Barts and The London
School of Medicine and Dentistry

BLIZARD INSTITUTE HEALTH AND SAFETY ACKNOWLEDGEMENT FORM

Please fill in and print this form. When printed sign and hand in to a Laboratory Manager on your induction day

Forename

Surname

Centre

I have been made aware of and provided with a copy, electronic or otherwise, of the local Health & Safety Rules for the Blizard Institute. I agree to follow all safe working practices under the Health and Safety at Work Act (1974) and any other relevant College policies.

Date Signature: ……(Inductee)

Barts and The London
School of Medicine and Dentistry

Blizard Institute

Bart's and the London School of Medicine and Dentistry,
4 Newark Street,
Whitechapel, London E1 2AT

Health and Safety Rules

Revised: May 2014

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Health and Safety Rules

Introduction

Staff, students and visitors to Queen Mary University of London must observe and comply with the Health and Safety Rules.

Staff are reminded that the Health and Safety at Work Act (1974) states that it shall be the duty of every employee while at work:

a) To take reasonable care for the health and safety of him/herself and other persons who may be affected by his acts or omissions at work; and

b) To co-operate with his/her employer in implementing the provisions of the Act.

The Management of Health and Safety at Work Regulations (MHSWR) 1999, requires that an assessment is made of **ALL** hazards/risks arising from work, for employees and anyone who might be affected by the work.

The 'employer' in this context is Queen Mary, University of London (QMUL) and the Principal has overall responsibility for Health and Safety matters within this College. In addition to the College's own Health and Safety policies, http://qm-web.safety.qmul.ac.uk QMUL also abides by the principles of best practice in Health and Safety management as prescribed by the Universities and Colleges Employers Association (UCEA) contained in University Health and Safety Management: Code of Best Practice

Local H&S Rules

Blizard Institute H&S Management

Institute Director	
Professor G.A.Hitman	2333
Institute Manager	
Dr Natalie McCloskey	2298
Institute Laboratory Managers	
Dr J. P. Maskell (Head)	2324
Mr C. Pelling (Deputy)	2289
Blizard Institute H&S Committee	
Dr J. P. Maskell (Chair)	2324
Dr Natalie McCloskey (Deputy)	2298
Blizard Institute H&S Coordinators	
Ms Monica Canosa (Office and communal areas)	2299
Mr Michael Schofield (laboratory areas)	2377
Genetic Modification Safety Committee	
Dr Martin Carrier Chair GMSC Committee (GM Centre 774)	2104/2218
Dr Mark Ariyanayagam Biological Safety Advisor/GMSC BSO	8378
Containment Level 3 Laboratories	
Professor A. McKnight	2314
Mrs E. O'Sullivan	2313
Dr Matthias Dittmar	8119
Professor F. Drobniewski (National Mycobacterial Reference Laboratory)	2571
Radiation Protection Supervisor Manager (RPSM)	
Dr Mohammed Hawa	2365

Emergency telephone numbers Security

Security lodge	2599
Fire	3333
Cardiac Arrest and other medical emergencies:	999 (then call security on 3333 to brief duty staff on the issue).

A&E Emergency Department and Urgent Care Centre:
Ground floor, North Tower, The Royal London Hospital, London E1 1BB
020 359 40004

College Occupational Health and Safety Advisors

Marion Richards (Director)	8968
Ms Zarah Laing - H&S Adviser Audit & Governance	8967
Dr Mark Ariyanayagam – H&S Manager and Biological Safety Adviser (Science, Engineering & Medicine)	8378
Dr Paul Cassell – Science, Engineering and Medicine	8969

H&S website http://qm-web.safety.qmul.ac.uk

Radiation Protection
Dr Paul Cassell (College Radiation Protection Manager/H&S Adviser, Occupational Health & Safety Directorate)

College RPA P/T (Julie Horrocks)	6031

Estates management

Blizard Building Manager (Ralph Thompson)	7280
Help Desk (estates-helpdesk@qmul.ac.uk)	2580
Estates office	7126
Maintenance Manager (Mr A. Gooneratne)	7231

First Aid (Qualified Staff) 3333
N.B. First Aiders located at the Whitechapel site are centrally deployed.

