University College Dublin

School Of Biology and Environmental Science Safety Statement

Rev 2. Issued January 2014
University College Dublin
Safety, Insurance, Operational Risk and Compliance (SIRC) Office

This document must be read in conjunction with the University Parent Safety Statement
(http://www.ucd.ie/safety/parentss.html)

Contents

Revision History

- Draft Revision 0: Issued January 2008
- Rev 1 Issued October 2010: insertion of section on shelter – shut – listen protocol in emergency response section; updating of key personnel; updating of risk assessment listing; updating of risk assessment templates.
- Rev 2: Issued January 2014: update key personnel and emergency response information.

1. Introduction

This document is designed to fulfil the requirements of Section 20 of the *Safety, Health and Welfare at Work Act (No. 10 of 2005)* which requires all employers to prepare a *Safety Statement*.

This document applies to the operations of *The School Of Biology And Environmental Science* located on the Belfield Campus of *University College Dublin* and to its field operations. The School is in the main located in the *Science West Building on the Belfield Campus.*

This document when read in conjunction with the *University Parent Safety Statement* and relevant risk assessments outlines how the health and safety of staff, students and visitors to the school will be safeguarded.

This document will be subjected to review on a regular basis and also when changes in work practices necessitate it.

All persons are strongly encouraged to develop local area safety plans and procedures to complement the contents of this document where they deem it necessary or useful to do so.

2. School Description

The School delivers internationally excellent teaching and research across the broad span of modern biology and environmental science including programmes in areas as diverse as botany, cell and molecular biology, environmental science, forestry, genetics, horticulture, humanitarian action, rural development, sports turf management and zoology.

The School has a proud record of research across a wide range of areas including animal behaviour, biodiversity, cell biology, developmental biology, the ecology of natural and managed landscapes and ecosystem types including agriculture, forestry, freshwater and marine, evolution, genetics, palaeontology, pest and disease management, plant biotechnology, symbioses, socio-economic dimensions of rural development, humanitarian assistance responses, biology of zoonoses, wildlife management and general zoology.

3.0 Management of Health and Safety within the School

University College Dublin is committed to providing a safe place of work for all of its employees and to providing a safe environment for students in which to carry out their studies and associated activities. The University is also committed to ensuring that, in so far as is reasonably practicable, its actions and activities do not have a negative impact on the safety of any third parties.

The Head of School is responsible for ensuring or making arrangements to ensure that the activities undertaken within the school are carried out in a safe manner without undue risk to the health and safety of University employees, students or any third parties.

All employees have a duty to cooperate with the University in all matters of health and safety at work and not to endanger the safety of themselves, their co-workers or any other parties through any act or omission that they may undertake. This cooperation is essential to the effective management of safety within the University. In accordance with safety legislation the University expects all employees to take responsibility for their own safety whilst at work and to perform their duties in a safe manner and in accordance with all relevant safe working procedures.

The University encourages employees to become actively involved in safety matters and welcomes all suggestions or comments regarding safety which can be made to the local Safety Committee, where they can be dealt with most efficiently.

Refer to the University Parent Safety Statement for further details

4. Key Contact Details

Title	***Name***	***Contact Details***
Head of School	Dr. Jeremy Simpson	(716) 2345
Chair Local Safety Committee	Dr Tamara Hochstrasser	(716) 2440
University Safety Officer	Dr. Peter Coulahan	(716) 2068 / 2070
Fire Alarm Maintenance Company	Contact UCD SIRC Office	(716) 2068 / 2070
Fire Extinguisher Maintenance Company	Contact UCD SIRC Office	(716) 2068 / 2070
Student Health Centre		(716) 3133
UCD Chaplaincy		(716) 8372
UCD 24 HR Emergency Line		(716) 7999
Campus Duty Manager		(716) 7666
Campus Services		(716) 7000

Emergency First Aid treatment and equipment is available from the local Services Desks and via the 24 hour Emergency line 716 7999

5.0 Employee Safety Representation

University College Dublin is committed to involving and consulting employees in the management of health and safety within the University. To this end there is an active *School Of Biology and Environmental Science Safety Committee.*

The committees function as a forum for employees within the various areas of the school to raise safety concerns and for the *University Safety Office* and school management to impart information on health and safety matters. Representation on the committees is drawn from a broad spectrum of areas within the school. All persons sitting on the committee are classed by the University as *Employee Safety Representatives* as outlined in Part 4 of the *2005 Safety, Health and Welfare at Work Act.*

For further information on current membership of the School *Safety Committee* and its functions contact should be made with the committee chair Dr Tamara Hochstrasser ext. 2440.

Employees have a right under the above legislation at any time to elect from their number such *Employee Safety Representatives*. Any persons wishing to act as *Employee Safety Representatives* should contact their Head of School in the first instance.

6.0 Emergency Response Plans

Introduction

The purpose of these emergency response plans is to detail the steps and responses that must be taken in the event of an emergency within the School. Where deemed necessary; individual units within the school may further develop these plans to take account of the individual circumstances in their areas.

The following are deemed as emergencies within the School:

1. Fire
2. Natural Gas Leak
3. Loss / Spillage Of A Chemical Agent
4. Loss / Spillage Of A Biological Agent
5. Chemical Agent Exposure
6. Biological Agent Exposure
7. Personal Injury
8. Major Campus Emergency

6.1 Fire

If you hear the fire alarm:

1. Do not panic, but prepare to leave the building.
2. The alarm will sound continuously; leave the building immediately in an orderly fashion by following the green man running signs to the nearest exit. Please note that this may not be the same way that you entered the building.
3. Classes in session must be dismissed and students directed to leave.
4. Persons in laboratories and workshops should make their area safe before leaving by turning off equipment where possible, closing chemical containers, securing biological agents, etc.
5. Do not use the lift.
6. Do not go back to your working area for any reason.
7. If for any reason you are unable to leave the building make your way to a protected stairwell or a room with an external window and shut the door. If possible inform the emergency line (**ext. 7999**) or a colleague of your location and the reason why you cannot safely exit the building.
8. If safe to do so nominated *Fire Marshals* should inspect their designated areas.
9. Proceed to your nearest designated emergency assembly point; which for the Science West Building are:

10. Report any knowledge you may have of missing or injured persons to a *Fire Marshal*.
11. Return to the building only after the *Chief Fire Marshall/ Services Personnel* give the all clear signal.

If you observe a fire:

1. Activate the fire alarm by breaking one off the red wall mounted break glass units
2. If it is safe to do so and you have been trained to do so the fire may be tackled using a suitable fire extinguisher, but only if this does not place any person at risk of injury.
3. If you decide to fight a fire ensure that you have a safe and clear means of escape from the fire at all times.
4. In the case of chemical fires be aware that many chemicals give off poisonous fumes under fire conditions. Only fight chemical fires if you are certain that it is safe to do so and that the products of combustion can be avoided.
5. In the event that you cannot fight the fire or the fire begins to get out of control evacuate the area immediately.

Fire Extinguisher Types

Aqueous Film Forming Foam

- Red cylinder with a cream coloured label.
- Suitable for fighting paper, wood, fabric, etc fires.
- Not suitable for use on electrical fires.
- Suitable for use on most chemical fires.

Carbon Dioxide

- Red cylinder with a black label and a black discharge horn.
- Suitable for fighting electrical fires.
- Not suitable for paper or fabric fires as the gas is discharged under pressure and can blow embers around.
- Not suitable for use in a confined space due to the asphyxiant nature of the carbon dioxide.
- Discharge horn can get very cold during use.

Dry Powder

- Red cylinder with a blue label.
- Suitable for all types of fires including electrical and chemical.
- Can be very messy and can damage electronic equipment.

