



Safety Note 57

Door Signage in University Laboratories and Workshops

Introduction

Specific safety signs are used to make people aware of hazards that, despite reasonable control measures, e.g. engineering controls and safe systems of work, still have the potential to cause harm and remind users of the actions required to stay safe.

The Health & Safety (Safety Signs and Signals) Regulations 1996 direct what signs must be used to convey health and safety information to people at work. Signs with specific shapes, colours and pictorial symbols are required to convey the safety message to everyone, without risk of misunderstanding.

The laboratories and workshops at the University contain a wide range of hazards and it is important for users and visitors to be aware of the major hazards and the basic control measures. However, it is equally important that this information is rationalised so that important messages are not lost in a crowd of signs. A safety sign is not required where the risk is not significant or if it would not help to reduce the risk of an accident.

Laboratory door safety signs are also used to provide information to fire and other emergency services and therefore may contain information on hazards that may only be dangerous in certain circumstances.

Responsibilities

Head of School/Directorate: Ensure all safety signs are provided where identified in their area of responsibility and that resources are made available.

Area H&S Coordinators/Building managers/Laboratory manager: ensure that appropriate signage is displayed on laboratory doors and reinforce mandatory or prohibition requirements.

All Staff, Students, Visitors: ensure they comply with the information given by safety signs used in the University.

What information should be displayed?

Typical signs and their meanings are shown below. Supplementary text may be added to the sign to reinforce the meaning, as in these examples.

Colour/Shape	Meaning	Instruction	Examples
	Prohibition sign	Do not carry out this action as it is likely to increase or cause danger.	
	Mandatory	Specific action or behaviour to be undertaken	 
	Warning sign (CAUTION)	Giving warning of a hazard or danger.	

Prohibition: All laboratories must display a no eating or drinking prohibition sign. If laboratories have write-up areas within, additional signage may be required in these areas. Laboratories using significant amounts of flammable materials may also choose to display a “Naked flames are prohibited” sign.

Mandatory: The use of mandatory personal protective equipment [PPE], such as laboratory coats and/or eye protection must be displayed and must be enforced. If PPE is only required for specific tasks or in small areas of the laboratory then area or task specific signage is more appropriate than a sign on the entry door.

Warning: Laboratories contain a wide array of hazards and it may not be appropriate to display signage for all of them on the laboratory door.

- **Chemicals** - It is reasonable to assume that all laboratories contain hazardous chemicals. Therefore a general warning symbol (see Appendix) in most cases should be sufficient. Laboratories which contain significant quantities of flammable, toxic, corrosive or oxidising material should display this information in the Additional information section of the door signs (see below);
- **Biological** - each laboratory which works with biological material (including Genetically Modified Organisms) must display the Biohazard warning sign and indicate the Containment Level of the laboratory (further information on containment levels is available in Safety Guide 14);
- **Ionising Radiation** - each laboratory using open-sources or X-ray equipment must be clearly signed. Contact details of the Radiation Protection Supervisor must be displayed (additional information can be found in the relevant Safety Guide). Due to security concerns, laboratories with closed sources of ionising radiations should not have a sign on the entry door but must display an internal sign or, if applicable, on a piece of equipment;
- **Non-ionising radiations** - signs should be displayed at the entrance of laboratories where there is the potential to be exposed to harmful levels of non-ionising radiations e.g. ultraviolet or infrared light or electromagnetic fields;

- **Lasers** –laboratories which contain Class 3R/M and Class 4 lasers should display the Laser warning signage on the entrance doors. Additional requirements for laser designated areas are outlined in Safety Guide 21;
- **Strong magnetic fields** – areas where there are strong magnetic fields which may pose a hazard to certain individuals must be clearly signed. Metal surgical implants should be kept away from strong fields and pacemakers may be affected. The signage should warn people with these devices to keep away;
- **Gas cylinders** – gases and the cylinders themselves can represent a hazard, particularly in the event of a gas leak or a fire. Laboratories containing gas cylinders must contain the “compressed gas” sign in the additional information area and include information on the type of gas (e.g. CO₂ , Acetylene, Hydrogen);
- **Liquid Nitrogen or other Asphyxiant gases** – If the risk assessment for a specific gas in a specific laboratory has shown, in the event of an accident (worst-case scenario), that levels of oxygen could fall below 19.5% then a warning sign and “Danger of Asphyxiation” must be clearly displayed. Information must be given on what to do in the case of alarms sounding (for example, do not enter area, contact AHSC);
- **Piped Natural gas** - the flammable gas sign should be included in the additional information section with “Flammable gas – piped” warning. Additional signage should be present in the room clearly displaying the location of the shut-off valve.

Door Signage Template

Health and Safety Services have designed a template which should be used to convey health and safety information at the entrance to the laboratory (in Microsoft Power point format). An example of the type of signage which can be produced is given in the Appendix B.

The sign may be displayed in a Perspex holder or laminated. Signs should be displayed on, or adjacent to the door to the area to which the information applies. Signs should be at a suitable height and in the line of sight but must not obscure a vision panel in a door [see Appendix C for an example].

Signs must be sufficiently large and clear, durable, secured, and properly maintained to ensure they remain visible. Avoid placing too many signs too close together as this can cause confusion or reduce their effectiveness.

If circumstances change and a hazard no longer exists, any redundant signs must be removed.

Access Control signage

The University has adopted a colour-coded system for indicating levels of access control required for laboratories and workshops. This yellow/amber/red signage must also be displayed on laboratory and workshop doors. Safety Note 58 describes the system.

Health and Safety Services
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Appendix

A: Example of common laboratory warning signs.



Biological hazard



Compressed gas



Hazardous Chemicals



Liquid nitrogen



High voltage



Laser Class X



Ionising Radiation



Non-ionising radiation



Highly flammable gas

Highly flammable liquids

Highly flammable materials



Strong Magnetic Field



Explosive Atmosphere

B: Model laboratory door signage (i) Biological lab and (ii) Chemistry lab

<p>Title of Laboratory</p> <p>Person in charge and contact details</p>  <p>Biological Hazard CONTAINMENT LEVEL 2</p>   <p>Eye protection and laboratory coats must be worn</p>  <p>No eating or drinking</p>	<p>Lab 101 Chemistry Lab</p> <p>Person in charge and contact details</p>   <p>Eye protection and laboratory coats must be worn</p>  <p>No eating or drinking</p>  <p>No naked flames</p>
<p>Additional Warning Information</p>  <p>Compressed gas CO₂</p>  <p>Highly flammable gas - Natural piped gas</p>  <p>Hazardous Chemicals</p>	<p>Additional Warning Information</p>  <p>Compressed gas Hydrogen and Nitrogen</p>  <p>Highly flammable liquids</p>  <p>Hazardous Chemicals</p>

C: Effective placement of laboratory door signage

