



# Risk Assessment



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Prolonged or high-intensity acoustic exposure, especially from ultrasound and AE devices, can pose risks to the researcher. High-intensity sound waves can cause hearing damage or discomfort, and in extreme cases, physical harm to tissues	<p>91 ]gh]b[ `7cbhfc` `A YUgi fYg</p> <ul style="list-style-type: none"> <li>-Sound wave intensity is within the safe range specified by the supervisor, obey the procedure</li> <li>-Lab rules mandate that the lab cannot be used after a certain time (7 pm) avoids working over-time</li> <li>-A PhD student will be present who is trained on using ultrasonic doppler</li> </ul>
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Prolonged experiments or the need to handle bulky or heavy equipment can lead to ergonomic issues such as strain injuries or repetitive stress injuries.	<p>91 ]gh]b[ `7cbhfc` `A YUgi fYg</p> <ul style="list-style-type: none"> <li>- Specified lab lone working hours will be followed</li> <li>-User is taught not to lift heavy loads</li> <li>-Supervisor and lab staff will be informed in an event where there is a heavy load needed to be lifted</li> </ul>
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The failure of acoustic equipment, especially under continuous operation or at high intensities, can lead to sudden loud noises or the release of high-pressure components. This can pose physical hazards to personnel and potentially damage other laboratory equipment.	<p>91 ]gh]b[ `7cbhfc` `A YUgi fYg</p> <ul style="list-style-type: none"> <li>Follow the Pre use checks</li> <li>Reports any issues or suspected issues before using</li> <li>PPE is provided as required y the UCL Standards - Additional PPE includes suitable hearing protection to be checked before allowed to carry out the experiment</li> <li>Emergency contacts and first aiders are available</li> <li>Emergency evacuation process has been taught</li> <li>Performer of the experiment has been given a guideline for the operation time and flowrates</li> </ul>
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Electric shock, / electrical burns / ignition for fire	<p>91 ]gh]b[ `7cbhfc` `A YUgi fYg</p> <ul style="list-style-type: none"> <li>All equipment is under PAT regime</li> <li>It is checked that there is no spillage/water around cables every time prior to and post experiment</li> <li>Cable condition and labels for testing are checked prior to usage</li> <li>Hands are dried and gloves are worn before touching sockets</li> </ul>



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Trailing cables, low steps, etc  
A common hazard within laboratory and industrial settings stems from inadequate housekeeping practices, particularly regarding the management of cables and equipment. Cables that are not properly secured or left dangling and equipment that is not stowed away when not in use can present significant tripping hazards

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- Cables will be tied with cable tie wrap
- Excellent house-keeping will be implemented and any rubbish will be disposed of
- Spill kits will be used to avoid trip in case of a liquid spill on the floor

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Kerosene oil poses several hazards, primarily due to its flammability and potential health effects. As a highly flammable liquid, kerosene can ignite easily, presenting significant fire and explosion risks, particularly in areas where it is stored or used near open flames or sparks. Inhalation of kerosene vapors can lead to respiratory issues, dizziness, headaches, and nausea, while prolonged skin contact may cause irritation or dermatitis. Ingesting kerosene is extremely dangerous, potentially causing severe gastrointestinal distress, lung damage, or even death if aspirated into the lungs.

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PPE will be used for all uses that may result in splash or spill risk - gloves have lower time when working with kerosene and will need regular changing  
Chemicals will be stored in the fume cupboard assigned by the lab managers, all containers to be labelled with chemical date of use and the group contact.  
flammable chemical will be followed-to be stored in fume cupboard  
Containers will be kept closed after using the chemical

Emergency contact list is available in case of an emergency and a copy lodged with the Lab manager

All kerosene waste to be treated as Lab Smalls and the group is responsible for submitting a request for removal at least once week and when 500ml of waste kerosene is collected - Glass bottle with screw top required.

Absolute Hazardous Waste

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Spread of chemical or harmful material into drains may not be permitted to be disposed of into the drain and may cause a breach of UCL water permit. Damage to watercourses, land and flora/fauna may result.