Fire Marshals

Nominated Persons, permanently based within a building, to assist in the evacuation of relevant persons from their area in the event of a fire alarm activation, identify fire hazards and deficiencies in fire safety measures and take appropriate action.

Students and Visitors
Students and visitors are admitted only at the discretion of the Centre Lead and where appropriate, the Laboratory Management. Such visitors are also responsible for the maintenance of a healthy and safe place of work and this should be made clear to them by advice and example. All new staff and students intending to work within the Blizard Institute must attend an induction session covering various aspects of how the building works with particular attention being paid to health and safety and evacuation procedures. When new staff/students are intending to work in the laboratories, an outline of the standard operating procedures within the building will be provided together with details regarding the H&S documentation that is required prior to the commencement of any laboratory activity. Designated members of staff within the Institute will organise the induction process. An induction form signed by an Institute Laboratory Manager will be required before access to the building can be authorised.

General Security
Personal items of value should be locked in a drawer or locker and not left on benches or desks, especially during meal breaks. Offices should be locked before leaving at night and at any time during the day when they are to be left unattended. Do not hesitate to ask the business of any strangers wandering about the buildings or attempting to gain entry. Particular attention should be paid to the prevention of 'tailgating'.

Floors and Stairways
Floors, particularly in corridors, access ways and stairs, must be kept clear of obstructions and not used for storage purposes.

Nature of work
Work in the Institute/Centre may comprise:
Research and teaching involving work with micro-organisms (Hazard Groups 2 and 3) and other biological materials including genetically modified organisms, chemicals and radioisotopes.

Administrative and clerical duties associated with the aforementioned scientific activities.

No work shall commence on any laboratory-based project until the senior academic/research group leader with responsibility for the project has carried out a Risk/COSHH assessment and this has been agreed and signed by the supervisor and worker(s) in each case. Authorisation to work in the laboratories must not be given to anyone until all Health and Safety documentation has been completed and authorised. Project Risk/COSHH assessment forms should be readily available at all times in order that those involved in a project are able to identify hazardous materials/techniques with which they are working, how to use them safely and dispose of them. Risk Assessments should be placed in the purple loose leaf folders located in each laboratory area. Those responsible for projects must ensure that project Risk/COSHH Assessments are reviewed at least every three years or whenever changes are made to the project or more information becomes available about chemicals/biological agents which results in new risks being encountered.

All new staff/students working with Hazard Group 2 pathogens/Class 2 GMM (CL2/3) are expected to undergo approximately four weeks (depending on previous laboratory experience and the nature of the project) specialised training before being allowed to work unsupervised in the laboratory. When the supervisor is satisfied that the person is sufficiently competent to work without supervision, a completed training record, signed by both trainer and worker, should be completed and made available for inspection if required. Undergraduate students and post graduate students undertaking short-term research projects must be supervised at all times.

For requirements for Health and Safety documentation (see flow chart section – p.15)
All persons must be aware of the hazard(s) presented by the chemical and biological agent(s) that they are working with and the level(s) of containment required. They must also be aware of the nature of the hazards presented by other work being conducted in shared laboratories that may potentially affect them.

Please refer to "Categorisation of Biological Agents according to Hazard and Categories of containment" (ACDP 4th Edition 1995 and Supplement 2 (2000) – available on request.

Genetically Modified Organisms – All work involving construction or use of genetically modified micro-organisms (GMMs) is subject to the Genetically Modified Organisms (Contained Use) Regulations

2000, and must be approved by an appropriate Genetic Modification Safety Committee (GMSC). Anyone wishing to use GMMs should contact the GMSC BSO in the first instance. After consideration by the GMSC (and the HSE if appropriate) GMMs will be assigned to an appropriate Hazard Group and containment level, and specific rules for containment agreed if necessary. (Further information can be obtained from the HSE website **http://www.hse.gov.uk)**
These safety rules are designed to provide basic guidance for compliance with requirements up to Containment Level 2/Class 2 (ACDP and GMM respectively). Additional measures are required for work with Hazard Group 3 pathogens; plans for work involving such pathogens must be discussed with the Institute Laboratory Management and the relevant CL3 Managers in the first instance.

