***University College Dublin***



***School of Biology & Environmental Science***

***Rev 6. Issued January 2024***

***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/sirc/healthsafety/safetystatements/)

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***Revision History:***

* Revision 3: Issued August 2016: update key personnel information.
* Revision 4: Issued August 2019: Major revision to incorporate new sections on waste management, fieldwork, lab etiquette, cryogenic liquids and nanomaterials along with provision of links to risk assessment templates. Contact details and key personnel have also been updated.
* Revision 5: Issued October 2022: minor changes.
* Revision 6: Issued January 2024: Reflecting decant from Science Centre West and relocation and reorganisation of activities.

# 

# 1.0 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 (SBES)* located on the Belfield Campus of *University College Dublin* and to its field operations. The School is located in the *Science Centre East building and at the Rosemount Environmental Research Station on the Belfield Campus.*

This document when read in conjunction with the [*University Parent Safety Statement*](http://www.ucd.ie/sirc/healthsafety/safetystatements/)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.

# 2.0 School Description

Located at the heart of the Belfield campus in the UCD O'Brien Centre for Science, the School of Biology and Environmental Science (SBES) is the largest teaching and research centre for biology in the Republic of Ireland. One unique feature of the School is the inter-disciplinary nature of its activities, providing students and scientists alike with critical knowledge and perspective about modern biology.

The School delivers undergraduate degrees in Cell and Molecular Biology, Plant Biology, Zoology and Environmental Biology. We also co-teach the BSc degree in Genetics. At postgraduate level the School delivers MSc degrees in Plant Biology & Biotechnology, Global Change: Ecosystem Science & Policy and Applied Environmental Science as well as an online MSc in Environmental Sustainability. The School also co-teaches the MSc Biological & Biomolecular Science (Negotiated Learning) Programme.

This broad portfolio of teaching is strongly informed by our research. The School is actively engaged in four key areas of interlinked thematic research; Ecosystems, global change and sustainability; evolution and population biology; plant sciences; and cellular systems The breadth of expertise that we have also facilitates our involvement in large scale research activities in UCD, and our staff actively contribute to the UCD Conway Institute for Biomolecular & Biomedical Research and the UCD Earth Institute. At national level the School provides expertise that informs environmental and sustainable management policies, supporting agricultural and food industries. In total the School is home to approximately 39 research groups.

The School contains teaching and research laboratories along with ancillary facilities. Teaching laboratories are located on the 1st floor of Science Centre East whilst the research facilities are temporarily co-located between Science Centre South and East and the Earth Institute, 4th floor Science Centre East. The Rosemount Environmental Research Station, located separately on the Belfield campus, is a multidisciplinary facility but used primarily by our School and the School of Agriculture & Food Science. We also run some field trials on UCD Lyon’s Farm. Fieldwork is used extensively throughout the School both as a teaching method and in research.

Further details can be found on the School website: https://www.ucd.ie/bioenvsci/

# 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*](http://www.ucd.ie/sirc/healthsafety/safetystatements/) *for further details*

# 4.0 Key Contact Details

***Title Name Contact Details***

Head of School Prof. Evelyn Doyle (716) 2390

Chair of SBES Safety Committee Assistant Prof. Paul Brooks

School Safety Co-ordinator/ Ms. Gwyneth MacMaster (716) 2336

Chief Technical Officer

University SIRC Manager Ms. Sarah Carry (716) 8770

Fire Alarm Maintenance Company Contact UCD SIRC Office (716) 8768 / 8771

Fire Extinguisher Maintenance Contact UCD SIRC Office (716) 8768 / 8771

Company

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***

***School of Biology & Environmental Science First Aiders***

During normal working hours (i.e. 9:00-17:00) the following personnel may be contacted if first aid is required.

Science Centre:

**Name Extension No. Location**

Dr. Liz Conroy (716) 2339 E3.20

Ms. Frances Downey (716) 2615 E3.30

Ms. Anna David (716) 2615 E3.30

Dr. Carlotta Sacchi (716) 2615 E3.30

Dr. Sean Storey (716) 2338 E3.30

Rosemount Environmental Research Station:

**Name Extension No.**

Mr. Gordon Kavanagh (716) 2115

Mr. David Brogan (716) 2401

Outside of these hours, first aid treatment is available via the 24 hour emergency line 01- 716 7999.