To Use A Fire Extinguisher:

- Remove from wall bracket if necessary.
- Break the seal and remove the pin.
- Squeeze handle to test the extinguisher.
- For carbon dioxide extinguishers manually turn discharge horn into position before testing. Once used do not touch the discharge horn again as it gets very cold.
- Fight fire by aiming extinguisher at the base of the fire.

6.2 Gas Leak

- In the event that a natural or laboratory gas leak is suspected then the 24hr Emergency Line (ext. 7999) must be contacted.
- The area should be evacuated.
- Only authorised personnel may interfere with gas safety systems.

6.3 Loss / Spillage of a Chemical Agent

In the case of a spill or leak of a chemical agent the following procedure should be followed:

- In the event that a chemical is spilled or is discovered to have leaked then all persons should be verbally requested to leave the affected area immediately.
- Where possible windows should be opened but all doors shut be kept closed.
- If the spilled material is flammable all possible sources of ignition, including electrical appliances should be turned off if safe to do so.
- The MSDS for the chemical concerned should be consulted before dealing with the spillage and the information contained therein utilised to ensure a safe cleanup response.
- For large spills (>10 litres / kgs) the University SIRC Office should be informed by dialling 2068 / 2070 or 7999 on an internal telephone.
- In the event that the spillage is deemed safe to deal with a spill kit should be obtained.

- Suitable personal protective equipment should be donned by the persons dealing with the spillage. At the very least safety glasses, gloves and a lab coat should be worn. All spills must be attended by at least two persons.
- The source of the leak should be ascertained and if possible and safe to do so closed or sealed. Any damaged containers should be removed and repackaged if possible.
- In the event of liquid spills adsorbent pads or vermiculite should be spread over the spilled material until it is covered. If necessary absorbent booms should be used to prevent the spillage spreading further.
- Using a dust pan and brush or similar the spilled material along with the absorbent material should be collected and placed into the bag / container contained within the spill kit.
- In the event of the spillage of a solid material the material should be collected using a dust pan and brush and placed into the bag / container contained within the spill kit.
- All wastes and all contaminated items generated by spillages must be disposed of in a suitable manner.
- When dealing with spillages the inhalation of large amounts of vapour or air borne contaminants should be avoided. In the event that a large amount of material is spilled then specialist assistance may be required. Respiratory protection may be required when dealing with large spillages. Persons must note that non air fed respiratory protection is not a substitute for decreased ambient oxygen levels.
- Some chemicals require specialist responses, e.g. elemental mercury, cyanides, strong acids, etc. Reference should be made to a materials' MSDS before it is used in the laboratory for the first time and if required any recommended specialist spill response equipment should be sourced and held in a suitable location.

6.4 Loss / Spillage of a Biological Agent

For spillages where aerosols are not likely to be produced persons should don the necessary PPE (gloves and a lab coat at a minimum) and treat the affected area with an appropriate dry disinfectant or cover with tissue paper and apply a liquid disinfectant. The treated area should be allowed to remain long enough for the disinfectant to take effect before being cleaned and the waste material being disposed off accordingly. As a rule *Virkon* and *Presept* should be used for the

treatment of spillages of biological agents. If a different disinfectant is required then this should be indicated in any relevant risk assessment.

Where a spillage may give rise to aerosols, e.g. during the rupture of a sample tube in a centrifuge, the area must be evacuated and the droplets allowed time to settle. Persons then wearing appropriate PPE (gloves, lab coat and barrier face mask) may enter the effected area treat the spillage. In some cases extensive decontamination of the working area may be required. If deemed necessary testing for the presence of the biological agent can be done following the completion of the disinfectant procedure. Respiratory protection may be required when dealing with spillages that have generated aerosols.

6.5 Chemical Agent Exposure

Some agents require specialist first aid responses, e.g. hydrofluoric acid, cyanides, etc. Reference should be made to a material's MSDS before it is used for the first time and if required any specialist first aid equipment should be sourced and held in a suitable location and any unusual first aid responses should be noted.

The following are general guidelines for treating exposures to chemical agents.

Inhalation

- Following exposure to an airborne chemical; affected persons should be removed from the source of exposure to fresh air.
- At no time should persons place themselves at risk when trying to remove affected persons from the source exposure.
- If breathing stops then artificial respiration should be administered – note this may not be possible if corrosive or toxic materials are on the lips or in the mouth.
- If available, oxygen may also be administered.
- Any exposure which results is vomiting or unconsciousness must be referred to a medical practitioner.

Skin Contact

- Remove any contaminated clothing and wash (not scrub) the skin with soapy water.
- If required utilise an emergency shower if one is available.
- If the skin blisters or becomes reddened then seek medical advice.

Eye Contact

- Wash out eyes with copious amounts of fresh water and seek medical advice.

Ingestion

- Refer to the specific MSDS. Always seek medical advice.

For further information contact the Poisons Information Centre. Telephone 01-837 9964 / 01-837 9966.

If seeking medical advice after a chemical exposure ensure that the patient has in their possession a copy of the relevant MSDS.

6.6 Biological Agent Exposure

Any person who suspects that they may have been exposed to a biological agent must contact the SIRC Office (ext. 2068 / 2070) immediately. Medical assistance / advice must be sought as soon as is possible.

For needle stick / sharps type injuries:

1. Cuts caused by sharps should be treated immediately. No attempt should be made to remove broken glass from wounds. Needle stick injuries from contaminated needles should be encouraged to bleed. Wash well under running water and cover with a dry dressing. An attempt should be made to identify any chemical or biological hazard in the needle that may have been injected.
2. Apart from very minor injuries, a First Aider should be called.
3. In the event of sustaining an accident resulting in a wound:
    - Immediately wash the wound liberally with soap and water but without scrubbing
    - Do not attempt to remove any glass by hand
    - Gently encourage free bleeding of puncture wounds but do not suck the wound
    - Dry the area and apply a waterproof dressing
    - Seek medical advice if the sharp concerned was contaminated with any hazardous materials

There is no evidence available to show that using antiseptics or squeezing a wound will reduce the risk of transmission of a blood borne pathogen. Using a caustic agent such as bleach to wash a wound is not recommended.

6.7 Personal Injury

In the event that a person suffers an injury that requires first aid treatment then:

- Treat the injury using first aid equipment. First aid equipment can be sourced from the following locations or from the 24hr Emergency Line (7999)
    - G.63 (workshop) / G.26?/ G.66
    - Lab's 1.14/ 1.25/ 1.22/ 1.21/ 1.01 and 1.10 (Technical Officer's Room)
    - Lab's 2.36/ 2.45/ 2.20/ 2.29
    - Production Glasshouse, Rosemount
    - Containment Unit, Rosemount
    - PEAC facility, Rosemount
    - Preparation area, Rosemount
- If necessary contact a trained first aider.
- If the emergency services are required then the 24hr Emergency Line should be contacted (7999) and the request made.

6.8 Campus Emergency

In the event that notification of a major campus incident is received then all staff and students should adhere to the *Shelter-Shut-Listen* model of response.

- In the event that a critical incident is notified then staff and students should **shelter** in a building, preferably in a secure area with access to a telephone and the UCD computer network. Lecturers should direct the students to remain indoors and should seek further information on their behalf via the UCD website, local Services Centre or the emergency line (7999).
- Staff should remain **shut** in their location until they are advised that the incident is over or until they are requested to leave the area.
- In the event that staff are required to evacuate an area the building fire alarm will be used to inform all building occupiers and further instructions will be given upon building evacuation.
- Unless instructed to do otherwise staff should remain indoors and **listen** for further instructions.
- Further instructions may be issued via voicemails; website; e-mail; campus siren, etc.