Lone working
As far as is reasonably possible, no student or member of staff should work alone in the laboratories at any time. If it is considered essential that anyone should work outside normal hours (08.00-20.00 weekdays), then details of how this work will be carried out safely must be submitted on a Lone Worker Risk Assessment form for that project and authorised by their Supervisor or Centre Lead. The application must be supported by the provision of the COSHH Risk Assessment forms and any other relevant H&S documents or SOPs relating to the project. Lone working will not be permitted for work experience and undergraduate students.

Immunisation of staff
New personnel should contact the Occupational Health Department as soon as possible after commencing employment where screening and immunisation will be carried out as required. Anyone intending to work with human tissue or blood should ensure that they are adequately covered for Hepatitis B and other relevant blood borne agents.

Staff intending to work with M. *tuberculosis* must first arrange a 'fitness to work' appointment with the Occupational Health Department to ensure that they are adequately protected. This process is coordinated by the PI of the project and Laboratory Management.
http://qm-web.ohsd.qmul.ac.uk/

Personal accidents
Any accident incurred during working hours must be referred to the Institute Laboratory Management.

An accident/incident/dangerous occurrence form must be completed and details entered in the Institute accident/incident book held by the Laboratory Managers. Incident/dangerous occurrence forms may be downloaded from the College H&S website http://qm-web.safety.qmul.ac.uk/forms/index.html . Completed forms will be sent as soon as possible to the appropriate H&S Coordinator, the contact in the H&S Office at Mile End and a copy held on file within the Institute.

First aid is available for minor injuries (call 3333), otherwise the person should attend the Accident and Emergency Department, or the `Walk in Centre` (almost opposite A and E).

First aid boxes
These are located in both open plan and enclosed laboratory areas, and at strategic points throughout the office/write up areas. If items are removed from these boxes, please inform one of those staff responsible for First Aid, so that the boxes can be replenished.

Eye wash stations
These are to be found next to the hand wash sinks in the red bays of the open plan area and at the ends of the laboratory benches by alternate hand wash basins in the enclosed laboratories.

Protective clothing
Howie style laboratory coats/gowns **MUST** be worn at all times when working in the laboratories. They must always be fastened and changed regularly. Dirty coats should be taken to the designated area on the laboratory floor by the lift lobby and exchanged for clean ones. When not in use, coats should be left on the hooks provided in the open plan lab or enclosed areas. Items of personal clothing and bags must not be taken into laboratory areas. A colour-coded system is used for laboratory coats throughout the Blizard and Abernethy buildings in order to identify areas of activity.

Light blue Howie coat
Containment Level 2 areas at the north end of the building where infectious material is handled. This includes the enclosed laboratories occupied by the Centres for Immunology and Infectious Disease and Digestive Diseases and the associated tissue culture and other laboratories and cold rooms off the north corridor. Blue coats must not be worn in the open plan laboratory areas or in the corridor south of the Digestive Diseases enclosed laboratory. Coats must be changed when moving from one area into another. However, when material (e.g. a gel) is being prepared for immediate transfer to the dark room on the east side of the laboratory floor, a white coat may be worn for a short period within the enclosed area for this procedure.
N.B. White coats must not be stored in blue coat areas.

Green: GM Class 2 laboratory (LG09)

Navy blue: Radiochemistry bay (LG119)

Green/blue gowns: Containment Level 3 suites

Grey coat: Low copy PCR Preparation laboratory (LG75)

White coat: All other laboratory areas

Safety eyewear
It is the responsibility of supervisors to ensure that they and their staff wear safety eyewear when working within the laboratory areas. All laboratory procedures must be risk assessed and account taken of other procedures taking place in the working area in order to decide whether safety eyewear is required. As the Blizard Institute laboratories are mainly shared facilities all staff and students are strongly advised to wear safety eyewear in the laboratories at all times. Safety spectacles are supplied free of charge by Laboratory Management to all staff and students working in the laboratories prior to induction (this includes prescription safety spectacles if requested).

