

13. GENERAL LABORATORY SAFETY PRECAUTIONS

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13.2.1 Aim: To describe practical means by which the safety culture of University buildings on the Edinburgh bioQuarter site is fostered, promoted, managed, monitored and, ultimately, enforced.

13.3.1 Introduction: General safety regulations and special safety precautions for University laboratories on the Edinburgh bioQuarter site are described in Sections 12 and 14 of this Manual.

13.4.1 Policy: *Always* formally assess the possible risks that might conceivably be associated with an experiment before starting it (see Section 8 of this Manual).

13.4.2 *Only* attempt a completely new, previously untried experiment (including experiments that may be relatively commonplace, but which have not previously been tried by you personally), especially ones which involve any potentially hazardous materials or equipment, when there is a competent person immediately available who will be able to help.

13.4.3 *Only* carry out potentially hazardous work (of any type) when there is someone else immediately available who will be able to help if difficulties are experienced.

13.4.4 The definition of hazardous work includes, but is not limited to:

- laboratory-based activities where the risk assessment states explicitly that it is not safe for the worker to undertake a task unsupported by others;
- any work in a Category Three biological containment facility (including work with genetically modified organisms and in derogated CL3 laboratories) – see Section 14 of this Manual;
- any work with radioactive substances that by definition requires to be managed in a Controlled Area – see Section 14 of this Manual;
- manual handling operations involving heavy or otherwise hazardous materials (*e.g.* moving compressed gas cylinders) – see Section 16 of this Manual;
- setting up a fumigation procedure;
- work involving flammable solvents (volumes greater than 200ml);
- work involving use of a Bunsen burner (or equivalent);
- work involving entering a liquid nitrogen plant room – see Section 14 of this Manual; and
- work involving entering the restricted area of the biomedical MRI – see Section 14 of this Manual.

13.4.5 Plastic containers for carrying bottles of waste solvents, acids *etc* are available from Stores, and should *always* be used for this purpose, but which should not be used if there is any doubt about the integrity of the container or after a date indicated on the container beyond which it should not be used.

13.4.6 A laboratory coat should *always* be worn, properly fastened up, while working in a laboratory; this is a mandatory requirement for working within containment laboratories in accordance with standards set down by the HSE's Advisory Committee on Dangerous Pathogens (ACDP). Any exception to this rule will be notified at local level (for example where specialised clothing may be required for use in some tissue culture laboratories, *etc*).

13.4.7 Laboratory coats must *not* be worn outside the laboratory area (*e.g.* into offices and public areas of the buildings and any place where food is being prepared or consumed. There will be no relaxation of this rule, which applies equally during times of late or lone-working.

13.4.8 Laboratory coats should be regularly laundered, and certainly so after contact with potentially harmful substances (perhaps entailing some additional treatment before sending them for laundering).

13.4.9 Laboratory coats should not be hung one on top of another, since that has the potential to transfer contaminants on the outside of one onto the inside surface of another. Use of personalised laboratory coat storage bags is encouraged wherever possible.

13.4.10 Laboratory gloves are often required to provide protection against damage that might be caused by skin contact with some harmful substances, and they should certainly be worn when that advice has been given in the form of a Risk Assessment and corresponding *Safe System of Work* (see Section 8 of this Manual).

13.4.11 Laboratory gloves should, however, be removed after work has been completed, disposed of promptly and correctly, and workers should then thoroughly wash and dry their hands so that their skin may recover.

13.4.12 Glove wearing is prohibited in public areas of buildings, and discouraged in corridors, stairwells, lifts *etc* within laboratory accommodation. If gloves are genuinely and unavoidably required, only one hand should be gloved so that the ungloved hand may be used for opening doors, pressing lift buttons, *etc*.

13.4.13 Door handles, stair bannisters and lift buttons must not be touched whilst wearing protective gloves.

13.4.14 When substances are being transported from one area to another, they should be packaged in such a way that the potential for contamination (personal and/or of surfaces *etc*) is minimised (*e.g.* by containing it in a sealable plastic container) such that gloves are then unnecessary anyway.

13.4.15 Workers should familiarise themselves with the concept of breakthrough-times in the context of laboratory glove material, and be certain that they have selected the most appropriate gloves for whatever task they are about to perform. Information is available from manufacturers and suppliers in the form of product safety data sheets.

13.4.16 Incidences of work-related dermatitis, including that which may possibly be caused by glove material, must be reported using the on-line form at:

<https://www.ed.ac.uk/health-safety/occupational-health/ill-health-accident-reporting/ill-health-reporting>

13.4.17 Gloves, dust masks, face visors and protective spectacles are available from Stores.

13.4.18 Workers should give careful consideration to the possibility that other items of personal protective equipment may be required within the laboratory, but also to the suitability of their own personal clothing. While no specific provisions currently exist in the University's safety policies which represent absolute bans on shorts *etc*, workers should consider the appropriateness of these, and open-toed sandals, loose-fitting jewellery *etc*, in laboratories where use is being made of corrosive chemicals and when heavy items are being transported. As a general principle, workers should look to risk assessments that will exist for work being done within each area, which may specify minimum safe standards with regard to protective clothing (and potentially unsuitable personal clothing too).

13.4.19 While no specific and explicit prohibition exists regarding the wearing of indwelling earphones and headphones within laboratories, workers should consider the potential for these to become contaminated within a containment laboratory, but to appreciate also that, when in use, they might limit a person's ability to hear and react sufficiently promptly to the sounding of alarms and colleagues calling-out in the event of an emergency.

13.4.20 Health and safety audits will be carried out regularly, and at least on an annual basis within each operational area of the campus. All remedial actions identified by the audit *must* be completed as soon as possible and reported to the relevant Health & Safety Committee(s).

13.4.21 A *Responsibility Notice* must be displayed on the outside of the door of each laboratory; this is to enable prompt action to be undertaken in the event of an emergency. The notice will include the name of the member of staff responsible for that area and that of his or her deputy. The home telephone numbers of these staff members will be lodged with building security staff so the most appropriate people can be contacted if the need arises. It should also identify particular hazards (compressed gas, solvents, *etc*) and any other relevant information.

13.4.22 Where several different research groups occupy a single laboratory area, all designated contact persons in that area should be aware of how they, in turn, can call upon the most appropriate person to respond to an out-of-hours occurrence.

13.4.23 For the convenience of others, including those who have the task of delivering mail and packages within the buildings, occupiers of offices are encouraged to display their names on the door of the office that they occupy.

13.5.1 Further Information: General safety precautions are described also on the University's Health and Safety web site:

<https://www.ed.ac.uk/health-safety/policy-cop/cop>

13.5.2 General safety regulations and special safety precautions for University laboratories on the Edinburgh bioQuarter site are described in Sections 12 and 14 of this Manual.

13.5.3 The College's Health and Safety Manager (Tel: 26390 or email: lgm@staffmail.ed.ac.uk) or the University's centrally-based Health and Safety Department may be contacted for further advice (Tel: 514255 or email: Health.Safety@ed.ac.uk). If the query relates specifically to biological safety matters, then contact the University's Biological Safety Adviser (Tel: 514245 or email: Biosafety@ed.ac.uk) or, for radiation matters, the University's Radiation Protection Adviser (Tel: 502818 or email: Radiation@ed.ac.uk).

13.5.4 If in any doubt at any time regarding any of these matters, speak with your senior laboratory manager or local Health & Safety Adviser.

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