

Chemical Risk Management Protocol

4. TRAINING

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1. Who are these guidelines for?

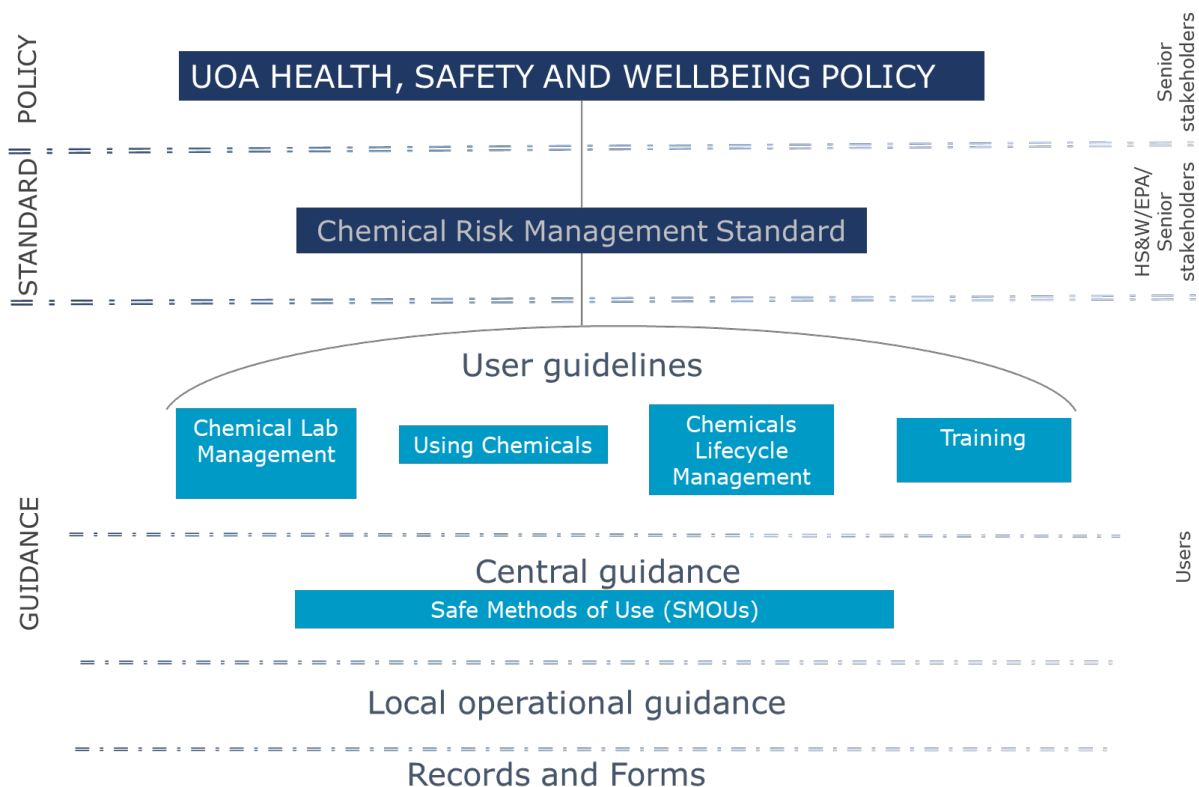
These guidelines are intended for principal investigators (PIs), laboratory managers, designated laboratory person (DLPs), staff and students and visitors who require training in the safe use of chemicals.

2. What is the purpose of these guidelines?

The purpose of these guidelines is to provide information on available training, and tools to develop customised and fit for purpose local training.

3. Documentation hierarchy

The present document is part of a series of document with the following hierarchy:



4. Who needs training?

PIs, laboratory managers, DLPs and staff who have responsibility for the use of chemicals in a laboratory or workshop.