6.9 Contacting the Emergency Services

In all instances contacting the Emergency Services must be done via the *Services First Response Room* using the 24hr Emergency Line (**7999**). Services personnel will then contact the Emergency Services and ensure that they are met upon their arrival on campus and are escorted to the correct location of any incident.

Any fire, hazardous agent spillage, exposure to a chemical agent, personal injury, etc. or near miss must be notified to the University SIRC Office using an official accident report form. Such forms can be obtained from the University SIRC Office. Contact safety@ucd.ie or ext. 2068 / 2070

7.0 Location of Emergency Equipment

Fire Extinguishers

- Fire extinguishers are located throughout all buildings and are readily available in all locations.

First Aid Boxes

- There may be additional first aid boxes located locally - nominated local first aiders can advise on the location of your nearest first aid box (see section 6.7 for locations).
- First aid equipment is also available via the 24hr emergency line – 7999.

Automatic External Defibrillators (AED's)

AED's are located in the following locations around the University:

- Agriculture & Food Science Entrance Lobby
- Campus Services Mobile Jeeps
- Conway Institute Undergraduate Area
- Health Sciences Entrance Lobby
- Mobile Services Patrol Vehicle
- Richview Architecture Building – Main Entrance Lobby
- PEAC-Rosemount Environmental Research Station
- Science Centre East at Entrance to Hub
- Science Centre North Ground Floor Lobby
- Science Centre South Ground Floor Lobby
- Science Centre West First Floor Entrance Lobby
- Student Health Centre

For training in the use of defibrillators please contact aed@ucd.ie

8.0 Risk Assessments

8.1 Risk Assessment Methodology

It is the aim of *University College Dublin* to identify hazards in the workplace and to control the risks from those hazards in so far as is reasonably practicable. 'Hazard' is defined as the potential to cause harm, while 'risk' is defined as the potential of the hazard to cause harm under the actual circumstances of use. The assessment of risk from the hazards identified is based on the linkage of the probability of occurrence with the severity of injury or material loss (the hazard effect) resultant from that occurrence.

Probability is determined based on an assessment on how likely it is that an adverse event related to the hazard concerned will occur. Probabilities are graded as:

- *Unlikely*: the adverse event being considered will occur only rarely.
- *Likely:* the adverse event being considered will occur on a frequent basis
- *Very Likely:* the adverse event being considered is almost certain to occur

Severity is based on the degree of personal injury or damage to property likely to occur in the event that the adverse event occurs. Severity of outcome is graded as:

- *Slightly Harmful:* e.g. superficial injuries; minor cuts and bruises; nuisance and irritation; temporary discomfort; minor infection; minor material damage.
- *Harmful:* e.g. lacerations; burns; concussion; sprains; minor fractures; dermatitis (temporary); asthma (temporary); long term discomfort; infection requiring medical treatment; significant material damage.
- *Very Harmful:* e.g. fatality; amputation; major fracture; severe poisoning; cancer; life shortening condition / disease; deafness; head injuries; eye injuries; substantial material damage.

The risk assessment matrix below is used to calculate the risk posed by any hazard by linking the probability of an adverse occurrence with the severity of injury or material loss (the hazard effect) resultant from that occurrence.

Table 1. Risk Assessment Matrix

	Severity Of Outcome Of Negative Event		
Probability Of Negative Event	**Slightly Harmful**	**Harmful**	**Very Harmful**
Unlikely	***trivial risk***	***acceptable risk***	***moderate risk***
Likely	***acceptable risk***	***moderate risk***	***substantial risk***
Very Likely	***moderate risk***	***substantial risk***	***intolerable risk***

- *Trivial Risk:* No further action required.
- *Acceptable Risk:* No additional risk control / reduction measures required
- *Moderate Risk:* Further risk control / reduction measures should be considered and implemented were possible. Hazards graded as *Moderate Risk* must be closely managed.
- *Substantial Risk:* Further risk control / reduction measures must be identified. If the risk cannot be reduced further then the hazard must be strictly managed and the frequency and duration of the hazard must be reduced to as low a level as practicable along with the number of persons exposed to the hazard.
- *Intolerable Risk:* All work involving this hazard is prohibited.

The aim of any risk control / reduction measures identified and implemented are to reduce the residual risk from the hazard to as low a level as is reasonably practicable.

Where practicable *University College Dublin* commits itself to the elimination of hazards. Where the risk from a hazard cannot be eliminated at source then the University will supply a range of suitable personal protective equipment in order to protect employees where necessary.

Risk assessments will be reviewed regularly and when changes in work practises arise within the University or when new activities are introduced. All staff and postgraduate students must be familiar with the contents of the risk assessments that are relevant to their work. Training and further information on workplace safety and risk assessment is available from the *University SIRC Office* (safety@ucd.ie).

Staff and postgraduates working within *University College Dublin* must review all relevant available risk assessments (see register of risks below) prior to initiating work or undertaking new tasks to establish whether or not these documents identify and manage the hazards associated with their work adequately. In the event that existing risk assessments do not adequately manage the hazards associated with their work employees and postgraduates should either complete their own risk assessments (see www.ucd.ie/safety for risk assessment templates); inform their local Safety Committee or inform the *University SIRC Office*.

An Office Safety Handbook which outlines the risk associated with working in an office environment is available for review by persons who work in said environment.

For those persons who as part of their duties have to meet members of the public face to face or engage in 'home visits' a set of Safety Guidelines has been developed which should be consulted by same Persons required to complete risk assessments for chemical, biological or fieldwork hazards are strongly encouraged to consult the *University College Dublin Biosafety*; *Chemical Safety* and *Fieldwork Safety Handbooks* for guidelines and detailed safety information.

8.2 School Of Biology and Environmental Science Register Of Risks

The following risk assessments are deemed to be relevant to the operations of the *School Of Biology and Environmental Science.* The most current versions of these risk assessments are available at http://www.ucd.ie/safety/riskassess.html

Persons working within the school must make themselves familiar with the contents of all risk assessments which are relevant to their assigned duties and work in accordance with the provisions contained therein.

Table 2. *School Of Biology and Environmental Science*
Register Of Risk Assessments

General Risk Assessments *These risk assessments may apply to all persons working within the school*			
Risk Assessment Number	**Title**	**Risk Rating**	**Comment**
UCDA1	Manual Handling (General)	Acceptable Risk	
UCDA2	Access and Egress	Acceptable Risk	
UCDA3	Bullying and Harassment	Moderate Risk	
UCDA4	Workplace Housekeeping	Acceptable Risk	
UCDA5	Pregnant Employees (General)	n/a	Contact UCD SIRC Office to arrange Risk Assessment
UCDA6	Home Working	Trivial Risk	

General Risk Assessments Contd.			
Risk Assessment Number	**Title**	**Risk Rating**	**Comment**
UCDA7	Presence On A Third Party Site (General)	Moderate Risk	
UCDA8	Kitchen / Tea Making Areas	Trivial Risk	
UCDA9	Driving / Use Of Vehicles	Substantial Risk	
UCDA10	Foreign Travel	Acceptable Risk	
UCDA11	Lone Working (General)	n/a	Risk rating to be decided on an individual basis
UCDA12	Workplace Stress	Moderate Risk	
UCDA13	Use Of Passenger / Goods Lifts	Trivial Risk	
UCDA14	Noise (General)	Acceptable Risk	
UCDA15	Use Of Personal Protective Equipment (General)	Trivial Risk	
UCDA16	Travel Within Ireland	Acceptable Risk	
UCDA17	Violence And Aggression (General)	Acceptable Risk	
UCDA18	Fire (General)	Moderate Risk	
UCDA19	Electricity (General)	Moderate Risk	
Office Risk Assessments *These risk assessments may apply to persons working within an office environment within the school*			
Risk Assessment Number	**Title**	**Risk Rating**	**Comment**
UCDB1	Office Safety (General)	Acceptable Risk	
UCDB2	Use Of Display Screen Equipment	Acceptable Risk	Contact Safety Office to arrange individual assessment
UCDB3	Electricity In The Office	Acceptable Risk	
UCDB4	Fire In The Office	Acceptable Risk	
UCDB5	Manual Handling In The Office	Acceptable Risk	

