Laboratory Safety Guideline

Section 1 - Purpose and Objectives

(1) The purpose of this guideline is to define the requirements for working safely in laboratories at the University of Queensland (UQ) based on compliance with the relevant Australian Standards, Codes of Practice and legislation. The University has many laboratories that are commonly used in many scientific disciplines including health, biological, chemical and physical sciences.

(2) This Guideline outlines what are considered good safety practices that should be met by those who perform work, research, teaching or learning within a laboratory setting at UQ.

(3) This Guideline applies to all UQ workers (including staff, higher degree by research students, contractors, volunteers) and others (undergraduate students, visitors, clinic clients), across all UQ operations and sites – and is intended to ensure UQ meets its responsibilities under the Work Health and Safety Act 2011 (Qld). The term 'workers' in this Guideline has the same meaning as UQ workers as defined in Section 8 Appendix, 'Definitions'

Section 2 - Laboratory maintenance

(4) Before conducting laboratory maintenance work, laboratory managers must ensure that the relevant areas are suitably decontaminated.

(5) Where a facility is also a certified facility, the Facility Manager should contact Health Safety and Wellness Division – Biosafety Team (biosafety@uq.edu.au) to discuss if suspension of certification is required prior to maintenance work occurring. This applies regardless of whether the maintenance work is requested by the organisation unit using the space or it is initiated by the Property and Facilities Division (P&F). Major works may require notification to the relevant Regulator, so this advice should be sought as early as possible, ideally at least a month prior.

Section 3 - Laboratory induction and training

(6) All persons required to work or study in laboratories are to complete local laboratory induction training prior to commencing the work or study. The induction content should include both general laboratory rules and safety information (see Section 5), any specific practical skills required in the use of specific equipment they are required to use and all relevant operational and behavioural requirements. Equipment induction training may be presented separately to general laboratory safety induction training .

(7) Cleaning staff are required to complete mandatory inductions through the Rapid Contractor Management System which includes the OHS Laboratory Cleaners Induction. Additionally, cleaning staff working in buildings that include multiple PC2 facilities and other hazards are required to do face to face inductions with safety staff of these buildings.

(8) Induction, equipment and task training records and any records of competency should be maintained by the laboratory manager and/or Supervisors of workers and students.

(9) Training must be relevant to the laboratory activities, level of risk and specific to the role. The Training Needs Analysis web page may be used as guidance for determining the training specifically required by individuals.

Supervisors of laboratory workers should be involved in identifying necessary training requirements, as they are best placed to know the type of work the individual will be expected to undertake.

Section 4 - Risk assessments

(10) Risk assessments must be completed for all tasks and activities being undertaken in laboratories using UQ Safe, including maintenance work. Prior to work or study commencing, persons responsible for the task or activity (e.g. supervisors, principal investigators, tutors etc) are to ensure risk assessments are undertaken, foreseeable risks are identified, mitigated and all persons involved in the task or activity are aware of the risk assessment and controls.

(11) When assessing laboratory hazards, consider:

> • biological hazards, e.g. pathogenic microorganisms, toxins and venoms, animals, biological tissues, and blood and other body fluids (human and animal);
> • chemical hazards, e.g. corrosive, flammable, toxic, etc;
> • physical hazards, e.g. noise, radiation, hazardous manual handling, etc;
> • electrical/mechanical hazards, e.g. high voltage apparatus, machinery with moving parts, etc;
> • working alone or in isolation. See also the Remote or Isolated Work in Research Environments Guideline;
> • the use of personal devices in the laboratory, e.g. hazards posed by contamination of mobile phones, or distraction associated with headphones.

(12) Risk Management is an ongoing process. Workplace hazards and risks should be reviewed regularly to ensure the controls in place to manage them and are comprehensive, relevant and up to date. Reviews should be conducted at least every five (5) years, after an incident or near miss, or whenever there is change in process, procedure, equipment, location or materials. Each laboratory worker should read and critically consider existing risk assessments associated with the work they will be undertaking before beginning work.

Section 5 - General laboratory safety

(13) Staff and postgraduate students involved in research within scientific laboratories are exposed to a wide range of hazards and work more independently than undergraduate students. Work or research performed by staff and postgraduate students should be undertaken in accordance with this guideline.

(14) Local area requirements should be developed and provided to users and workers in laboratories by way of induction into the area.

(15) Undergraduate students should be directly supervised at all times while utilising laboratories as part of their study program, including during summer/winter scholar programs or similar placements.

