Safety in Laboratories

Responsibilities

Everyone has a responsibility for safety. The UK regulatory framework places the responsibility for managing risks on those who create and work with them.

- Principal Investigators are accountable for assessing and addressing risks associated with their research. They need to ensure that those working for them are competent for the research work they carry out by ensuring they receive sufficient information, adequate instruction, training and supervision and by developing lab rules for the areas for which they have responsibility.
- Researchers need to work safely and comply with relevant legislation. They also need to follow University, departmental and lab rules, carry out risk assessments to develop controls and must read and understand other local departmental arrangements, including materials in local information and induction booklets.

Risk assessment

When is a risk assessment required?

Risk assessment aims to reduce risk to workers and others by devising suitable and sufficient control measures for significant risks. Risk assessments must be carried out **before** the activities take place.

- It must be documented in the lab book or other appropriate method of recording
- It must remain valid – revisit and updated when things have changed
- Communicate the significant findings to others who could be affected by your activity, this may include colleagues who share work areas or laboratories.
- Ensure the risk assessment includes the use, handling and storage of chemicals and biologicals, associated health hazards and other physical hazards such a fire, explosion and machinery. Consult safety data sheets and any other information / guidance available (such as that found on the University Health and Safety Website).
- Assess the use of sensitisers and known allergens that could affect an existing medical condition.
- Ensure any waste materials and potential emergencies / actions are covered, consider whether specialist first aid could be required.
- Ensure the supervisor, or other nominated responsible person reviews the assessment before research commences and after any significant changes to the procedure.
- Lone working must be assessed and communicated.
- Consider at risk individuals and groups and the necessity for additional risk assessment.

Good Laboratory Practice - principles

Please also refer to School Laboratory Rules

Use protective equipment as directed and remove before leaving the laboratory

- Wear your lab coat when your risk assessment requires it (required in all labs handling chemicals & biologicals);
- Wear appropriate gloves and replace if damaged.
- Remove gloves before leaving the lab and do not touch your face when wearing gloves.
- Cover any cuts and grazes
- Use appropriate eye protection when directed (all laboratories using chemicals are classed as eye protection zones).
- Wear 'sensible' shoes in the laboratory – not open toed sandals or flip flops
- Never eat, drink, smoke or apply cosmetics in the laboratory
- Wash hands before leaving the laboratory
- Keep work area clean and tidy – including fume and safety cabinets
- Keep personal items in the area provided, not on benches or in gangways

All chemical reactions are carried out in fume cabinets. Biological safety cabinets are used when determined by risk assessment.

Safe fume cabinet use:

- Ensure the reaction is at least 150mm from the sash / front of cabinet
- Close the sash when not actually working in the cabinet
- Use overnight reaction cards when necessary

Safe MSC (Microbiological Safety Cabinet) use:

- Ensure airflows are adequate before every use
- Always ensure gloves are worn
- Minimise equipment in the MSC
- Avoid quick movements and avoid taking objects (including hands) repeatedly out from the MSC

Working with electricity, lasers, ionising radiation, biohazards, gases etc all pose additional risks. Follow safe operating procedures and only use if you have been assessed as competent.

Working with Radiation

No-one working in University of Warwick laboratories is at risk of radiation over-exposure, under normal circumstances, **provided they follow instructions and guidance on best practice** *(see Health, Safety and Wellbeing website).* This applies to work with radioactive materials and sources of ionising radiations such as X-rays generators.

Before starting work with ionising radiations you should identify and make yourself known to your local Radiation Protection Supervisor (RPS) to agree local safe working arrangements.

Waste Management

Ensure your waste management arrangements meet the requirements of your field of research. (Special containers, bags etc.) Ensure waste materials are disposed of in the correct location and segregated correctly.

- Put solvents in the correct containers within the fume cabinet
- Never mix halogenated and non-halogenated solvents
- Take care with sharps, ensure they are disposed of in the 'sharps' container
- Never put broken glass in the general waste bin
- Never wash substances down the sink unless you have been instructed to do so
- Disinfect or autoclave all biological materials before disposal

Incidents and Emergencies

Serious incidents (fire, personal injury) requiring emergency services – call (024765) **22222.**
Otherwise, call a first aider if required and ensure the incidents is reported.
http://www2.warwick.ac.uk/services/healthsafetywellbeing/incidents/incidentreport/

Spillages

- Serious spillages may require evacuation. Don't take risks. Don't deal with a spillage on your own.
- Report spilt substances, breakages and escapes of dangerous substances (chemical, biological etc) immediately to your supervisor, co-workers and other relevant staff.
- Only attempt to clean up a spillage if it is safe to do so. Make a plan and consider the risks.

Fire

- Know where your Assembly Point is located.
- Leave the building in an orderly manner. Do not assemble close to buildings or obstruct walkways.
- Only re-enter building when told to do so.
- Ensure you receive training in fire extinguisher use when it is a requirement of your department, or your risk assessment controls reflect this need.

Further safety guidance can be found on the University's Health, Safety and Wellbeing website, and departmental safety pages.

If you are new to the laboratory, ensure you receive familiarisation from your supervisor,

Good laboratory practice is essential if laboratories are to be safe places in which to work.