Gloves
As there is a risk of developing an allergic reaction to latex, only nitrile gloves, which carry a low risk of triggering such reactions, should be used. It is essential that all staff and students ensure that the gloves they are using provide adequate protection against the chemicals or other materials they are using. Those performing procedures that require the use of specific types of gloves for protection, should consult their supervisor, H&S Coordinator or a member of the Laboratory Management team.

Guidance on the choice of gloves to be used for specific operations may be obtained via the link below:

http://qm-web.ohsd.qmul.ac.uk/standard/index.html

Thick rubber gloves must be worn when dealing with breakages and spillages (available on request).

Heat proof gauntlets and a visor must be worn when opening and unloading autoclaves.

Cryo-protective gauntlets must be worn when handling towers and boxes in vapour-phase nitrogen storage units, dry ice and materials taken from –70°C freezers

Personal hygiene and precautions

- Always wash your hands after removing your coat and before leaving the laboratory.
- Wash your hands immediately after dealing with any spillage or after procedures that may result in contamination. If a laboratory coat has become contaminated inform your supervisor and the H&S Coordinator or a member of the Laboratory Management team immediately.
- When gloves are worn they must be removed before leaving the laboratory to avoid contaminating door handles etc.

- Gloves must be removed before answering the telephone or touching door handles.
- Never eat, drink or smoke in the laboratory.
- Do not touch your mouth, eyes, etc. with your hands or any object while in the laboratory. Pipetting by mouth is strictly prohibited.
- All cuts and grazes on hands or exposed areas must be covered with adhesive dressings.
- Laboratory coats must be removed prior to leaving the laboratory areas and must not be worn in write-up/office areas or lifts (with the exception of the goods lift on the west side of the Blizard Building).
- Keep long hair tied back so that there is no risk of it falling into naked flames or contaminated material.
- Appropriate clothing and shoes must be worn in laboratory areas. Open-toed shoes must not be worn since they provide no protection in the event of a spillage.

Fire Safety and Evacuation Procedures

Introduction
The College Fire Safety and Evacuation Procedure must be followed by staff, students and other persons within the premises in the event of a fire. This Procedure takes into account the various occupants and visitors to the building. New staff will receive training as part of the induction process. All staff must complete the e-learning Fire Safety module and this has to be completed every two years.

For the College's Fire Safety procedure please follow the link below:

http://qm-web.safety.qmul.ac.uk/procedures/index.html

General fire safety rules for the Blizard Institute

DO NOT:
- Leave electrical equipment on overnight unless it is absolutely essential and safe to do so.
- Place Bunsen burners or hot plates against walls, partitions or near flammable material or solvents
- Leave Bunsen burners alight (i.e. not even on pilot) when unattended.
- Use naked flames in the vicinity of solvents.
- Store solvents in refrigerators unless they are spark-proof.
- Pour solvents down sinks or drains.
- Store flammable items on the floor.

DO:
- Observe obvious precautions in the use of electrical equipment. Wall and unit-mounted sockets and switches should be protected from moisture, contamination, properly secured and free from cracks. Plugs should not be used if the grip screws are not fulfilling their purposes or if exposed wires are visible. Please report any inadequacies to the appropriate H&S Coordinator or Laboratory Manager. All electrical equipment should be regularly checked for safety (check date on label). Some items such as water baths should be PAT tested at least twice a year, whereas other equipment will require testing annually, or less frequently for larger items such as freezers.

- Report any fault in equipment that may present a fire risk immediately to a senior member of staff.

- Learn the locations of fire alarms, extinguishers, blankets and escape routes, and the detailed instructions for action in the event of a fire.

Laboratory procedures (general)

- The laboratory areas are mostly divided into open plan (Containment Level 1(CL1)), enclosed (CL2) and secondary areas including tissue culture rooms (CL2), heavy equipment rooms and a media room. There are also four CL3 suites in the Institute. The enclosed CL2 areas south of the central corridor may be used for the handling of blood and tissue samples but must not to be used for handling of any material known to contain human pathogens

- Keep the workspace as clear as possible. Benches should be left clear and clean before leaving the laboratory at the end of the day. When used for microbiological work they must be disinfected with a disinfectant freshly prepared at the appropriate concentration.

