;
- A responsible person must be available on the day of collection to liaise with Toxfree staff;
- Hazardous material must never be poured down the sink.

Refer to KRA 1.1 Hazardous Substances and dangerous good (PDF, KB) for further information.

- **Cytotoxic Waste:** Materials which have been contaminated with cytotoxic chemicals e.g. Tubes containing cytotoxic residue or ethidium bromide gels, must be disposed of into purple cytotoxic waste containers. The containers can be disposed of during chemical waste collections.

### 5.18 Laboratory Decommissioning

- When a laboratory worker leaves the University or relocates to a new facility they must ensure all their equipment, materials and samples are disposed of or relocated before they leave.
- When a piece of laboratory equipment or a laboratory or associated facility is vacated a decommissioning process is required to be completed and this is covered in the *“Decommissioning Laboratory and Associated Facilities Procedure”* <http://www.newcastle.edu.au/policy/000970.html>

## 6. References

[NSW Work Health and Safety Act 2011](#)

[NSW Work Health and Safety Regulations 2011](#)

[NHMRC, National Guidelines for Waste Management in the Health Care Industry](#)

[NSW EPA, Environmental Guidelines: Assessment, Classification & Management of Liquid & Non-Liquid Wastes](#)

AS/NZS 2243.1 Safety in laboratories - General



AS 2243.6 Safety in laboratories - Mechanical aspects

AS 2243.7 Safety in laboratories - Electrical aspects

AS 2243.8 Safety in laboratories - Fume cupboards

AS 2243.9 Safety in laboratories - Recirculating fume cabinets

AS 1319 Safety signs for the occupational environment

[HSP 2.2 H&S Responsibilities](#)

[HSP 4.1 Risk Management](#)

KRA 1.1 Hazardous Substances and Dangerous Goods

KRA 1.2 Genetically Modified Organisms

[KRA 1.4 Plant and Equipment](#)

KRA 1.6 Noise Management

KRA 1.8 Biohazards and Infection Control

KRA 1.9 Radiation Management

[KRA 2.1 Manual Handling and Ergonomics](#)

[KRA 2.4 Working alone or in isolated environments](#)

[KRA 3.2 Working in confined spaces](#)

[KRA 3.5 Hot Work \(including welding\)](#)

[KRA 3.6 Electrical Safety and isolation](#)

[KRA 3.7 Electrical Testing and Tagging](#)

## **7. Attachments**

Nil

## Document Summary Table

<b>KEY RISK AREA REQUIREMENTS – KRA 1.7</b>					
<b>Date of first edition:</b>	2003	<b>Date this review will take effect:</b>	30/11/2015	<b>Date of next Review:</b>	30/11/2018
<b>RM Folder Ref:</b>	<completion by policy team>	<b>Document Number:</b>	KRA 1.7	<b>Revision Number:</b>	3
<b>Approved by:</b>	Director, People and Workforce Strategy				
<b>Owner:</b>	Associate Director, Health and Safety				
<b>Contact:</b>	University of Newcastle Health and Safety Team				
<b>Governing Legislation:</b>	<p><a href="#">Work Health and Safety Act 2011</a></p> <p><a href="#">Work Health and Safety Act 2011 – Regulations and Codes of Practice</a></p> <p><a href="#">NHMRC, National Guidelines for Waste Management in the Health Care Industry - <a href="http://www.nhmrc.gov.au/publications/synopses/eh11syn.htm">http://www.nhmrc.gov.au/publications/synopses/eh11syn.htm</a></a></p> <p><a href="#">NSW EPA, Environmental Guidelines: Assessment, Classification &amp; Management of Liquid &amp; Non-Liquid Wastes - <a href="http://www.environment.nsw.gov.au/resources/waste/envguidlns/waste_guide.pdf">http://www.environment.nsw.gov.au/resources/waste/envguidlns/waste_guide.pdf</a> or from the Environment Protection Authority, PO Box 1135, Chatswood 2057, Tel: 02 9795 5000</a></p> <p><a href="#">WorkCover Authority of New South Wales - <a href="http://www.workcover.nsw.gov.au">http://www.workcover.nsw.gov.au</a></a></p> <p><a href="#">AS/NZS 2243.1 Safety in laboratories - General</a></p> <p><a href="#">AS 2243.6 Safety in laboratories - Mechanical aspects</a></p> <p><a href="#">AS 2243.7 Safety in laboratories - Electrical aspects</a></p> <p><a href="#">AS 2243.8 Safety in laboratories - Fume cupboards</a></p> <p><a href="#">AS 2243.9 Safety in laboratories - Recirculating fume cabinets</a></p> <p><a href="#">AS 1319 Safety signs for the occupational environment</a></p>				
<b>Supporting documents &amp; forms of this procedure/guideline:</b>	<p>The University and its Students: Responsibilities and Expectations: Ethical and Safety Aspects of Student Class Experiments and Practical Exercises Utilised Within the Teaching Program of The University of Newcastle</p> <p><a href="#">HSP 2.2 H&amp;S Responsibilities</a></p>				

	<p><a href="#">HSP 1.4 Risk Management</a></p> <p>KRA 1.1 Hazardous Substances and Dangerous Goods</p> <p>KRA 1.2 Genetically Modified Organisms</p> <p><a href="#">KRA 1.4 Plant and Equipment</a></p> <p>KRA 1.6 Noise Management</p> <p>KRA 1.8 Biohazards and Infection Control</p> <p>KRA 1.9 Radiation Management</p> <p><a href="#">KRA 2.1 Manual Handling and Ergonomics</a></p> <p><a href="#">KRA 2.4 Working alone or in isolated environments</a></p> <p><a href="#">KRA 3.2 Working in confined spaces</a></p> <p><a href="#">KRA 3.5 Hot Work (including welding)</a></p> <p><a href="#">KRA 3.6 Electrical Safety and isolation</a></p> <p><a href="#">KRA 3.7 Electrical Testing and Tagging</a></p> <p><a href="#">Managing Health and Safety Risk</a></p> <p><a href="#">Occupational Health and Safety (OH&amp;S) Induction Procedure for Students 000921</a></p> <p><a href="#">Decommissioning Laboratory and Associated Facilities Procedure 000970</a></p>
<b>Keywords:</b>	Laboratories; waste; training; laboratory safety; safety reviews
<b>Important Notes:</b>	This replaces the Laboratory Safety Policy 000752 and Laboratory Safety Guideline 000753
<b>Revision History / Version Control</b>	Use this field to record revision and amendment history if required