Chemical Risk Management Protocol

Emergency Response Plan Guidance

V 1.0

Document Owner: Associate Director, Health, Safety and Wellbeing
Content Manager: Manager, Hazard and Containment

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Table of Contents

1 Purpose

Part 18.15 of the Health and Safety at Work (Hazardous Substances) Regulations 2017 requires that all laboratories, irrespective of the quantities of hazardous substances present, have an Emergency Response Plan (ERP) that meets the requirements of subpart 2 of Part 5. Having a location-specific ERP is good practice but not a legal requirement for workshops.

This guidance demonstrates how laboratories can comply with these requirements.

2 Application

Business Continuity Plan (BCP) leads should keep oversight to ensure ERPs are available and practiced annually in their areas.

Staff and students who could be exposed to chemical hazards must be aware of emergency response procedures.

3 Information Required in the ERP

The following sections describe the information required by law to be included in the ERP. This information can be incorporated into existing lab guidance, or you may use the associated **Emergency Response Template** to consolidate it in one document.

To meet the requirements of the law, each lab needs to

1) Have an ERP available to lab users, and Emergency Services in case of an emergency. The plans could be located within the sprinkler room for access by FENZ.

   AND

2) Run an annual emergency response drill that practices and reviews the ERP.

3.1 Actions to be taken in an emergency

The actions to be taken in an emergency are detailed in the Emergency Response Plan Template, and reflect the information provided on the University's Emergency Information website

https://www.auckland.ac.nz/en/about-us/emergency-information.html

This information is also accessible from the UOA Alert App.

3.2 Who is responsible for taking the actions in an emergency?

This information will be specific to each lab and needs to include:

- Who is responsible for taking the actions described in section 3.1
- How can they be contacted?
- What skills/training do these personnel need?

The table below, which is in the ERP Template, shows an example of how this information can be presented. Alternatively you may choose to update your existing signage with the additional information required by this plan.

TABLE 1: EXAMPLE OF ROLES AND RESPONSIBILITIES INFORMATION

Name	Role	Contact Info	Assigned Actions	Training required
Jane Smith	Lab Manager	Phone Room	Dealing with chemical lab emergencies. Ensuring lab users are aware of emergency response procedures. Escalating incidents to BCP lead if required.	Fire extinguisher training Chemical Safety Management in Laboratories
Jeffrey Xu	PIC	Phone Room	Dealing with chemical lab emergencies in absence of Lab Manager	Chemical Safety Management in Laboratories
Refer to First Aider list	First Aider		Dealing with any injuries	Current First Aid Certificate

3.3 Attachments to include with ERP

3.3.1 Inventory of hazardous substances

An inventory of hazardous substances may be exported from SciTrack. However in an emergency this may be of little use, therefore we use Hazard Floor Plans to quickly show Fire and Emergency Services where hazardous materials are.

- Hazard Floor Plans are reviewed every 2 years, or when changes are made to the lab space or storage within. The Hazards and Containment Team co-ordinates the review.

FIGURE 1: EXAMPLE OF A HAZARD FLOOR PLAN

3.3.2 Map of Emergency Equipment

The ERP must include a document or map that shows the purpose and location of each item of emergency equipment that could be used to manage the emergency. Equipment may include:

- Safety showers and eye wash stations
- Fire extinguishers (including what type each is)
- Fire blankets
- Spill kit (where relevant include the type of spill kits available, e.g. caustic, mercury)
- First aid kits

3.4 Testing of the ERP

The ERP must be tested at least every 12 months, and within 3 months of a new person specified in the Roles and Responsibilities table (section 3.2). It must be tested following any change to the activities or environment that change the ERP methodology, e.g. a closure of a main egress path.

3.4.1 Recording a drill of the ERP

You may use the Checklist in Appendix II to record the details and outcomes of the drill exercise. A filled example is available in Appendix III for reference. Testing records must be kept for at least two years.

3.4.2 Setting up a drill of the ERP

The ERP drill should be co-ordinated by the Chemical Owner or their delegate. It should ideally include all users of chemicals in the lab group. The exercise should take no more than 30 minutes.