- Bunsen burners must be turned off completely when not in use. Keep these well away from bench lights, overhanging cupboards and flammable materials.

- Observe the correct disposal procedures for disinfection and waste disposal (Section below).

- Keep paperwork free from contamination. If it is essential to use paper/books in the laboratory, a clearly marked, contamination-free area, should be designated.

- Wherever possible the goods lift should be used for the transfer of laboratory materials between floors. Under no circumstances should large items of glassware, bottles containing molten media or heavy items be transported via the staircases. All hazardous materials, (i.e. chemicals, clinical waste etc.) must be transferred using the lift. Appropriate containment must be provided for the materials being transported, in order to ensure the containment of any potential leakage.

Disinfectants

General Rules

- Solutions of disinfectants must be freshly prepared at the recommended concentration for the intended purpose. The disinfectant used must be shown to possess proven activity against the relevant biological agent(s).
- Where work with material that may contain infectious agents is carried out a freshly prepared solution of disinfectant must always be available for neutralising spillages.
- Disposable gloves must be worn when swabbing the bench with any disinfectants.
- Be familiar with the correct use of the various disinfectants used in the laboratory, bearing in mind that they may be caustic to the skin and result in irritation if inhaled.

Laboratory waste disposal and recycling

Cardboard/Paper and other packaging materials: If possible, empty cardboard boxes and polystyrene containers should be returned to the supplier for recycling. Some companies now supply materials in boxes which have return address labels attached.

Returnable polystyrene boxes: Place on the rack below Mushroom – dry ice and ice packs must be removed unless otherwise specified by the supplier. Seal the box and attach the return address label.

Non-returnable cardboard/polystyrene boxes, packaging materials and general domestic waste: Place in the roll-container (cage on wheels) on the laboratory floor below mushroom. Please flatten all cardboard boxes.

Glass waste: This includes all clean glass, such as empty chemical bottles which have been **thoroughly rinsed** with water and **all traces of hazard signs removed or obliterated**. These should be placed in the blue waste glass bins located below Mushroom for recycling.

Chemical waste: Please contact **icms-lab-man@qmul.ac.uk** with the type and quantity of waste and arrangements will be made for collection and disposal.

Pipette tip boxes: A recycling crate for used pipette tip boxes and reload decks is located below Mushroom. Autoclave tape must be removed before placing items in the crate.
Cell culture media bottles: Cell culture media bottles that have been rinsed thoroughly and drained may be put into the bin below Mushroom for recycling.

Clinical waste bags/sharps boxes: All items must have the appropriate plastic tie attached (see below):
White: Neuroscience and Trauma Orange: Paediatrics Black: Cutaneous Yellow: Diabetes

Blue: Dentistry Green: Digestive Diseases Red: Immunology and Infectious Disease;

Clinical/biological waste: Only biological waste should be put into clinical waste bags which must be used doubled in order to reduce the risk of items puncturing the sides.
All sharps and hard plastic items including pipette tips which may puncture the walls of the bags must be placed in sharps bins and NOT IN BAGS

Guide for waste management boxes

Red with Centre ID: Infected/GM waste requiring autoclaving prior to disposal. Autoclave bags must be no more than 50% full and secured with a blue rubber band (available from Laboratory Management at icms-lab-man@qmul.ac.uk or extension 2324/2289)**,** wrapped around the bag **ONCE ONLY**. Autoclave bags must be placed upright in the red box and not stacked on top of each other. Boxes must not be overfilled; ask for more if required. Small bottles and other containers must capped and placed in a rack or basket in order to prevent them falling over and leaking their contents. Sharps boxes containing infectious/potentially infectious material must have a piece of autoclave tape as well as a plastic tie attached before placing them in the red box.