Chemical Agents Risk Assessments *These risk assessments may apply to persons working with chemical agents within the school*			
Risk Assessment Number	**Title**	**Risk Rating**	**Comment**
UCDC1	Handling And Use Of Chemical Agents (General)	Moderate Risk	For general guidance purposes only. Reference should be made to the more specific risk assessments for chemical agents. In the event that no risk assessment is available for a chemical agent then the user must arrange for one to be completed prior to using the agent for the first time.
UCDC2	Storage Of Chemical Agents (General)	Moderate Risk	The large scale storage of chemical agents (i.e. 00's of litres / kgs may require the completion of a more specific risk assessment).
UCDC3	Handling And Use Of Flammable Liquids / Organic Solvents (General)	Acceptable Risk	
UCDC4	Cryogenic Liquids (General)	Acceptable Risk	
UCDC5	Use Of Compressed Gases (General)	Acceptable Risk	
UCDC6	Use and Handling Of Corrosive Chemicals (General)	Acceptable Risk	
UCDC7	Use and Handing Of Hydrofluoric Acid (General)	Moderate Risk	
UCDC8	Use and Handling Of Cyanide Compounds (General)	Moderate Risk	
UCDC9	Use and Handling Of Mercury And Mercuric Compounds	Acceptable Risk	

	(General)		
UCDC10	Use and Handling Of Organic Peroxide Compounds (General)	Acceptable Risk	
UCDC11	Use and Handling Of Potentially Explosive Materials (General)	Acceptable Risk	
UCDC12	Use and Handling Of Laboratory Diagnostic Kits (General)	Acceptable Risk	
Risk Assessment Number	**Title**	**Risk Rating**	**Comment**
UCDC13	Use and Handling Of Carcinogens and Mutagens (General)	Moderate Risk	For general guidance purposes only. A specific risk assessment for every carcinogen and mutagen in use must be completed prior to using the agent for the first time.
UCDC14	Use and Handling Of Teratogens And Reproductive Toxins (General)	Acceptable Risk	
UCDC15	Use and Handling Of Irritants, Harmful Agents and Sensitisers (General)	Acceptable Risk	
UCDC16	Use and Handling Of Toxic Agents (General)	Acceptable Risk	
UCDC17	Use and Handling Of Dry Ice (General)	Acceptable Risk	
UCDC18	Dealing with Chemical spillages (General)	Acceptable Risk	
	Use of	Acceptable	

	Nanoparticles	Risk	

Biological Agents Risk Assessments *These risk assessments may apply to persons working with biological agents within the school*			
Risk Assessment Number	**Title**	**Residual Risk Rating**	**Comment**
UCDD1	Handling and Use Of Class 1 Biological Agents	Trivial Risk	
UCDD2	Handling and Use Of Class 2 Biological Agents	Acceptable Risk	
UCDD3	Use and Propagation Of Cell Lines (General)	Acceptable Risk	
UCDD4	Handling and Use Of Biological Material Of Human / Animal Origin	Acceptable Risk	
UCDD5	Diagnostic Laboratories (General)	Acceptable Risk	
UCDD7	Centrifugation Of Biological Samples (General)	Acceptable Risk	
UCDD8	Dealing With Biological Agent Spillages	Acceptable Risk	

Laboratory Risk Assessments *These risk assessments may apply to persons engaged in laboratory work within the school*			
Risk Assessment Number	**Title**	**Residual Risk Rating**	**Comment**
UCDE1	Use of Centrifuges (General)	Acceptable Risk	
UCDE2	Use Of Autoclaves (General)	Acceptable Risk	
UCDE3	Use Of Bunsen / Gas Burners (General)	Acceptable Risk	
UCDE4	Cold Rooms / Walk In Freezers (General)	Acceptable Risk	
UCDE5	Use Of Fridges / Freezers (General)	Trivial Risk	
UCDE6	Use of Laboratory Glassware (General)	Acceptable Risk	
UCDE7	Use Of Laboratory Ovens (General)	Acceptable Risk	
UCDE8	Use Of Microwave	Acceptable Risk	

	Ovens (General)		
UCDE9	Use Of Sharps (General)	Acceptable Risk	
UCDE10	Use Of Homogenisers (General)	Acceptable Risk	
UCDE11	Use Of Hot Plates / Stirrers (General)	Acceptable Risk	
UCDE12	Use Of pH Meters (General)	Trivial Risk	
UCDE13	User Of Rotary Evaporators (General)	Acceptable Risk	
UCDE14	Use Of UV Light Sources	Acceptable Risk	
UCDE15	Gel Electrophoresis - Non Chemical Risks (General)	Acceptable Risk	
UCDE16	Use Of Laboratory Personal Protective Equipment	Trivial Risk	
UCDE17	Use Of Microtomes (General)	Acceptable Risk	
UCDE18	Use Of Laboratory Pumps (General)	Acceptable Risk	
UCDE19	Electrical Safety In The Lab	Moderate Risk	
UCDE20	Fire Safety In The Lab	Moderate Risk	
UCDE21	Manual Handling In The Lab	Acceptable Risk	
UCDE22	Laboratory Waste Disposal	Acceptable Risk	
UCDE23	Laboratory Personal Hygiene	Acceptable Risk	
UCDE24	Use Of Water / Oil Baths (General)	Acceptable Risk	
Risk Assessment Number	**Title**	**Residual Risk Rating**	**Comment**
UCDE26	Use Of Wax Baths (General)	Acceptable Risk	
UCDE27	Use Of Ice Makers (General)	Trivial Risk	
UCDE28	Dissection (General)	Acceptable Risk	
UCDE29	Use Of Hand Sanitizers / Soaps (General)	Acceptable Risk	
UCDE30	Handling And Use Of Disinfectants (General)	Acceptable Risk	

UCDE31	Use of Lasers (General)	Acceptable Risk	
UCDE32	Use Of Laboratory Analytical Equipment (General)	Acceptable Risk	

Radiation Safety Risk Assessments *These risk assessments may apply to persons working with radioactive materials within the School.*			
Risk Assessment Number	**Title**	**Risk Rating**	**Comment**
UCDG1	Handling And Use Of Radioisotopes (General)	Moderate Risk	

Fieldwork Risk Assessments *These risk assessments may apply to persons engaged in fieldwork.*			
Risk Assessment Number	**Title**	**Risk Rating**	**Comment**
UCDH1	Fieldwork (General)	Acceptable Risk	For general guidance purposes only. Reference should be made to the *UCD Fieldwork Safety Guidelines*. In some cases an expedition specific risk assessment will be required.
UCDH2	Leptospirosis (Fieldwork)	Acceptable Risk	

Workshop Risk Assessments *These risk assessments may apply to people working in workshops within the School*			
Risk Assessment Number	**Title**	**Residual Risk Rating**	**Comment**
UCDK1	Use of Abrasive Wheels (General)	Acceptable Risk	
UCDK2	Use of Bandsaws (General)	Acceptable Risk	
UCDK4	Use of Lathes (General)	Acceptable Risk	
UCDK6	Use of Table Saws (General)	Acceptable Risk	
UCDK10	Soldering (General)	Acceptable Risk	
UCDK11	Use of Compressors (General)	Acceptable Risk	
UCDK12	Use of Petrol-Diesel Fuel (General)	Acceptable Risk	
UCDK14	Use of Hand Held portable Electric Tools	Acceptable Risk	