Staff, students, and visitors intending to use chemicals in a laboratory or a workshop

5. What is covered in the training?

5.1 For PIs, Laboratory Managers, and staff responsible for the use of chemicals

A 'Chemical Safety Management in Laboratories' course is available on Career Tools and delivered either face-to-face or online. This is a comprehensive 3-hour workshop that helps attendees understand their legal obligations as well as the safe storage, handling, transport, and disposal of chemicals. It is specifically designed for Laboratory Managers who are strongly encouraged to attend (this includes most PIs who are also Chemical Owners but will also be useful for DLPs in areas where chemicals are stored and used. Moreover, it can provide the tools to build department/laboratory customised training.

5.2 For staff, students, and visitors

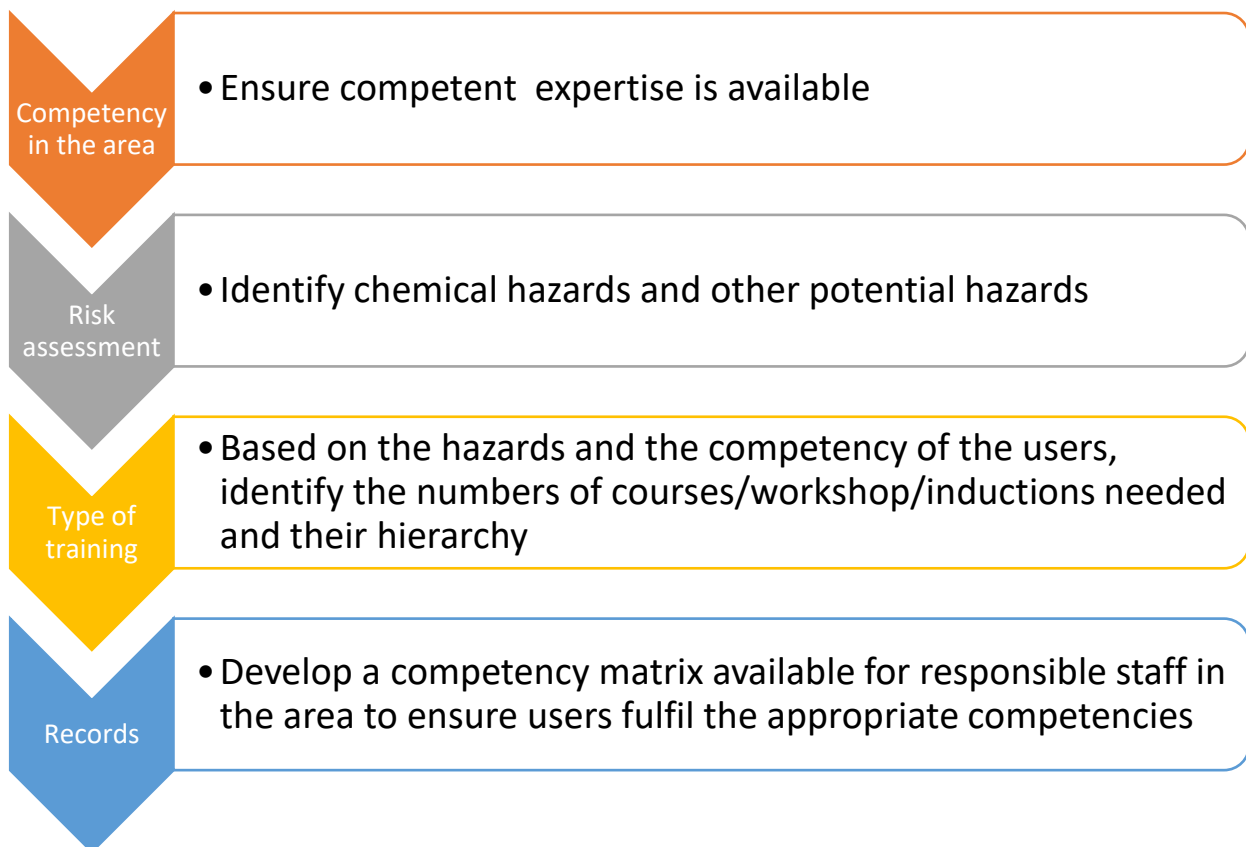
Customised training should be provided in areas where chemicals are stored and used. Upon identification of risk and based on competency, departments or laboratories must develop training fit for purpose and effective in the area. The training can be online based, face-to-face or both. Ideally the training would cover safe storage, handling, transport, and disposal of the chemicals that need to be used including other hazards in the area that could impact on the risk.