Blue with Centre ID: Dirty (uninfected) glassware – Glassware must be thoroughly rinsed and emptied first. These boxes will be collected and taken to the central autoclave/glass wash facility for cleaning. Please try to separate delicate glassware from others such as Duran bottles to minimize the risk of breakage. Do not overfill these boxes as they can become very heavy for staff to lift.

Green with Centre ID: Clean items for autoclave sterilization (e.g. tips, tubes, instruments, solutions and buffers). Please leave materials together with a note providing details of your requirements. Please note additional autoclave resources are available in the Media Room (LG 107), off the north corridor.
For supplies of clinical waste bags, sharps boxes and plastic ties contact icms-autoclave@qmul.ac.uk or call 2301. If you require further information regarding the above procedures or consumables, please contact Laboratory Management at icms-lab-man@qmul.ac.uk or on extension 2324/2289.

Radioactive waste: Comply with regulations stipulated by the Radiochemistry Management

Ethidium bromide decontamination, e.g. buffer from gel tanks etc: **Ethidium bromide is a potential mutagen, carcinogen, and is highly toxic; its use should be avoided and substituted with safer alternatives wherever possible. Ethidium bromide should not be used until several of the currently available safer alternatives have been tested and found to be inadequate for the intended purpose.** Where ethidium bromide is used it must be extracted from buffers and other solutions before they can be discarded into the drain by using a commercial ethidium bromide extractor such as a 'Green Bag', carefully following the manufacturer's instructions. Whichever method is used for the safe disposal of ethidium bromide, a protocol outlining the process must be given in the appropriate section of the COSHH form.

Breakages and spillages

- The H&S Coordinator and Institute Laboratory Managers must be informed of any **major** breakage or spillage. Chemical and mercury spillage kits are available.

- Do not attempt to pick up any broken glass with fingers.

- Spilled cultures must be covered with paper towel soaked with appropriate disinfectant/ bactericide/virucide equivalent for at least 30 minutes before attempting to clear the area.

Equipment

- **General Rules**

- Always operate equipment according to the manufacturer's instructions and SOP. Seek advice from a senior member of staff if in doubt.

- Faulty or defective pieces of apparatus must be reported at once to the H&S Coordinator or the Institute Laboratory Management.

- It is the responsibility of each person in the laboratory to ensure that equipment is switched off where appropriate, before leaving the laboratory.

- Be aware of the items of equipment that must be left on overnight. If in doubt, ask a senior member of staff.

- Caps must be completely removed from bottles containing agar/media prior to them being heated in a microwave oven.

Autoclaves: http://blizard.qmul.ac.uk/centres/core-facilities.html *managed resources*

Centrifuges

- Instruction manuals must be read carefully before attempting to use any centrifuge.

- All tubes or bottles to be centrifuged must be balanced as specified and positioned symmetrically in the rotor. The care required to achieve accurate balance depends on the machine to be used. Never place liquid in the bottom of buckets in order to achieve balance.
- Tubes should contain no more than the permitted maximum (and no less than the required minimum in some cases) in accordance with the instruction booklet.
- Sealed centrifuge buckets are fitted for safety and must be used whenever infected material is being centrifuged. Use them at all times. Screw-capped buckets are designed to be spun with samples in place.
- If a breakage occurs or is suspected during operation, switch off the centrifuge. Leave it closed for at least 30 minutes to allow for the dispersion of any aerosols generated. Contact the Safety Coordinator or a member of Laboratory Management. Any manipulation after a breakage must be

carried out using thick rubber gloves, making use of forceps where necessary. Where human /biological material is involved the rotor and broken glassware must be removed and placed in disinfectant and left for the appropriate time before handling. Gloves and masks must be worn.

- If excessive vibration occurs once the centrifuge is on, **switch off immediately**. Do not attempt to slow the rotor manually. Check if buckets are properly balanced before switching on again.
- If you require the use of the ultracentrifuge please contact Dr Ahmed Hashim or Dr Sam Benson who will carry out the necessary training.

Safety cabinets

Always take advice from your supervisor as to whether your project requires any manipulations to be carried out in an exhaust protective cabinet, and if so, which type of cabinet is appropriate. Details of the types and locations of safety cabinets/fume hoods used should be included in the COSHH Risk Assessment.