	(General)		
UCDK15	Use of Hand Held Tools (General)	Acceptable Risk	
UCDK17	Use of Ladders (General)	Acceptable Risk	
UCDK18	Use and Handling of Hydraulic Oil-Workshop Lubricants (General)	Trivial Risk	
UCDK19	Dust (General)	Acceptable Risk	
UCDK20	Vibration (General)	Acceptable Risk	
UCDK21	General Plant & Equipment (General)	Acceptable Risk	
UCDK22	Welding (General)	Acceptable Risk	

Appendix 1 Chemical Agent Risk Assessment Template

UniversityCollegeDublin
Chemical Agents Risk Assessment Template*

Persons completing this assessment should refer to the UCD Chemical Safety Manual and must review the MSDS for the chemicals concerned as part of this assessment

1. Name & Status Of Person(s) Carrying Out Assessment

_____ _____

2. Date Of Assessment **3. Location Of Works**

_____ _____

4. Detail The Process Involving The Use Of Hazardous Agents–*give details of the process(es) in question - if necessary attach a written procedure.*

5. Hazardous Agent To Be Used	**Amounts**	**Physical Forms**
*	*	*
*	*	*
*	*	*
*	*	*
*	*	*

6. List Persons Likely To Be Exposed To Chemical Agents:

*	*
*	*

7. Indicate Hazard Classifications / Properties Of All Agents Used

Explosive: ☐ Oxidising: ☐ Extremely Flammable: ☐

Highly Flammable: ☐ Flammable: ☐ Very Toxic: ☐ Toxic: ☐

Harmful: ☐ Irritant: ☐ Sensitiser: ☐

Corrosive: ☐ Teratogen: ☐ Hazardous to the environment: ☐

Cryogenic: ☐ Compressed Gas: ☐ Carcinogen / Mutagen: ☐

8. Potential Experimental / Reaction Outcomes

Exothermic: ☐ Explosive: ☐ Release of gas / vapours: ☐

Pressurisation: ☐ Generation of unstable compounds: ☐

Other: ☐ (detail) _____

*This document must be completed by a competent person(s)

9. Potential Likely Routes Of Exposure

Inhalation: ☐ Skin Contact: ☐ Ingestion: ☐ Sharps: ☐

10. Indicate Risk & Safety Phrases For All Materials

Where more than one chemical is in use there is no need to tick a phrase more than once

RISK PHRASES			
1	21	41	61
2	22	42	62
3	23	43	63
4	24	44	64
5	25	45	65
6	26	46	66
7	27	47	67
8	28	48	68
9	29	49	
10	30	50	
11	31	51	
12	32	52	
13	33	53	
14	34	54	
15	35	55	
16	36	56	
17	37	57	
18	38	58	
19	39	59	
20	40	60	

R40; R45;R46; R49;R68 indicate carcinogens and / or mutagens.

SAFETY PHRASES			
1	21	41	61
2	22	42	62
3	23	43	63
4	24	44	64
5	25	45	
6	26	46	
7	27	47	
8	28	48	
9	29	49	
10	30	50	
11	31	51	
12	32	52	
13	33	53	
14	34	54	
15	35	55	
16	36	56	
17	37	57	
18	38	58	
19	39	59	
20	40	60	

All Safety Phrase requirements must be implemented.

11 Control Measures Designed To Allow Safe Use Of Chemicals

A. PPE Required: Lab Coat: √ Safety Glasses: √ Safety Goggles: ☐

Face Shield: ☐ Gloves: ☐ (indicate type)_____ Other: ☐ (give details) _____

B. Engineering Controls Required: Fume Hood: ☐ Other: ☐ (give details) _____

C. Emergency Response

Fire *(consult relevant MSDS for further information)*

-
-
-
-

First Aid Responses*(consult relevant MSDS for further information)*

-
-
-
-

An MSDS must accompany all victims of exposure when seeking medical advice. Always consult an MSDS following an exposure to a hazardous agent.

Spill Response*(consult relevant MSDS for further information)*

-
-
-
-

D. Waste Disposal Procedures

-
-
-

E. Further Risk Control Measures Required

These additional risk control measures should be designed to tackle the hazards identified in Sections 7, 8, 9 and 10 above.

Can any of the hazardous agents be replaced with less hazardous materials?	Can the process be modified to reduce exposure risks?
Can the amount of chemical in use be reduced?	Is further training for personnel required?
Can the duration / intensity of exposure / numbers of persons exposed be reduced?	Can different equipment be used to control risk?
Are further safety / hygiene facilities required?	Is further ppe required?
Is warning signage required?	Can engineering controls be put into place?
Are transport or storage arrangements contributing to risk?	Is the product of the process creating a high risk that can be reduced?
Is appropriate first aid equipment / antidotes available?	Does the working area require demarcation?
Is additional safety equipment required?	Are safe handling procedures in place?
In the case of carcinogens are storage and labelling provisions adequate?	Is occupational exposure monitoring required?
In the case of carcinogens can a sealed working system be used?	Do ignition sources require isolation?
In the case of carcinogens does the working area require demarcation?	Can the emergency responses be improved?
In the case of carcinogens do the users require medial surveillance?	Is health surveillance required?

-
-
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12 Risk Rating

ASSESSMENT OF SEVERITY

High (Hs) = Very Harmful

Medium (M) = Harmful
Low (L) = Slightly Harmful

Assessment of Likelihood Of Exposure:

High (H) =Very Likely

Medium (M) = Likely
Low (L) =Unlikely

Likelihood

Severity

	L	M	H
L	T	A	M
M	A	M	S
H	M	S	I

Risk = Severity x Likelihood

RISK RATING: _____

Shaded Area = risk rating

1. **Trivial Risk:**No further action needed
2. **Acceptable Risk:** No additional risk control measures required
3. **Moderate Risk:**Implement further risk control measures if possible
4. **Substantial Risk:**Further control measures must be implemented. If this is not possible then work must be strictly managed to ensure safety.
5. **Intolerable:**Work must be prohibited until further control measures are implemented.

Is the risk rating acceptable: yes ☐ no ☐

If yes sign and date below and ensure all risk control measures have been implemented. If no identify further control measures and reassess risk. If the risk cannot be reduced to an acceptable level then process cannot be carried out.

Signed:	**Date:**	**Position:**
_____	_____	_____
Signed:	**Date:**	**Position:**
_____	_____	_____

This document must be signed by the person carrying out the assessment and their academic supervisor / manager.

Is the process suitable for lone working yes ☐ no ☐

13 Additional References

List any additional documents that should be referred to e.g. general risk assessments; emergency procedures, etc.

○

○

○

14 Location Of Relevant MSDS

Indicate the location of relavent MSDS for the chemicals in use.

