**How to use this laboratory inspection checklist**

* Use this checklist to inspect chemical and biological laboratories used for research or teaching and any associated preparation rooms and storage areas. Include associated corridors, stairs and communal areas such as toilets and kitchenettes/tea rooms.
* Inspections should be carried out at least twice per year and preferably once per term. Inspections should be done when laboratories are occupied by staff and students, to get a true picture of conditions and practices.
* Consider getting a team together to help you. The team should be limited to four people and could include specialist staff in chemical, biological, laser or radiation hazards if needed.
* Carry out inspections in manageable chunks. Divide your area into separate buildings, corridors or floors. Use one checklist per laboratory and record details of faults or weaknesses.
* When you have carried out an inspection and recorded any faults or weaknesses found, report to your Faculty Operating Officer/Director, together with your comments and recommendations for action.
* Keep a copy of each completed inspection checklist and record action taken to correct the faults you have reported.

Laboratory Hazards!

**LABORATORY INSPECTION CHECKLIST**

The answer to all these questions should be ‘yes’. If ‘no’ you should note the location and brief details and investigate the problem further to identify actions.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Areas inspected | |  | | | | |
|  |  | |  |  | | |
| Inspected by |  | | | | Date |  |

| **HAZARD** | **YES/NO** | **COMMENTS**  **(location & brief details** | | **ACTION TAKEN or RECOMMENDED**  **(with completion dates)** | |
| --- | --- | --- | --- | --- | --- |
| **Space and Layout** | | | | | |
| Is there enough space to move around safely?  *(minimum of 11 cubic metres per person)* |  |  | |  | |
| Is there enough space for storage of materials & equipment?  *(on shelves, cupboards, refrigerators, benches)* |  |  | |  | |
| Is there enough clear bench space to use materials & equipment safely? |  |  | |  | |
| Are unauthorised people excluded from the lab? |  |  | |  | |
| **Housekeeping** | | | | | |
| Are floors in a safe condition? |  |  | |  | |
| *no cracks, slippery or uneven patches etc.* |  |  | |  | |
| Are floors free of boxes, equipment & other trip hazards? |  |  | |  | |
| Are surfaces clean?  (*including benches, shelves, equipment)* |  |  | |  | |
| Are there separate waste bins for :   * general waste? * contaminated sharps *e.g. needles*? * uncontaminated broken glassware? * waste chemicals? * waste to be autoclaved before disposal? |  |  | |  | |
| Are bins emptied often enough? |  |  | |  | |
| **Ventilation** | | | | | |
| Is there enough fresh air, without draughts? |  |  | |  | |
| Is extra ventilation provided to remove fumes? |  |  | |  | |
| Are ventilation systems tested annually?  *(including fume cupboards, fume hoods and microbiological safety cabinets)* |  |  | |  | |
| **Environment** | | | | | |
| Is the room temperature comfortable?  *(at least 16°C)* |  |  | |  | |
| Are windows in clean & safe condition? |  |  | |  | |
| Are blinds fitted to reduce glare or temperature? |  |  | |  | |
| Is lighting adequate in all areas?  *(in working order, clean & free of flicker or glare)* |  |  | |  | |
| Is extra lighting provided for close work where needed? |  |  | |  | |
| **Manual Handling** | | | | | |
| Are stepladders or footstools used to reach high shelves? |  |  | |  | |
| Are heavy & awkward items stored at waist height where possible? |  |  | |  | |
| Are trolleys or barrows available for moving heavy or large loads? *(manual handling assessments needed for handling heavy or awkward loads)* |  |  | |  | |
| **Toilet and Handwashing Facilities** | | | | | |
| Are handwashing & drying facilities available in the lab? |  |  | |  | |
| Are there enough toilets for men & women within reasonable distance? |  |  | |  | |
| Are toilets & washbasins clean & in working order? |  |  | |  | |
| Are hot and cold (or warm) running water, soap and towels (or other cleaning/hand drying facilities) provided in the toilets? |  |  | |  | |
| **Kitchenettes/Tea Rooms** | | | | | |
| Are staff & students warned & supervised to ensure there is no eating, drinking or smoking in the lab? |  |  | |  | |
| Are rest & eating facilities provided outside the lab? |  |  | |  | |
| Are floors & surfaces clean & tidy? |  |  | |  | |
| Is drinking water available? |  |  | |  | |
| Are power points & cables a safe distance from wet  areas? |  |  | |  | |
| Are microwave oven door seals clean and undamaged? |  |  | |  | |
| Is a fire blanket provided where electric cookers are used? |  |  | |  | |
| **Fire**  *contact Campus Facilities Manager if problems with fire doors, extinguishers or notices* | | | | | |