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There is a designated storage location for flammable chemicals that the user is aware of  
correct fume cupboard use for chemical waste has been stated and the user is made aware  
Work station will be cleaned and containers will be closed after using the chemical  
Oil Spill kit is required- Kept as close to the fume cupboard as possible with out increase trip hazards  
- all people to be trained

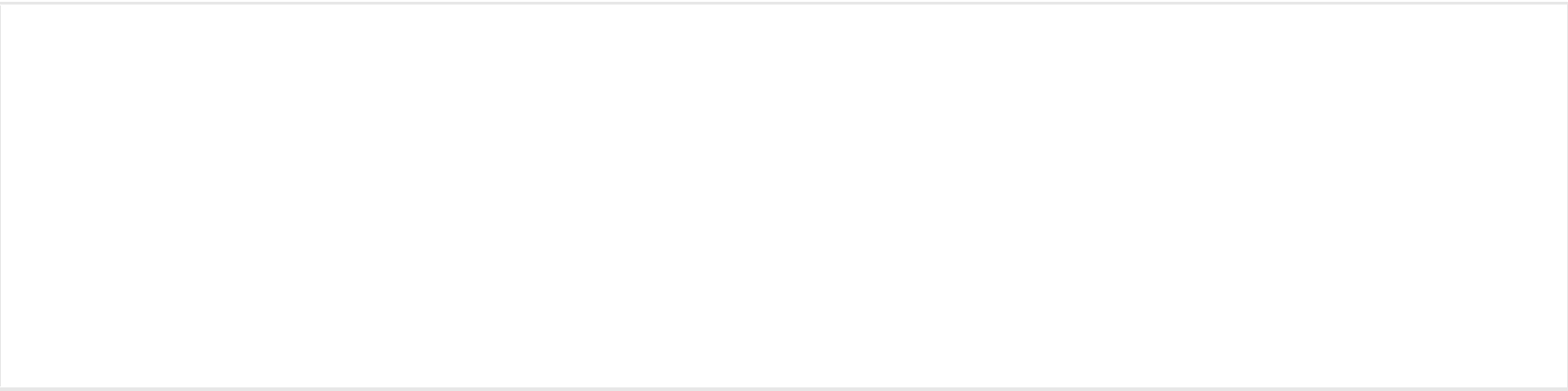
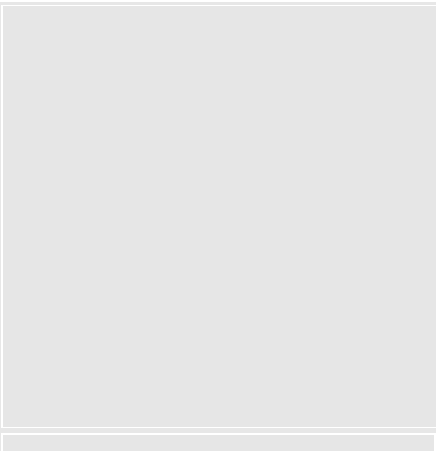
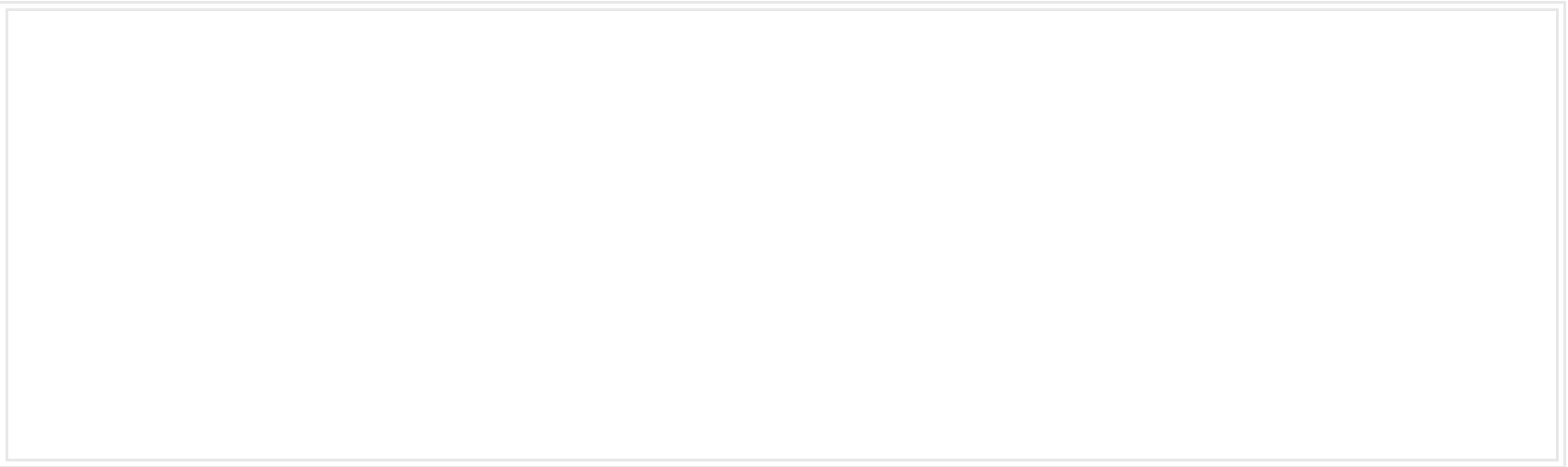
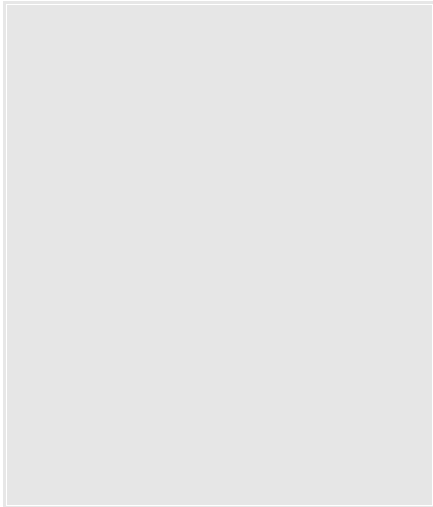
Waste from the kit to be treated as solid hazardous waste. double bag and label with Spill kit used for Kerosene date and group details