Location and Function

- **Exhaust protective cabinets:** Class 2 Microbiological Safety Cabinets (MSCs) are available in the tissue culture (TC) laboratories. Those located along the corridor at the north end of the laboratory floor are used primarily for bacterial/viral cell culture work. Each of the Class 2 MSCs within these laboratories will be either designated to a specific range of operations/infectious agents, or used only for sterile cell culture work. No other TC laboratories should be used for work with infectious material. Discuss with your supervisor and the Laboratory Management before using either of these facilities. Class 1 MScs are available only within the CL3 laboratories; access to these laboratories to which access is strictly controlled.
- **Horizontal laminar flow cabinet:** situated in the Media Room (LG107) is intended to prevent contamination of media during preparation and dispensing, but provides absolutely **NO** protection to the operator. This type of cabinet **MUST NOT** be used for any pathological materials or toxic chemicals.
- **Fume cabinets:** Do not use these for the storage of chemicals

N.B. If you notice anything wrong when using any of the above equipment, please inform the H&S Coordinator or Institute Laboratory Management immediately.

- **General rules regarding the safe use of MSCs**

- The laboratories, with the exception of the Containment Level 3 suites, are not recognised for the use of Hazard Group 3 pathogens.
- Pathogens in Hazard Groups 1 and 2 must be handled in accordance with the ACDP guidelines (1995 and 2nd supplement 2000).

- All ampoules containing freeze-dried biological agents must be opened in a MSC.

- Work in Class 1 and 2 MSCs must not commence until sufficient time has been allowed for the establishment of a safe airflow.

- MSCs must be washed down after use with a suitable disinfectant. N.B. some disinfectants are corrosive and must be rinsed off after use to avoid damaging the stainless steel interior.

- Exhaust protective cabinets are normally tested every 6 months. The fumigation of safety cabinets (with formaldehyde or peroxide) may be necessary, prior to preventative maintenance, when the units have been used for microbiological work, especially when HEPA filters require changing, or when the cabinet has been contaminated following a spillage. Any fumigation of the MSCs in the TC labs will be carried out either by Laboratory Management or by a company contracted for MSC servicing. A Risk/COSHH assessment must be in place before an MSC is fumigated.

Chemicals

- All staff and students carrying out work in the laboratories must have available at all times, a copy of the COSHH Risk Assessment forms relevant to their project. These should be consulted for information regarding the hazardous nature of the chemicals that are in use and appropriate procedures for their handling, storage and disposal. Data safety sheets should also be available in order to provide additional details on the hazardous nature of materials being handled. This information should be held in the purple loose leaf folder available from the Laboratory Management and kept in a prominent place in the laboratory.

- **N.B.** Nitrile gloves must be worn at all times when working with ethidium bromide

- All flammable solvents should be stored in a flammable cabinet. Acids should not be kept in the same cabinet.

- Returnable bottles which have contained organic solvents etc. must be thoroughly purged with water before returning.

- Empty containers must be rinsed thoroughly (bottles that have contained solvents must be completely purged) and hazard labels removed (or covered with labels declaring them safe) before disposal.