(16) Laboratory managers, supervisors and tutors are to communicate laboratory safety requirements to those under their responsibility. Particularly that:

a. incidents / hazards / near-misses are to be reported as soon as practicable;
b. incidents, hazards and near misses are to be recorded in UQSafe;
c. visitors must be accompanied by authorised personnel at all times;
d. Food (including chewing gum) or drink (including from water bottles) intended for human consumption should not be brought into or stored in the laboratory or carried through certified spaces;
e. processes are in place to prevent unauthorised access to the laboratory and these are not to be circumvented;
f. laboratory occupants are aware of the emergency facilities of the laboratory (i.e. location of safety showers,

eyewash stations, fire extinguishers and emergency exits, duress buttons, emergency cut-off switches, lower explosive limit (LEL) gas alarms and oxygen-depletion alarms) and what action to take in the event of an emergency;

g. laboratory working spaces are to be kept uncluttered and clean, and waste is not to be left in sinks;
h. laboratory waste is to be disposed of according to the local area waste management plan, including any plans that relate to Office of the Gene Technology Regulator (OGTR) or Department of Agriculture, Fisheries and Forestry (DAFF) requirements;
i. all spillages are to be contained, cleaned up, and decontaminated immediately after they occur by using an appropriate spill kit;
j. defective equipment or broken lab equipment is to be reported to the supervisor;
k. information on first aid is provided, including location of first aid equipment and contact details for first aiders;
l. pregnant workers or those planning a pregnancy are strongly encouraged to discuss proposed work with their supervisor (and /or seek medical guidance) to determine whether their tasks expose them to a reproductive hazard and whether any changes are required to reduce this risk. Refer to Section 7;
m. task specific Personal Protective Equipment (PPE) is always worn as outlined in risk assessments, Safety Data Sheets (SDS) or the PPE requirements in Section 6 of this guideline; and
n. laboratory coats and gloves should be removed, and hands decontaminated thoroughly as appropriate before leaving the laboratory.

Section 6 - Minimum PPE requirements

(17) PPE requirements while working in laboratories at a minimum include:

- enclosed footwear;
- laboratory coats;
- appropriate eye protection, such as safety goggles or safety glasses; and
- gloves of the correct material for optimal chemical/thermal/pathogen/sharps protection, as assessed in the risk assessment and documented in any safe operating procedure or SDS.

(18) Refer to the Personal Protective Equipment Procedure and the Eye Protection Guideline.

(19) Additional PPE, for example respiratory protective equipment, may be required based on risk assessment and specific chemicals or equipment being used.

Section 7 - Pregnancy

(20) UQ workers who are pregnant or planning a pregnancy may be at higher risk from exposure to certain chemicals and other hazards. This also applies to males as some substances and hazards are known to affect male reproductive organs.

(21) In this situation, it is advisable for those people to have a conversation with their laboratory manager, supervisor or tutor to discuss any potential hazards. These discussions should also include advice from the persons' treating medical practitioner.

(22) Refer to the Pregnancy, Breastfeeding and Work Fact Sheet for further information.

Section 8 - Appendix

Definitions

Term	Meaning
Certified facilities	Any facility that is registered as an Approved Arrangement with the DAFF and/or certified by the OGTR or certified by the UQ Institutional Biosafety Committee as a PC2 or PC2+ facility.
Laboratory	A place, building or part of a building used for scientific and related work that may be hazardous. The work conducted in a laboratory may include teaching or learning, research, clinical or diagnostic testing and analysis. A laboratory may have associated areas including preparation, instrumentation, decontamination, wash-up and storage rooms, or a workshop in an engineering area.
Laboratory Supervisors	Supervisors responsible for safety oversight of day-to-day laboratory operations.
Office of the Gene Technology Regulator (OGTR)	The Gene Technology Regulator, part of the Australian Federal Government, has specific responsibility to protect the health and safety of people, and to protect the environment from any risks posed by gene technology, underpinned by the Gene Technology Act 2000.
Department of Agriculture, Fisheries and Forestry (DAFF)	Department of Agriculture, Fisheries and Forestry, part of the Australian Federal Government, manage biosecurity risks to Australia
Safety Data Sheet (SDS)	SDSs contain important safety information about hazardous chemicals that can help keep people, property and the environment safe.
UQ worker	For the purposes of this guideline includes: • Staff - continuing, fixed-term, research (contingent funded) and casual staff; • Contractors, subcontractors and consultants working under UQ systems and control (e.g., contingent workers); • Visiting academics and researchers; Affiliates - academic title holders, visiting academics, emeritus professors, adjunct and honorary title-holders, industry fellows and conjoint appointments; • Higher degree by research students; and • Volunteers and students undertaking work experience.

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