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With Existing Controls:



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**2.2 Describe the principal means of containment.**  
(Tick all those that apply)

Safety Cabinet  ?? Isolator  ?? Contained Equipment  ?? Other

Give details of the containment or the other means of containment

When infected cells are handled in 3.02 they will be handled in a safety cabinet. In SB04, the cell culture dishes will only be without containment when loaded in the microscope, otherwise it will be in a large petri dish with cover or in a transparent plastic box with lid. When loaded into the microscope, the cell culture dish with lid is placed on a stable plastic tray covered with blue roll. The cover of the dish is briefly taken off and the top plate attached to the microscope is clamped onto the dish and will thereafter act as a lid. The top plate is not touching infected material.

**2.3 Will any of the procedures carried require the use of sharps?**  
(If "Yes" give details of control measures)

Yes  ?? No

None

**2.4 Give details of the scale of the activity(volumes, titres etc.)**

A cell culture dish contains 1ML of cell culture medium. Typically, for one experiment we may use 8 cell culture dishes that will be kept in a binder incubator in SB04 in a large petri dish with lid when not assayed in the microscope. The cells are intrinsically producing prions and no infected material have been added to the dishes. Before, the cells are transferred to SB04, the cell media in the dishes will be exchanged for CO2 independent media. This mean that very little, if any, infectivity will be accumulated in the media in the dishes during the time they will be kept in SB04 for assessment (2h).

Please indicate the maximum culture volume(s) and if propagating a viral vector, indicate the maximum virus titre that will be handled. If viral vector is to be used in vivo, indicate maximum volume to be injected at any one time.

**2.5 Give details of the arrangements in place for the disinfection and disposal of waste (tick more than one box if required, but give details of type of waste)**

Type of waste	Treatment used	Detail (eg. concentration of disinfectant used, autoclave cycle used and final disposal route)
Gc`jX`k UghY	Autoclave <input checked="" type="checkbox"/> Chemical <input checked="" type="checkbox"/> Incineration <input type="checkbox"/>	Solid waste is soaked in 1M NaOH for 1h, then rinsed with water and autoclaved using Program 2 of the autoclave (121oC for 15 min). Temperature and time of each autoclave run is monitored and recorded. Yearly twelve- point thermocouple testing is used for regular



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2.6.2 Describe any additional control measures:

## 2.7 Occupational health considerations

2.7.1 Would the nature of work prevent anyone who is more susceptible to infection or other ill-health from carrying it out?  
(If "Yes" give details)

Yes  ?? No

2.7.2 Will the pathogen(s)/organism(s) be taken outside the laboratory  
(If so please describe method of containment to be used during the transport process)

Yes  ?? No

In preparation for transport between CL2 labs, dishes will be placed on a paper tissue in a clean, transparent carrier box,