***School of Biology & Environmental Science Fire Marshals***

Science Centre East 3rd Floor:

**Name Extension no. Location**

Dr. Rainer Melzer (716) 2290 E3.25

Dr. Sean Storey (716) 2615 E3.30

Ms. Frances Downey (716) 2615 E3.30

Ms. Gwyneth MacMaster (716) 2336 E3.44

Dr. Carlotta Sacchi (716) 2615 E3.30

Ms. Jennifer Coughlan (716) 2829 E3.30

Science Centre East 4th Floor:

**Name Location**

Dr. Binbin Zhou E4.43

Ms. Jeanette Carlsson E4.21

Science Centre East 1st Floor (teaching):

All demonstrators and module co-ordinators are considered fire marshals within the teaching area.

Rosemount Environmental Research Station:

**Name Extension no.**

Mr. Gordon Kavanagh (716) 2115

Mr. David Brogan (716) 2401

There are Automated External Defibrillators (AED’s) located in the following locations in the Science Complex:

* Science East – Ground floor lobby at entrance to Science Hub
* Science South – Ground floor entrance lobby near stairs
* Rosemount Environmental Research Station-Main reception area

# 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 the University encourages active participation by employees as Safety Representatives or in a Safety Committee System. The functions of Safety Representatives are to act as a medium for employees within a College / School to raise safety concerns and for the *University SIRC Office* and College / School Management to impart information on health and safety matters.

Representation on the committee 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.

Employees have a right under this 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**

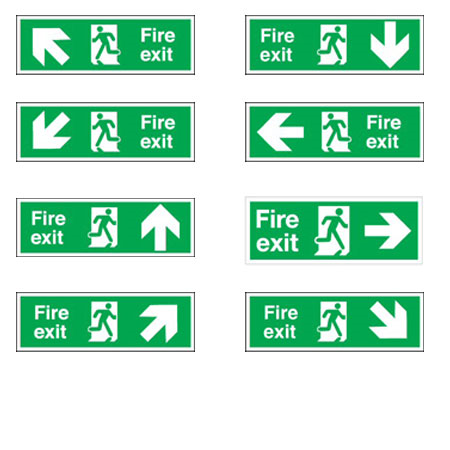
The purpose of these emergency response plans is to detail the steps and responses that must be taken in the event of an emergency within the School. Where deemed necessary; individual units within the school may further develop these plans to take account of the individual circumstances in their areas.