| Are flammable substances used, labelled & stored safely? |  |  | |  | |
| Is sparkproof equipment used if necessary? |  |  | |  | |
| Are fire exits & escape routes free of obstructions? |  |  | |  | |
| Are fire doors clearly marked & kept closed? |  |  | |  | |
| Do fire door closing mechanisms operate properly? |  |  | |  | |
| Are vision panels in doors unobstructed? |  |  | |  | |
| Are fire extinguishers provided and tested annually? *(check last test date on label)* |  |  |  | | |
| Are up to date fire action notices displayed in labs or corridors? *(what to do in event of fire & fire assembly points)* |  |  | |  | |
| Have fire wardens been appointed and trained for this area? |  |  | |  | |
| Can fire alarms be heard in all areas? |  |  | |  | |
| Are smoking rules followed? |  |  | |  | |
| **People With Disabilities** |  |  | |  | |
| Is there access for people with impaired mobility?  (*e.g. wheelchair users)* |  |  | |  | |
| Is there access to disabled toilets within reasonable distance? |  |  | |  | |
| Do emergency evacuation procedures include people with disabilities? *(eg those who have impaired mobility, or can’t hear fire alarms or see fire exits)* |  |  | |  | |
| Are there up-to-date Personal Emergency Evacuation Plans (PEEPS) for individual staff and students, if necessary? |  |  | |  | |
| **First Aid -** *contact Occupational Health Service if problems regarding first aid* | | | | | |
| Are up to date posters displayed with names & locations of trained first aiders? |  |  | |  | |
| Are first aid boxes clearly marked & kept fully stocked with stock that has not exceeded a given expiry date? |  |  | |  | |
| Do staff and students know how to access and use the online incident reporting system?  [https:/portal.gre.ac.uk/web/staff/staff-services](https://portal.gre.ac.uk/web/staff/staff-services) |  |  | |  | |
| Are eye wash facilities tested regularly?  *(check ‘use by’ date if eye-wash bottle(s) provided)* |  |  | |  | |
| Are emergency showers tested regularly? |  |  | |  | |
| Are suitable spillage kits available?  *(with instructions for use; check any ‘use by’ date)* |  |  | |  | |
| **Hazardous Substances** | | | | | |
| Are up to date hazardous substances risk assessments available in the lab, for work in progress?  *(including assessments of work involving genetically modified organisms, where relevant)* |  |  | |  | |
| Are suitable warning signs in place: |  |  | |  | |
| * in the lab? * at the entrance to the lab? * on containers and equipment? |  |  | |  | |
| Are all containers correctly labelled? *(name of chemical; volume if over 250ml; owner; date made)* |  |  | |  | |
| Are incompatible chemicals segregated? |  |  | |  | |
| Are corrosive or flammable chemical containers kept in spillage trays? |  |  | |  | |
| Are suitable containers used for temporary storage? |  |  | |  | |
| **Biological Agents** | | | | | |
| Are containment measures suitable for the biological agents being used or stored? |  |  | |  | |
| Are all containers correctly labelled?  *(owner; date put into storage; contents (or “disposal by validated autoclave” for genetically modified material)* |  |  | |  | |
| Can floors & work-surfaces be cleaned & disinfected easily? |  |  | |  | |
| Are suitable disinfectants available? |  |  | |  | |
| Is contaminated waste & disposable equipment autoclaved before disposal? |  |  | |  | |
| Is genetically modified waste held separately & labelled “disposal by validated autoclave”? |  |  | |  | |
| **Personal Protective Equipment (PPE)** |  |  | |  | |
| Is protective clothing worn properly & in good condition? |  |  | |  | |
| Is suitable eye protection worn if needed?  *(e.g. face shield; goggles; safety glasses)* |  |  | |  | |
| Are suitable gloves worn if needed? |  |  | |  | |
| **Personal Protective Equipment (PPE) - Cont.** | | | | | |
| Is respiratory protection suitable and worn if needed?  *e.g. respirators; air-fed helmets* |  |  | |  | |
| Is all PPE stored in a clean, uncontaminated area? |  |  | |  | |
| Is suitable PPE available for emergency use?  *e.g. chemical spillages or radioactive contamination* |  |  | |  | |
| **Furniture, Fittings and Equipment** | | | | | |
| Are furniture & fittings in good condition?  *e.g. chairs, benches, shelving etc.* |  |  | |  | |
| Is all lab equipment working properly?  *(ask people who use it)* |  |  | |  | |
| Is all equipment stable or securely clamped to minimise vibration or noise? |  |  | |  | |
| Are hot, sharp or dangerous moving parts guarded? |  |  | |  | |
| Are instructions manuals available? |  |  | |  | |
| Are users trained in safe operating procedures? |  |  | |  | |
| Is access restricted to authorised users? |  |  | |  | |
| Are there enough accessible power points to avoid overloading sockets? |  |  | |  | |