Appendices

Risk Phrases	R50 Very toxic to aquatic organisms.
R1 Explosive when dry.	R51 Toxic to aquatic organisms.
R2 Risk of explosion by shock, friction, fire or other source of ignition.	R52 Harmful to aquatic organisms.
R3 Extreme risk of explosion by shock, friction, fire or other sources of ignition.	R53 May cause long-term adverse effects in the aquatic environment.
R4 Forms very sensitive explosive metallic compounds.	R54 Toxic to flora.
R5 Heating may cause an explosion.	R55 Toxic to fauna.
R6 Explosive with or without contact with air.	R56 Toxic to soil organisms.
R7 May cause fire.	R57 Toxic to bees.
R8 Contact with combustible material may cause fire.	R58 May cause long-term adverse effects in the environment.
R9 Explosive when mixed with combustible material.	R59 Dangerous to the ozone layer.
R10 Flammable.	R60 May impair fertility.
R11 Highly flammable.	R61 May cause harm to the unborn child.
R12 Extremely flammable.	R62 Risk of impaired fertility.
R13 Extremely flammable liquefied gas	R63 Possible risk of harm to the unborn child.
R14 Reacts violently with water.	R64 May cause harm to breastfed babies.
R15 Contact with water liberates extremely flammable gases.	R65 Harmful: may cause lung damage if swallowed.
R16 Explosive when mixed with oxidizing substances.	R66 Repeated exposure may cause skin dryness or cracking.
R17 Spontaneously flammable in air.	R67 Vapours may cause drowsiness and dizziness.
R18 In use, may form inflammable/explosive vapour-air mixture.	R68 Possible risk of irreversible effects.
R19 May form explosive peroxides.	
R20 Harmful by inhalation.	
R21 Harmful in contact with skin.	
R22 Harmful if swallowed.	
R23 Toxic by inhalation.	
R24 Toxic in contact with skin.	
R25 Toxic if swallowed.	
R26 Very toxic by inhalation.	
R27 Very toxic in contact with skin.	
R28 Very toxic if swallowed.	
R29 Contact with water liberates toxic gas.	
R30 Can become highly flammable in use.	
R31 Contact with acids liberates toxic gas.	
R32 Contact with acid liberates very toxic gas.	
R33 Danger of cumulative effects.	
R34 Causes burns.	
R35 Causes severe burns.	
R36 Irritating to eyes.	
R37 Irritating to respiratory system.	
R38 Irritating to skin.	
R39 Danger of very serious irreversible effects.	
R40 Limited evidence of a carcinogenic effect.	
R41 Risk of serious damage to the eyes.	
R42 May cause sensitization by inhalation.	
R43 May cause sensitization by skin contact.	
R44 Risk of explosion if heated under confinement.	
R45 May cause cancer.	
R46 May cause heritable genetic damage.	
R47 May cause birth defects	
R48 Danger of serious damage to health by prolonged exposure.	
R49 May cause cancer by inhalation.	

Safety Phrases
S1 Keep locked up.
S2 Keep out of the reach of children.
S3 Keep in a cool place.
S4 Keep away from living quarters.
S5 Keep contents under ... (there follows the name of a liquid).
S6 Keep under ... (there follows the name of an inert gas).
S7 Keep container tightly closed.
S8 Keep container dry.
S9 Keep container in a well-ventilated place.
S12 Do not keep the container sealed.
S13 Keep away from food, drink and animal foodstuffs.
S14 Keep away from ... (a list of incompatible materials will follow).
S15 Keep away from heat.
S16 Keep away from sources of ignition.
S17 Keep away from combustible material.
S18 Handle and open container with care.
S20 When using, do not eat or drink.
S21 When using do not smoke.
S22 Do not breathe dust.
S23 Do not breathe vapour.
S24 Avoid contact with skin.
S25 Avoid contact with eyes.
S26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S27 Take off immediately all contaminated clothing.
S28 After contact with skin, wash immediately with plenty of soap-suds.
S29 Do not empty into drains.
S30 Never add water to this product.
S33 Take precautionary measures against static discharges.
S35 This material and its container must be disposed of in a safe way.
S36 Wear suitable protective clothing.
S37 Wear suitable gloves.
S38 In case of insufficient ventilation, wear suitable respiratory equipment.
S39 Wear eye / face protection.
S40 To clean the floor and all objects contaminated by this material, use .... (there follows suitable cleaning material).
S41 In case of fire and / or explosion do not breathe fumes.
S42 During fumigation / spraying wear suitable respiratory equipment.
S43 In case of fire use ... (there follows the type of fire-fighting equipment to be used.)
S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label whenever possible.)
S46 If swallowed, seek medical advice immediately and show this container or label.
S47 Keep at temperature not exceeding...
S48 To be kept wet with (there follows a material name).
S49 Keep only in the original container.
S50 Do not mix with ...
S51 Use only in well ventilated areas.
S52 Not recommended for interior use on large surface areas.
S53 Avoid exposure - obtain special instructions before use.
S56 Dispose of this material and its container at hazardous or special waste collection point.
S57 Use appropriate container to avoid environmental contamination.
S59 Refer to manufacturer / supplier for information on recovery / recycling.
S60 This material and its container must be disposed of as hazardous waste.
S61 Avoid release to the environment. Refer to special instructions / safety data sheets.
S62 If swallowed, do not induce vomiting; seek medical advice immediately and show this container or label.

Appendix 2

Biological Agent Risk Assessment Template

UniversityCollegeDublin
Pro Forma Biological Agents Risk Assessment Template

Persons completing this assessment should refer to the UCD Biosafety Manual

1. Name & Status Of Person Carrying Out Assessment

_____ _____

2. Date Of Assessment **3. Location Of Work**

_____ _____

4. Detail The Process Involving The Use Or Risk Of Exposure To Biological Agents– indicate the frequency and duration of the process, the materials to be handled and who will be carrying it out - if necessary attach a written procedure for the process.

_____

_____

_____

_____

_____

_____

5. Does The Work Involve The Deliberate Use Of A Named Biological Agent

Yes ☐if yes proceed to section 6

No ☐if no proceed to section 7

6. Deliberate Use Of Named Biological Agent

Name Of Agent _____

Type Of Agent _____ (bacteria, virus, etc)

Classification of Agent: _____ (1-4) if Class 1 proceed to Section 8

Containment Required

Containment Measures	Implemented
1. The workplace is to be separated from any other activities in the same building	
2. Input air and extract air to the workplace are to be filtered using HEPA or likewise	
3. Access is to be restricted to nominated workers only	
4. The workplace is to be sealable to permit disinfection	
5. Specified disinfection procedures	
6. The workplace is to be maintained at an air pressure negative to atmosphere	
7. Effective vector control e.g. rodents and insects	
8. Surfaces impervious to water and easy to clean	
9. Surfaces resistant to acids, alkalis, solvents, disinfectants	
10. Safe storage of a biological agent	
11. An observation window, or alternative, is to be present, so that occupants can be seen	
12. A laboratory is to contain own equipment	
13. Infected material including any animal is to be handled in a safety cabinet or isolator or other suitable containment	
14. Incinerator for disposal of animal carcases	

Ticking a containment measure indicates it's implementation. Please see Appendix 1 for mandatory containment measures.