HOD, HoS, Director or equivalent are responsible for the identification of the need for training and its implementation.

6. Guidance for developing training

Identify the number of training activities needed and their hierarchy based on the hazards and associated risks present in conjunction with the competency of the users.

The flowchart below provides guidance on the process to develop effective customised competency-based training.



7. Competency matrix and records

Upon identification of the chemical hazards in the laboratory a competency matrix will help to determine the training needed.

Example

Hazards identified:

- Flammable liquids
- Liquid nitrogen
- Picric acid

The Laboratory Manager noted that everyone uses flammable liquids daily, but liquid nitrogen and picric acid are only used occasionally and by a limited number of users. They decide that everyone should be inducted on flammable liquids to gain access to

the laboratory and only users handling picric acid and liquid nitrogen need additional training.

Once identified the core training element needed for your area and the related performance criteria you can use a table like the below to inform your competency matrix.

Core training element	Performance criteria	A	LN	PA	LM
Demonstrate an understanding of legislation	State how to access University Hazardous Substance Risk Management Protocol	x			
Identifying and locating hazards in the laboratory	Describe the hazards and where they are located	x			
Basic understanding of the controls	Describe what to do and not do (i.e. do not handle liquid nitrogen without proper training)	x			
Flammable liquids handling and storage	State how to access the relative SMOU	x			
Handling liquid nitrogen	State how to access the SMOU. Sign the declaration that you have understood the safety measures		x		
Handling picric acid	State how to access the SMOU. Sign the declaration that you have understood the safety measures			x	
Responsible Laboratory Manager	Evaluated as per exams provided at the course				x

*Access (A), Liquid Nitrogen Handling users (LN), Picric Handling user (PA), Laboratory Manager (LM).

The training provided by the laboratory is therefore summarized as the following competency matrix:

Training provider and record keeper	Name of the course	Basic access	Nitrogen handling user	Picric acid handling user	Laboratory Manager
Technical Team Leader (Chemical and Material) or delegated senior staff member	Laboratory induction	x			
Technical Team Leader (Chemical and Material)	Liquid nitrogen course	x	x		
Technical Team Leader (Chemical and Material)	Picric acid course	x		x	
HSW	Chemical Safety Management in Laboratories workshop				x

It is mandatory that records are kept and are readily available to the Laboratory Manager and for the scope of internal verification by the Hazard and Containment team or external verification by WorkSafe.

8. Definitions

The following definitions apply to this document:

Authorised person means a person who, in the normal course of their work, is required and permitted to enter the laboratory and therefore provided with personal access (i.e., own functioning access card). Additionally, anyone under the direct supervision of an authorised person is deemed authorised.

Chemical is a distinct compound or substance, especially one which has been artificially prepared or purified.

Compound means any chemical combination of chemical elements.

Laboratory Manager Means the designated laboratory manager that meets the requirements of section 33 of the HSNO Act 1996 and Part 18 of the Health and Safety at Work (Hazardous Substances) Regulations 2017.

Chemical Owner Is the term that the UoA use to name the designated *Laboratory manager* (See Laboratory Manager definition)

It defines the person with ownership and responsibility for the chemicals. They may be a *Principal Investigator* (PI) or when a PI cannot be identified, the chemical owner is the person responsible for the facility in which the Hazardous substance is used and may be a senior technician or a technologist. In the case of 'communal' departmental/school chemicals, the academic head may be the chemical owner.

They have the responsibilities stated under responsibilities of a Laboratory Manager under the Health and Safety at Work (Hazardous Substances) Regulations, Part 18. For further details see the Chemical Ownership guidelines.

Designated laboratory person (DLP) means the trained person in each research group who has been given the authority to approve purchase requests made in SciTrack.