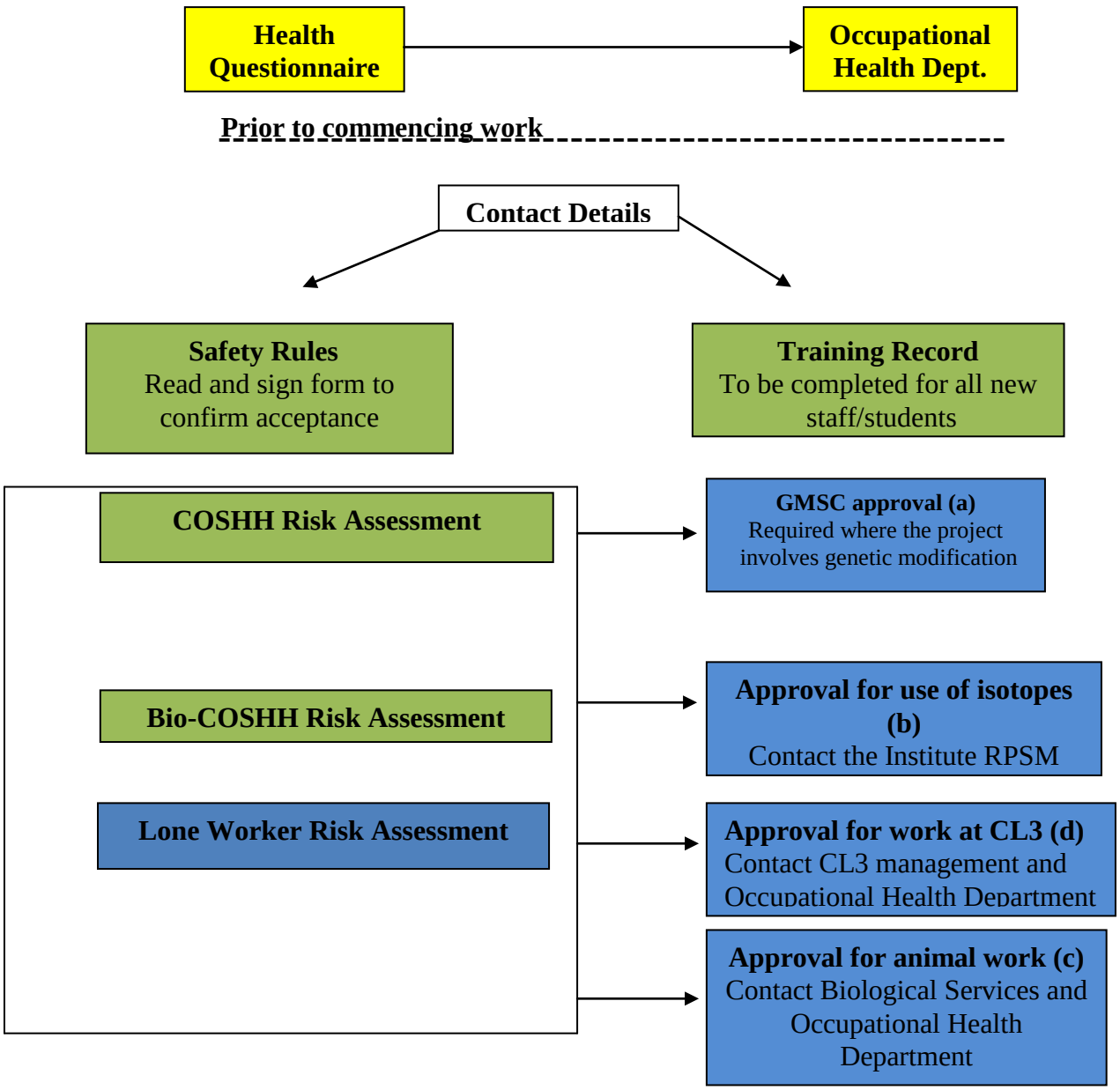
- Details of chemicals for disposal (chemical name and original volume of container) should be sent to the Laboratory Management who will arrange for collection.

Safe use of materials containing radioactive isotopes

If your work requires the use of radioactive material, please consult the Radiation Protection Supervisor Manager (RPSM) in the first instance. All radioactive projects must be approved by the School Radiation Protection Advisor (RPA). Protocols and safety rules are drawn up in consultation with the RPA and displayed in the areas of radioisotope usage.

Access to the Radiochemistry bay is restricted to approved personnel only

Health and safety documentation



Documents to be read/completed and approved prior to commencing any laboratory-based project. All available from supervisor or H&S website.

Additional documents and Risk Assessments to be completed /approved prior to working outside normal hours or commencing projects involving genetic modification, the use of radioisotopes, work involving animals or Hazard Group 3 pathogens. Details available from (a) the Biological Safety Advisor (GM), (b) Radiation Protection Officer, (c) Biological Services/Occupational Health departments and (d) CL3 suite