Proceed to Section 8

7. Non Deliberate Use Of Biological Agent
Detail potential infectious agents that persons may be exposed to:

_____ _____ _____ _____

In work settings which are laboratories, diagnostic laboratories and rooms in which deliberately infected animals or animals suspected of being infected are being kept Containment Level 2 measures must be implemented. See Appendix 1 for details. Have these measures been implemented where necessary ***yes*** _____

8. Is specialist training required before this process commences: yes ☐ no ☐

9. List Persons Likely To Be Exposed To Biological Agents:

* *
* *

10. Indicate Potential Routes Of Exposure

Ingestion Of The Agent	☐	*Inhalation Of The Agent*	☐
Entry Via Mucosal Membranes	☐	*Subcutaneous Entry*	☐
Entry Via Damaged Skin	☐	*Physical Contamination*	☐

11. Potential Health Effects Of Biological Agent(s)

_____

_____

12. Risk Control Measures Designed To Allow Safe Use Of Agent

A. PPE Required: Lab Coat: √ Safety Glasses: ☐ Safety Goggles: ☐

Face Shield: ☐ Gloves: ☐ Other: ☐ (give details) _____

B. Engineering Controls Required: Safety Cabinet ☐ Other: ☐ (give details) _____

C. Emergency Response
First Aid Responses

-
-
-
-

Spill Response

-
-
-
-

Suitable Disinfectant _____

D. Good Hygiene Practises:

No eating or drinking in work area ☐ Hand washing Facilities Available ☐

Mandatory washing of exposed skin after work completed ☐

Covering of cuts and abrasions☐ No insertion of objects into mouth, etc ☐

E. Vaccination Required no☐ yes☐ (give details) _____

F. Further Risk Control Measures Required To Eliminate / Minimise Identified Routes Of Exposure (Section 10)

Consider the following:

1. The design of work practices so as to minimise potential for contact with biological agents
2. Ongoing health screening for affected persons if deemed necessary
3. The formulation and implementation of local codes of practice for the safety of personnel where required, especially for the taking, handling and processing of samples of human or animal origin
4. The display of warning notices were necessary
5. The keeping of adequate records of persons potentially exposed to infectious agents where deemed necessary
6. The drawing up of plans to deal with accidents involving a biological agent.
7. The testing, where it is necessary and technically possible, for the presence, outside the primary physical confinement, of a biological agent used at work.
8. The use of means for the safe collection, storage and disposal of waste by employees, including the use of secure and identifiable containers, after suitable treatment where appropriate.
9. The making of arrangements for the safe handling and transport of a biological agent within the workplace.
10. The removal of sharps from the workplace
11. The implementation of Universal Precautions for handling blood products
12. The restriction of access to the workplace
13. Pregnant employees
14. Equipment requirements
15. Sharps issues
16. Lab animal issues
17. Additional hygiene control measures

○

○

○

○

○

○

○

○

○

○

○

○

○

○

○

○

○

-
-
-
-
-

13. Risk Rating

Assessment of Severity

High (H) = Very Harmful

Medium (M) = Harmful

Low (L) = Slightly Harmful

Assessment of Likelihood Of Exposure:

High (H) =Very Likely

Medium (M) = Likely

Low (L) =Unlikely

Likelihood

Severity

	L	M	H
L	T	A	M
M	A	M	S
H	M	S	I

Shaded Area = risk rating

Risk = Severity x Likelihood

RISK RATING: _____

1. **Trivial Risk:**No further action needed
2. **Acceptable Risk:** No additional risk control measures required
3. **Moderate Risk:**Implement further risk control measures if possible
4. **Substantial Risk:**Further control measures must be implemented. If this is not possible then work must be strictly managed to ensure safety.
5. **Intolerable:**Work must be prohibited until further control measures are implemented.

Is the risk rating acceptable: yes ☐ no ☐

If yes sign and date below and ensure all risk control measures have been implemented.
If no identify further control measures and reassess risk. If the risk cannot be reduced to an acceptable level then process cannot be carried out.

Signed: **Date:** **Position:**

_____ _____ _____

Is the process suitable for lone working yes ☐ no ☐

Section 14. Notification To The Health and Safety Authority Required

yes ☐ no ☐

Section 15. Notification To The University Biosafety Committee

yes ☐ no ☐

Section 16. Revision History

Appendix 1. Extract From The Seventh Schedule Of The 1994 Biological Agents Regulations

Containment Measures At Different Containment Levels For Health And Veterinary Care Facilities, Laboratories, Diagnostic Laboratories And Rooms In Which Deliberately Infected Animals Or Animals Suspected Of Being Infected Are Being Kept.			
Containment Measures	**Containment Level 2**	**Containment Level 3**	**Containment Level 4**
1. The workplace is to be separated from any other activities in the same building	No	Recommended	Yes
2. Input air and extract air to the workplace are to be filtered using HEPA or likewise	No	Yes, on extract air	Yes, on input and extract air
3. Access is to be restricted to nominated workers only	Recommended	Yes	Yes, via airlock
4. The workplace is to be sealable to permit disinfection	No	Recommended	Yes
5. Specified disinfection procedures	Yes	Yes	Yes
6. The workplace is to be maintained at an air pressure negative to atmosphere	No	Recommended	Yes
7. Effective vector control e.g. rodents and insects	Recommended	Yes	Yes
8. Surfaces impervious to water and easy to clean	Yes, for bench	Yes, for bench and floor	Yes, for bench, walls, floor and ceiling
9. Surfaces resistant to acids, alkalis, solvents, disinfectants	Recommended	Yes	Yes
10. Safe storage of a biological agent	Yes	Yes	Yes, secure storage
11. An observation window, or alternative, is to be present, so that occupants can be seen	Recommended	Recommended	Yes
12. A laboratory is to contain own equipment	No	Recommended	Yes
13. Infected material including any animal is to be handled in a safety cabinet or isolator or other suitable containment	Where appropriate	Yes, where infection is by airborne route	Yes
14. Incinerator for disposal of animal carcases	Recommended	Yes (available)	Yes, on site

Appendix 3 Machinery / Equipment Risk Assessment Template

UniversityCollegeDublin
Machinery/ Equipment Risk Assessment Template

1. Name & Status Of Person Carrying Out Assessment

_____ _____

2. Date Of Assessment **3. Location Of Equipment**

_____ _____

4. Detail The Function And Usage Of The Equipment In Question– indicate the frequency and duration of the use, the function / use of the equipment, the materials to be worked on, who will be using the equipment, etc.

_____
_____
_____
_____
_____

5. Does The Work Involve The Use Of A Chemical Agent

Yes ☐ **No** ☐

If yes complete a Chemical Agents Risk Assessment in addition to this assessment

6. Is Specialist Training Required By Users Of This Equipment

Yes ☐ **No** ☐

If yes detail who is authorised to provide such training:

_____
_____

7. Equipment Operating Guidelines

Detail How To Safely Start Equipment

-
-
-
-

Detail How To Safely Stop Equipment

-
-
-
-

Detail How To Stop Equipment In An Emergency

-
-
-
-

Detail How To Deal With Blockages / Malfunctions In Equipment

-
-
-
-

8. Detail How Equipment Can Be Isolated From The Power Supply

9. PPE Required To Operate Equipment Safely

Protective Clothing: ☐ Safety Glasses: ☐ Safety Goggles: ☐

Hearing Protection: ☐ Face Shield: ☐ Gloves: ☐ Other: ☐ (give details) _____

10. Equipment Hazard Details And Risk Control Measures

Entanglement Hazards Are there any moving parts in which clothing, body parts or any other items can become entangled in? **Yes** □ **No** □ If yes such moving parts must be suitable isolated, guarded and or signed.	Entanglement Control Measures ○ ○ ○ ○ ○
Crushing Is it possible for any body parts to become crushed during operations of the equipment or for equipment loads or parts to become unstable and to topple over onto a person? **Yes** □ **No** □ If yes danger areas must be suitable isolated or guarded and / or clearly marked and if possible not accessible.	Crushing Control Measures ○ ○ ○ ○ ○
Cutting, Stabbing and Puncturing Is it possible for stabbing, puncturing or cutting injuries to be suffered during operation? **Yes** □ **No** □ If yes parts must be suitable isolated or guarded and / or danger areas must be clearly marked and / or suitable staff training must be implemented.	Stabbing etc Control Measures ○ ○ ○ ○ ○
Shearing Can body parts be caught between two parts of the equipment or a part of the equipment and an external object? **Yes** □ **No** □ If yes parts must be suitable isolated or guarded and / or danger areas must be clearly marked and / or suitable staff training must be implemented.	Shearing Control Measures ○ ○ ○ ○ ○
Striking / Disintegration Is it possible to be struck by moving parts of the equipment or by equipment components / product in the event of a malfunction? **Yes** □ **No** □ If yes parts must be suitable isolated or guarded and / or danger areas must be clearly marked and / or suitable staff training must be implemented.	Striking / Disintegration Control Measures ○ ○ ○ ○ ○
Electrical ○ Is the equipment suitably earthed, fused and connected to the power supply vis an RCD? ○ Are all cables in good condition? Are all live parts isolated?	Electricity Control Measures ○ ○ ○