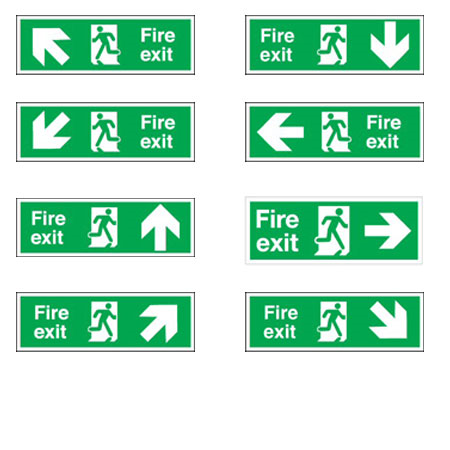
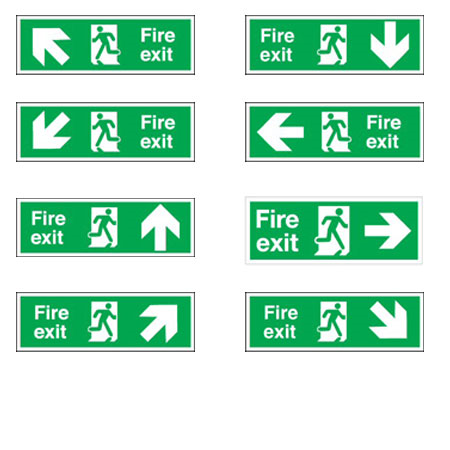
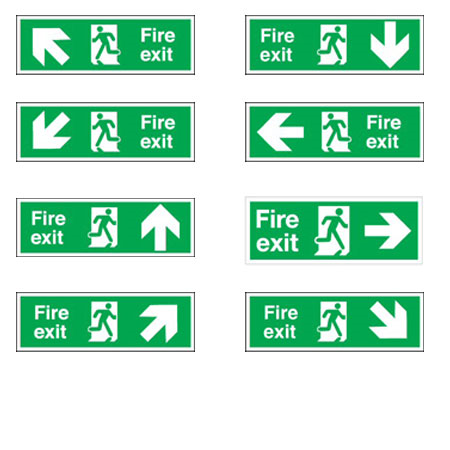
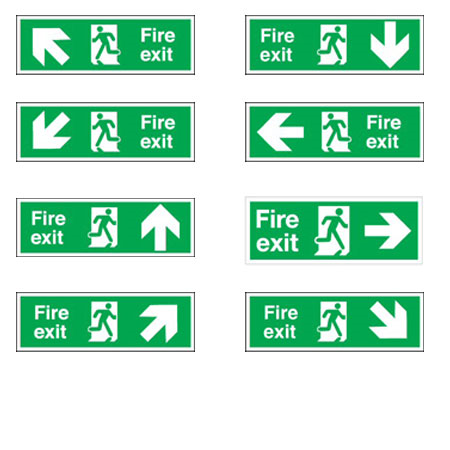
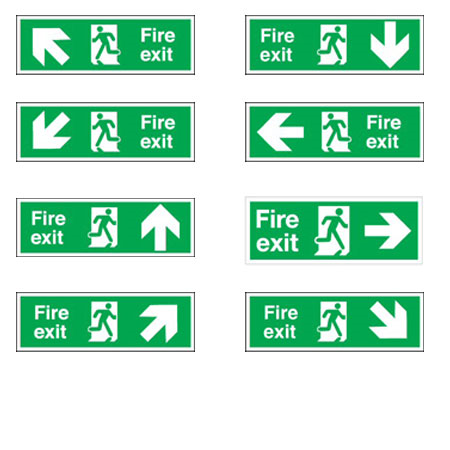
The following are deemed as emergencies within the School:

1. Fire
2. Natural Gas Leak
3. Laboratory Gas Alarm Activation
4. Loss / Spillage of a Chemical Agent
5. Loss / Spillage of a Biological Agent
6. Chemical Agent Exposure
7. Biological Agent Exposure
8. Personal Injury
9. 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.



1. Classes in session must be dismissed and students directed to leave.
2. 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.
3. Do not use the lift.
4. Do not go back to your working area for any reason.
5. 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.
6. If safe to do so nominated *Fire Marshals* should inspect their designated areas. Proceed to your designated emergency assembly following your departure from the building. The assembly areas for the Science Building and Rosemount Environmental Research Station are:

* **Car Park Beside Veterinary Science Centre**
* **Beside the Lake (CSCB End)**
* **In Front of the Church**
* **Pedestrian Area in Front of Computer Centre**
* **Rosemount – beside the main Rosemount sign (bottom of the avenue)**

1. Report any knowledge you may have of missing or injured personal to a *Fire Marshal.* Return to the building only after the *Chief Fire Marshal*/ *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 Laboratory Gas Alarm Activation

In the event of an activation of a laboratory gas alarm, follow local gas alarm response procedures.

Science Centre East:

When an oxygen depletion alarm sounds the BLUE strobe light in each laboratory and instrument room on the affected floor will flash and the local siren will sound.

1. Evacuate room immediately. Do not re-enter the room until safe to do so. Assemble at the central atrium areas of each floor.

1. If instructed by a member of the Technical Staff, Science Operations or Campus Services leave the building.
2. Contact a member of Staff as per contact list located beside the panel. If there is no response please contact below.
3. During Office Hours Contact Science Welcome Centre 01-716 2845 to request assistance. They will act as Incident controller and complete the appropriate remedial actions.
4. Out of Hours please contact UCD 24 hour Emergency line 01-716 7999. They will act as Incident controller and complete the appropriate remedial actions.
5. Only authorized persons (above) are to deal with the Gas Detection Panel.

## 6.4 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 SDS 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 8768 / 8771 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 dustpan 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 dustpan 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’ SDS 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.