Forms are the blank templates to be filled in with information that will become these records.

Gold FFX is a database of safety datasheets (SDSs) that the University subscribes to. This can be accessed through the library database. Please see Annex 1 Guideline Using Chemicals for a description how to gain access to it.

Hazard A hazard is a source or a situation with the potential for harm in terms of human injury or ill-health, damage to property, damage to the environment, or a combination of these.

Hazardous chemicals or Hazardous substance is any substance with 1 or more of the following intrinsic properties:

- a) explosiveness
- b) flammability
- c) a capacity to oxidise
- d) corrosiveness
- e) toxicity (including chronic toxicity)
- f) ecotoxicity, with or without bioaccumulations; or
- g) Which on contact with air or water (other than air or water where the temperature or pressure has been artificially increased or decreased) generates a substance with any 1 or more of the properties specified above.

A hazardous substance has one or more hazard classifications in its safety data sheet.

Chemical Risk Management Protocol (The 'Protocol'): This protocol falls under the University's Health, Safety and Wellbeing Policy, and includes the Chemical Risk Management Standard and a set of guidelines on Hazardous Substance Risk Management topics.

Laboratory means a vehicle, room, building, or any other structure set aside and equipped for scientific experiments or research, for teaching science, or for the development of chemical or medicinal products

Laboratory Chemicals includes hazardous chemicals used in laboratories and workshops. It does not include commercial cleaning products or chemicals that you can buy from a supermarket or hardware store. Note however that large quantities of industrial chemicals such as isopropanol should be recorded in the laboratory's chemical inventory.

Line Manager refers to anyone working at the University of Auckland and who guides or controls research, teaching, budget, workspace, or people (staff, visiting researchers or contractors)

Local Operational Guidelines. Generated by Schools, Departments, Specific Laboratories, Workshops, or external organizations (Example: Procedures and Operational Instructions based on International Standards or best practices, etc). That have been approved by Line Manager or Academic Leaders to set performance standards for their specific area of responsibility.

Principal Investigator (PI): An academic staff member who is the lead researcher responsible for project(s) such as laboratory study(ies) or clinical trial(s) and is usually the holder of and independent grant administered by the university. The phrase is also often used as a synonym for "head of the laboratory" or "research group leader." The Principal Investigator is responsible for assuring compliance with applicable University standards and procedures, and for the oversight of the research study and the informed consent process. Although the PI may delegate tasks to members of their research team or technical staff (if this is officially agreed), they retain responsibility for the conduct of the study and the Management of the Hazardous Substances under their ownership. PIs are Academic Leaders for the Health, Safety and Wellbeing Policy, and as such must accomplish with the responsibilities stated in that Policy.

Records is what is chosen by the Line Manager or Academic Leader to demonstrate that the process and activities have been conducted in the way prescribed in the Local Operational Guidelines.

Risk assessment is the process of evaluating the risk(s) arising from the hazard(s), considering the adequacy of any existing or potential controls, deciding whether or not the risk(s) is acceptable, and taking further action as required.

A risk assessment is created in alignment with the university's health and safety risk management standard, using the prescribed format and authorised at the appropriate level.

SciTrack is the university's purchasing and inventory management system for chemicals and restricted biologicals. SciTrack suppliers include all university-approved suppliers of Hazardous laboratory chemicals and/or restricted biologicals. All purchases from SciTrack suppliers (including non-hazardous lab consumables) must go through SciTrack.

Substance means:

any element, defined mixture of elements, compounds, or defined mixture of compounds, either naturally occurring or produced synthetically, or any mixtures thereof:

any isotope, allotrope, isomer, congener, radical, or ion of an element or compound which has been declared by the Authority, by notice in the Gazette, to be a different substance from that element or compound:

any mixtures or combinations of any of the above:

any manufactured article containing, incorporating, or including any hazardous substance with explosive properties

Staff members refers to individuals employed by the University on a full or part-time basis.

University means the University of Auckland and includes all of its subsidiaries.