Yes □ **No** □ If yes then measures must be taken to ensure that the equipment is made electrically safe.	○ ○
Temperature Issues Do any accessible parts of the equipment get excessively hot or cold? **Yes** □ **No** □ If yes parts must be suitable isolated or guarded and / or danger areas must be clearly marked and / or suitable staff training must be implemented.	Temperature Control Measures ○ ○ ○ ○ ○
Noise Is the equipment noisy? **Yes** □ **No** □ If yes equipment must be isolated and / or hearing protection must be worn and signage to that effect must be visible. .	Noise Control Measures ○ ○ ○ ○ ○
Vibration Are users required to come into contact with vibrating parts? **Yes** □ **No** □ If yes then work processes must be designed to minimise contact with such parts and / or equipment should be mounted on shock absorbers or similar.	Vibration Control Measures ○ ○ ○ ○ ○
Dust Does use of the equipment generate dusty atmospheres? **Yes** □ **No** □ If yes then work processes must be isolated; local exhaust ventilation may be required, wet systems of work may be required, etc	Dust Control Measures ○ ○ ○ ○ ○
Chemicals / Exhausts / Fumes Does operation of the equipment give rise to the generation of airborne contaminants? **Yes** □ **No** □ If yes then work processes must be isolated; local exhaust ventilation may be required, wet systems of work may be required, etc	Exhaust / Emission Control Measures ○ ○ ○ ○ ○
Pressurised / Hydraulic Systems Are pressurised or hydraulic systems in use on the equipment that could give rise to injury if they failed? **Yes** □ **No** □ If yes then work processes must be isolated, regular maintenance of equipment is required, etc.	Pressurised Systems Control Measures ○ ○ ○ ○
Lifting Tasks Is the equipment required to engage in lifting tasks, the failure of which could lead to user injury or persons in the vicinity?	Lifting Tasks Control Measures ○ ○

Yes □ **No** □ If yes then work processes must be isolated, lifting plant must be inspected regularly, safe working loads must not be exceeded, users must be trained, etc,	○ ○ ○
Slipping, Tripping and Falling Can anyone using the equipment or in the vicinity slip, trip or fall due to the operation of the equipment e.g. poor housekeeping, dust / oil on the floor, etc. **Yes** □ **No** □ If yes then measures must be taken to ensure good housekeeping.	Trip Control Measures ○ ○ ○ ○ ○
Ergonomic Can anyone using the equipment be subjected to poor posture, repetitive movements, undue physical strain, etc. **Yes** □ **No** □ If yes then measures must be taken to ensure good ergonomic practices and modification of the working environment may be required.	Ergonomic Control Measures ○ ○ ○ ○ ○
Other Hazards Are there any other risk factors that can be associated with the operation of this equipment? **Yes** □ **No** □ If yes then outline additional control measures.	Additional Control Measures ○ ○ ○ ○ ○

11. Risk Rating

Assessment of Severity

High (H) = Very Harmful

Medium (M) = Harmful

Low (L) = Slightly Harmful

Assessment of Likelihood Of Exposure:

High (H) =Very Likely

Medium (M) = Likely

Low (L) =Unlikely

Likelihood

Severity

	L	**M**	**H**
L	**T**	A	**M**
M	**A**	**M**	**S**
H	**M**	**S**	**I**

Shaded Area = risk rating

Risk = Severity x Likelihood

RISK RATING: _____

6. **Trivial Risk:**No further action needed
7. **Acceptable Risk:** No additional risk control measures required
8. **Moderate Risk:**Implement further risk control measures if possible

9. **Substantial Risk:**Further control measures must be implemented. If this is not possible then work must be strictly managed to ensure safety.
10. **Intolerable:**Work must be prohibited until further control measures are implemented.

Is the risk rating acceptable: yes ☐ no ☐

If yes sign and date below and ensure all risk control measures have been implemented.
If no identify further control measures and reassess risk. If the risk cannot be reduced to an acceptable level then process cannot be carried out.

Signed:	**Date:**	**Position:**
_____	_____	_____

Is the equipment suitable for use when lone working yes ☐ no ☐

Section 12. Revision History

Appendix 4 Fieldwork

Risk Assessment Template

Department:	***Assessor:***	***Date:***
1. Proposed Dates Of Fieldwork		
2. Name Of Fieldwork Leader / Solo Fieldworker (delete as appropriate)		
3. For group expeditions detail names and positions of persons involved (e.g. undergraduates, postgraduates, staff, etc) – attach extra sheets if required		

	Tick as appropriate		
4. Has adequate insurance been obtained?	**Yes**	**No**	**N/A**
5. Have Suitable travel arrangements been made (incl. licensed drivers)?	**Yes**	**No**	**N/A**
6. Has permission been obtained to work onsite?	**Yes**	**No**	**N/A**
7. Has adequate <u>documented</u> training and information been given to all participants?	**Yes**	**No**	**N/A**
8. Have next of kin details been obtained for all participants?	**Yes**	**No**	**N/A**
9. Has adequate provision been made for persons with disability / health problems?	**Yes**	**No**	**N/A**
10. Have adequate first aid provisions been made?	**Yes**	**No**	**N/A**

11. Hazard Identification And Risk Assessment

1. Identify the hazards - find out about the site, the work, where you will be staying, how you will be travelling etc.

2. Identify who might be harmed and how - think about risks to yourself and others in your team. People with health problems, disabilities or lacking experience in fieldwork may be at greater risk and need extra protection.

3. Evaluate the risks and consider how the risk of harm can be reduced - what arrangements, equipment and training etc. will help to avoid accidents or illness?

4. Record your findings - on the risk assessment form below. This assessment should form the basis of safe working practices and local rules. Don't just fill in the form and forget it - make sure everyone in your team knows about the risks and how to avoid them.

5. Review and revise your assessment where necessary - you should do this when there are significant changes in materials, equipment, work methods, location or people involved. Assessments should also be reviewed if there are accidents or near-misses associated with the work.

11. Hazard Identification Risk Assessment Contd.

Hazards	Hazard / Risk Control Measures	Risk(High, Medium, Low)
Physical hazards (e.g. extreme weather; mountains and cliffs, quarries, marshes and quicksand; fresh or seawater)		
Biological hazards (e.g. poisonous plants; aggressive animals, soil or water micro organisms; insects)		
Chemical hazards (e.g. pesticides; dusts; contaminated soils; chemicals brought into site)		

Hazards	Hazard / Risk Control Measures	Risk(High, Medium, Low)
Man-made hazards (e.g. electrical equipment; vehicles, insecure buildings; slurry pits; power and pipelines)		
Personal safety (e.g. lone working, attack on person or property)		
Environmental impact (e.g. rubbish; pollution)		

Hazards	Hazard / Risk Control Measures	Risk (High, Medium, Low)
Other hazards (specify)		

Can all risks be reduced to an acceptable level? ***Yes*** ***No*** ***(if no then fieldwork may not proceed)***

12. Detail all necessary safety and other equipment that must be carried by the expedition as a whole and by every individual, include clothing requirements.
13. Detail fieldwork emergency response plan, including emergency response contact numbers
14. Give details and contact arrangements of the designated responsible person

Signed

_____	_____	_____
Name of Assessor	**Position**	**Date**