## 6.5 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.

## 6.6 Chemical Agent Exposure

Some agents require specialist first aid responses, e.g. hydrofluoric acid, cyanides, etc. Reference should be made to a material’s SDS 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 [National Poisons Centre](http://www.poisons.ie/) on 01 809 2166 (7 Days a Week: 8am – 10pm).

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

## 6.7 Biological Agent Exposure

Any person who suspects that they may have been exposed to a biological agent must contact the UCD SIRC Office (ext. 8768 / 8771) 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.

## 6.8 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).

Science East:

* + E0.37 (workshop)
  + E3.47 (Environmental Lab)
  + E3.23 (Animal CMB lab)
  + E3.26 (Plant CMB lab)
  + E3.30 (Technical Office)
  + Teaching labs, 1st floor Science East
  + Each lab in the Earth Institute, 4th Floor Science East

Science South:

* + S1.45 (Animal CMB lab)
  + S0.30 (BSL 2+ lab)

Rosemount:

* + Production Glasshouse
  + Containment glasshouse
  + PEAC facility
  + Preparation area
* 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.

## 6.9 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.

## 6.10 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*** [***or here***](https://www.ucd.ie/bioenvsci/t4media/UCD%20SIRC%20Office%20Incident%20Report%20Form_%20Sept%202022_Editable%20PDF%20(1).pdf)***. Contact*** [***sirc@ucd.ie***](mailto:sirc@ucd.ie) ***or ext. 8768 / 8771.***

# 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*

* First Aid boxes are located throughout the school in all the teaching and research labs. See section 6.8 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
* Arts Annexe – Geary Institute Entrance Lobby
* Belfield Office Park – Blocks 9/10 Entrance Lobby (Nexus UCD)
* Campus Services Mobile Jeeps
* Conway Institute Undergraduate Area
* Computer Science Centre - Main Entrance Lobby
* Engineering & Materials Science Centre First Floor
* Health Sciences Entrance Lobby
* James Joyce Library Admissions Desk
* Lyons Estate
* Main Restaurant Lobby
* Mobile Services Patrol Vehicle
* Newman Building Main Entrance Lobby
* Newstead Main Entrance Lobby
* Nova UCD
* National Virus Reference Lab (NVRL) Reception
* President's Lodge
* O'Reilly Hall
* Quinn School of Business Reception Desk
* Richview Architecture Building – Main Entrance Lobby
* Roebuck Offices Main Entrance
* Rosemount Environmental Research Station
* SBI (Systems Biology Ireland) - SBI Reception
* Science Centre East at Entrance to Hub
* Science Centre South Ground Floor Lobby
* Smurfit School of Business Services Desk, Blackrock
* Smurfit School of Business Library Corridor
* Sports Centre and environs x 2
* Student Health Centre
* Tierney Building – Main Entrance Lobby
* UCD Bowl
* Veterinary Hospital
* Veterinary Science Main Entrance

### ****Blackrock Campus AED Locations:****

* Blackrock Smurfit S.O. Business - Services Desk
* Blackrock Smurfit S.O. Business - Library Corridor
* Blackrock Smurfit S.O. Business - Management House Lobby Area

### ****Lyons Estate AED Location:****

* Farm Office

### ****Belfield Office Park AED Location:****

* Blocks 9 and 10 Entrance Lobby / Nexus UCD

For training in the use of defibrillators please contact [aed@ucd.ie](mailto:aed@ucd.ie). AED’s in locations in closest proximity to SBES see section 4.0.

**8.0 Out of Hours Access**

Out of hours access is considered to be 18:00-08:00 Monday – Friday, all weekends and bank holidays. During this time only people with swipe cards can access the science East or West building. Undergraduate students are not allowed access during this time unless they are accompanied by a member of staff. No work which carries a high risk of personal injury may be carried out during out of hours periods. Out of hours working should be avoided where possible and must be subjected to a lone working risk assessment if applicable.

**9.0 Fieldwork Safety**

Fieldwork is an integral part of the School, and is used in teaching and research, both nationally and internationally. All fieldwork activities must be subjected to risk assessments prior to taking place.