1. **Pick a scenario to test**

Choose a scenario for your ERP drill that is appropriate to the types of potential chemical hazards in your lab. You could select an example from Appendix I, or come up with your own.

2. **Run the scenario**

Gather all participants in the lab and read out the scenario. Ask the participants to describe how they would deal with the emergency. Consider:

- the order of events
- who needs to be contacted
- if more information is required to handle the situation, can you find it quickly? E.g. safety data sheets, emergency response plan
- might an evacuation be necessary (of the lab, or wider)? If so what are the steps to take?
- where is the equipment needed to deal with this, e.g. spill kits and fire extinguishers. Are they fit for purpose?

An example checklist is provided in Appendix II.

3. **Debrief**

Debrief to assess the effectiveness of the ERP. Determine and assign any corrective actions, including making changes as required to the ERP. This is a good opportunity to ensure emergency equipment is well stocked.

APPENDIX I ERP drill example scenarios

Physical hazard emergencies

1) A glass 2.5L Winchester of flammable liquid (e.g. acetone) breaks when someone is trying to put it back in the cabinet, and the contents all spill onto the floor.
    - What would you do differently if it was a spill of chloroform? Ammonium hydroxide? 10% hydrochloric acid?

2) A waste container left on the bench is visibly fuming. There is no labelling and nobody knows who used it last or what is in it.

3) A small fire breaks out (use a potential real-life scenario for that particular lab, e.g. reactive chemicals, Bunsen burner, equipment fire).

4) 25 mL of concentrated nitric acid spills into the fume hood.
    - How do you clean it up and what do you do with the waste?

5) There is a small mercury spill on the floor, such as from an old thermometer.

Chemical exposure emergencies

Pick a chemical and situation that could theoretically happen in your lab. Examples could include:

1) Concentrated acid spill onto skin/clothes.

2) Basic solution splashed into eyes.

3) Skin contact with phenol and/or hydrofluoric acid.

4) Exposure to noxious gas (ie sulfur dioxide, ammonia, cyanide).

APPENDIX II ERP Drill Checklist*

Date: Lab:

Attendees:

Scenario:

Checklist	Comments from drill	Corrective Action	C.A. Assigned to/Signed off
Lab users know where to find the information they need to deal with the situation, e.g. ERP, SDS			
List of contacts found and up-to-date.			
Emergency contacts were available and able to provide required support.			
Lab users know where to find emergency equipment and how to use, e.g. spill kits, fire blankets /extinguishers, call point			
Any required equipment was available and in service.			
Check hazard plans are up to date (if required to be kept in lab)			
Scenario dealt with appropriately.			
Is the ERP workable and effective? If not, amend the plan.			

*This is a suggested template only. Feel free to modify this or create your own.

APPENDIX III ERP Drill Checklist Filled Example

Date: 01/11/2025 **Lab**: 100

Attendees: Jane Smith (lab manager), Jeffrey Xu (PIC), 3 PhD students

Scenario: ~25 mL of concentrated nitric acid spilt into the fume hood.

Checklist	Comments from drill	Corrective Action	C.A. Assigned to/Signed off
Lab users know where to find the information they need to deal with the situation, e.g. ERP, SDS	Some didn't know where to find the ERP guidance, were shown where the printed guides are kept.	Show all lab users how to find ERP guide on website. Print off QR code to scan to link to ERP website.	Jeffrey Xu
List of contacts found and up-to-date.	Not up to date.	Need to update one lab manager on the door.	Jeffrey Xu
Emergency contacts were available and able to provide required support.	yes		
Lab users know where to find emergency equipment and how to use, e.g. spill kits, fire blankets /extinguishers, call point	Not everyone was familiar with how to use the spill kit.	Spill kit demonstration to be held in lab, Youtube demonstration video to be sent to participants.	Jane Smith
Any required equipment was available and in service.	yes		
Check hazard plans are up to date (if required to be kept in lab)	Yes		
Scenario dealt with appropriately.	Mostly, but some participants lack confidence	Repeat the exercise, watch Youtube video demonstrations of emergency response for spills.	Jane Smith (completed 13/11/2025)
Is the ERP workable and effective? If not, amend the plan.	no	Train up more lab users to be PIC if lab manager is not around.	Jane Smith