| Is unattended equipment in use, labelled with details of hazards & contact person/user? |  |  | |  | |
| Is all portable electrical equipment tested regularly?  *(tested every 3 years - check test labels)* |  |  | |  | |
| Do all electrical equipment & cables pass visual inspection? |  |  | |  | |
| **Visual Inspection of Electrical Equipment**  *Switch off and disconnect (unplug) equipment before inspecting. Then look for danger signs* | | | | | |
| * is the cable covering intact? |  |  | |  | |
| * damage to the plug - is the casing intact and pins straight? |  |  | |  | |
| * is the lead intact without any joins? |  |  | |  | |
| * the outer covering of the cable is gripped where it enters the plug or equipment - see if the coloured insulation or copper of the internal wires are completely covered. * the plug, equipment or socket is free from indications of overheating (eg brown burn marks)   *label any faulty equipment with ‘do not use’ signs & take out of use until checked by an electrician. Encourage other staff to report any faults or damaged equipment* |  |  | |  | |
| **Gases** | | | | | |
| Are Bunsen burners used clear of materials & other equipment? |  |  | |  | |
| Is tubing in good condition & long enough? |  |  | |  | |
| Are gas taps easy to reach & turn on & off? |  |  | |  | |
| Are gas cylinders attached to a support or trolley? |  |  | |  | |
| Are gas cylinder valves & tubing in good condition? |  |  | |  | |
| Are gas cylinders clearly labelled with contents & hazards? |  |  | |  | |
| Are the correct regulators fitted? |  |  | |  | |
| Are gas lines & isolators clearly labelled? |  |  | |  | |
| **Noise** |  |  | |  | |
| Can you hear someone two metres (approx. six feet) away talking in a normal voice, while machines are in use? |  |  | |  | |
| Are ear defenders provided and worn if needed? |  |  | |  | |
| **Pressure Vessels**  *including autoclaves* |  |  | |  | |
| Are pressure vessels tested regularly? |  |  | |  | |
| Are instructions for use displayed nearby? |  |  | |  | |
| Are door seals & locks free from wear or damage? |  |  | |  | |
| Are pressure gauges easily readable? |  |  | |  | |
| **Radiation**  *all work involving radioactive substances must be approved by the Radiation Protection Supervisor and follow local rules* | | | | | |
| Are there clear instructions for the use of radioactive materials? |  |  | |  | |
| Is there a safe method of storage? |  |  | | |  |
| Is there a safe method of disposal? |  |  | |  | |
| Are all radioactive substances correctly labelled? |  |  | |  | |
| Are workers familiar with local rules? |  |  | |  | |
| Are workers adequately trained? |  |  | |  | |
| Are their health checks, if required, up to date? |  |  | |  | |
| Are the following available and being used when necessary:   * double containment? * shielding? * remote handling facilities? |  |  | |  | |
| Are unauthorised people excluded from the area?  *(e.g. cleaning staff etc*.) |  |  | |  | |
| Is there an up to date list of emergency contact numbers displayed? |  |  | |  | |
| **Lasers** | | | | | |
| Is access to lasers of Class 3R or above, restricted to trained users? |  |  | |  | |
| Are lasers correctly labelled with class and hazard warning? |  |  | |  | |
| Are there up-to-date laser registration forms, risk assessment forms, laser survey forms, and laser user registration forms for all lasers of Class 3R or above? |  |  | |  | |
| Have completed forms been copied to the University Laser Safety Adviser? |  |  | |  | |
| Are written procedures for use of lasers of Class 3R or above kept in the same area as the lasers? |  |  | |  | |
| Are warning signs displayed at entrances to any room/areas where Class 3B or Class 4 lasers are used? |  |  | |  | |
| Are there suitable interlocks on all access points with risk of exposure to lasers of Class 3B or Class 4? |  |  | |  | |
| **Microwave ovens or generators** | | | | | |
| Are interlocks in working order? |  |  | |  | |
| Are door seals clean and undamaged? |  |  | |  | |
| Is the cavity clean and uncontaminated? |  |  | |  | |
| **Ultraviolet light** |  |  | |  | |
| Are there suitable interlocks on doors into rooms using ultraviolet light for sterilisation? |  |  | |  | |
| Is suitable PPE & screening provided & worn when working with UV? |  |  | |  | |
| Are warning notices displayed outside areas where UV is in use? |  |  | |  | |
| **Liquid Nitrogen** | | | | | |
| Is handling, storage and disposal carried out in well-ventilated areas? |  |  | |  | |
| Are suitable PPE and tongs available and used?  *insulated gloves, face shields/goggles, labcoat/overalls* |  |  | |  | |
| Are specifically designed and properly labelled containers used for storage and handling? |  |  | |  | |
| **Other Hazards/Notes** | | | | | |
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