**10.0 Safety Induction Training**

Safety induction training is required for all laboratory and field users throughout the School before they can start work. Induction training is provided by the Technical Officers within the School and signed by the Principal Investigator (PI). It is the responsibility of the PI to ensure their students are competent in safety before they enter laboratories or the field. Safety Induction forms are located on our website.

**11.0 Waste Management**

It is the responsibility of all students and researchers in the School of Biology & Environmental Science to dispose of hazardous and non-hazardous waste in a safe and responsible manner. Non-hazardous materials can be disposed of in the regular waste bins located across the School. All hazardous waste can be disposed according to their category in specialised containers.

1. **Correct Laboratory Etiquette**

All laboratories in the School of Biology & Environmental Science are considered shared work spaces. All staff, students, researchers and visitors should therefore follow the Lab Safety Guidelines (Appendix 8) to maintain a safe working environment for themselves and others.

1. **Storage of Chemicals**

All people using chemicals are responsible for making sure they are stored appropriately.

* Chemical bottles must be capped when not in use
* Compatibility of chemicals should be checked before storage so that incompatible materials can be stored separately.
* Safety Data sheets (SDS) should be readily available/ accessible for all that are in use in the laboratories. However, only paper copies for the following categories are required to be stored in the lab.
* All chemicals held in a volume over 1kg/ 1L
* All carcinogenic, mutagenic or teratogenic chemicals
* All very toxic and toxic chemicals
* All chemicals used on a daily basis
* All chemicals whose usage is deemed to be of a moderate risk or higher following a risk assessment.

1. **Working with Liquid Nitrogen**

Liquid Nitrogen is a commonly used chemical in the School. As such, all personnel should, at the very least be aware of the hazards associated with cryogenic liquids. All persons intending to use liquid nitrogen should consult the UCD guide to the Safe use of Liquid Nitrogen, available from the UCD SIRC website. Safety goggles must always be worn when working with liquid nitrogen. Under no circumstances should people travel in a lift with any quantity of liquid nitrogen. If required to move 25L belly dewers via a lift, the lift must be locked using a lift key.

1. **Workshop Safety**

Workshops inherently contain many hazards. Only trained, competent personnel are permitted to operate the machinery it contains.

1. **Nanomaterial Safety**

Nanomaterials are used in several laboratories across the School. Users must receive induction training from a member of the technical staff before they can work with them for the first time. An SOP for the School can be found in the supplemental information of the following paper: [Vivien Stuttgen, *Hugh E. Giffney, Ayana Anandan, Anwar Alabdali, Caroline Twarog, Samir A. Belhout, Mark. O′Loughlin, Lucia Podhorska, Colm Delaney, Niamh Geoghegan, Jessica Mc-Fadden, Nahlah A. Alhadhrami, Aisling Fleming, Shreyas Phadke, Ravi Yadav, Sarinj Fattah, Fiona McCartney, Shada Ali Alsharif, Jasmin McCaul, Krutika Singh, Sumesh Erikandath, Fergal O′Meara, Jacek K. Wychowaniec, Meritxell B. Cutrona, Gwyneth MacMaster, Alison L. Reynolds, Susan Gaines, Bridget Hogg, Marc Farrelly, Mark d′Alton, Peter Coulahan & Sourav Bhattacharjee (2019) The UCD nanosafety workshop (03 December 2018): towards developing a consensus on safe handling of nanomaterials within the Irish university labs and beyond – a report, Nanotoxicology, 13:6, 717-732,*](https://www.tandfonline.com/doi/full/10.1080/17435390.2019.1621402)

# 17.0 Risk Assessments

## 17.1 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* ([email:sirc@ucd.ie](mailto:sirc@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 (templates available on [UCD SIRC Office website](https://intranet.ucd.ie/sirc/riskassessmenttemplates/index.html)); inform their local Safety Committee or inform the *University SIRC Office*.

An [Office Safety Handbook](http://www.ucd.ie/sirc/healthsafety/workplacesafety/officesafety/) 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](http://www.ucd.ie/sirc/healthsafety/workplacesafety/fieldworksafety/) 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*](https://intranet.ucd.ie/sirc/safetydocuments/index.html); [*Chemical Safety*](https://intranet.ucd.ie/sirc/safetydocuments/index.html) *and* [*Fieldwork Safety*](https://intranet.ucd.ie/sirc/safetydocuments/index.html) *Manuals* for guidelines and detailed safety information.

## 17.2 School of Biology & Environmental Science Register of Risks

The following risk assessments are deemed to be relevant to the operations of SBES*.* The most current versions of these risk assessments are available on the [UCD SIRC Office website](https://intranet.ucd.ie/sirc/completedriskassessments/index.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.

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| **Table 2. *School of Biology & Environmental Science***  **Register of Risk Assessments**   |  |  |  |  | | --- | --- | --- | --- | | ***[General Risk Assessments](https://intranet.ucd.ie/sirc/completedriskassessments/generalriskassessmentsa/index.html)***  *These risk assessments may apply to all persons working within the school* | | | | | **Risk Assessment Number** | **Title** | **Risk Rating** | **Comment** | | UCDA1 | [Manual Handling (General)](https://intranet.ucd.ie/sirc/completedriskassessments/generalriskassessmentsa/index.html) | Acceptable Risk |  | | UCDA2 | [Access and Egress](https://intranet.ucd.ie/sirc/completedriskassessments/generalriskassessmentsa/index.html) | Acceptable Risk |  | | UCDA3 | [Bullying and Harassment](https://intranet.ucd.ie/sirc/completedriskassessments/generalriskassessmentsa/index.html) | Moderate Risk |  | | UCDA4 | [Workplace Housekeeping](https://intranet.ucd.ie/sirc/completedriskassessments/generalriskassessmentsa/index.html) | Acceptable Risk |  | | UCDA5 | [Pregnant Employees (General)](https://intranet.ucd.ie/sirc/completedriskassessments/generalriskassessmentsa/index.html) | n/a | Contact UCD SIRC Office to arrange Risk Assessment | | UCDA6 | [Home Working](https://intranet.ucd.ie/sirc/completedriskassessments/generalriskassessmentsa/index.html) | Trivial Risk |  | | [***General Risk Assessments***](https://intranet.ucd.ie/sirc/completedriskassessments/generalriskassessmentsa/index.html) ***Contd.*** | | | | | **Risk Assessment Number** | **Title** | **Risk Rating** | **Comment** | | UCDA7 | [Presence on a Third Party Site (General)](https://intranet.ucd.ie/sirc/completedriskassessments/generalriskassessmentsa/index.html) | Moderate Risk |  | | UCDA8 | [Kitchen / Tea Making Areas](https://intranet.ucd.ie/sirc/completedriskassessments/generalriskassessmentsa/index.html) | Trivial Risk |  | | UCDA9 | [Driving / Use of Vehicles](https://intranet.ucd.ie/sirc/completedriskassessments/generalriskassessmentsa/index.html) | Substantial Risk |  | | UCDA10 | [Foreign Travel](https://intranet.ucd.ie/sirc/completedriskassessments/generalriskassessmentsa/index.html) | Acceptable Risk |  | | UCDA11 | [Lone Working (General)](https://intranet.ucd.ie/sirc/completedriskassessments/generalriskassessmentsa/index.html) | n/a | Risk rating to be decided on an individual basis | | UCDA12 | [Workplace Stress](https://intranet.ucd.ie/sirc/completedriskassessments/generalriskassessmentsa/index.html) | Moderate Risk |  | | UCDA13 | [Use of Passenger / Goods Lifts](https://intranet.ucd.ie/sirc/completedriskassessments/generalriskassessmentsa/index.html) | Trivial Risk |  | | UCDA14 | [Noise (General)](https://intranet.ucd.ie/sirc/completedriskassessments/generalriskassessmentsa/index.html) | Acceptable Risk |  | | UCDA15 | [Use of Personal Protective Equipment (General)](https://intranet.ucd.ie/sirc/completedriskassessments/generalriskassessmentsa/index.html) | Trivial Risk |  | | UCDA16 | [Travel Within Ireland](https://intranet.ucd.ie/sirc/completedriskassessments/generalriskassessmentsa/index.html) | Acceptable Risk |  | | UCDA17 | [Violence and Aggression (General)](https://intranet.ucd.ie/sirc/completedriskassessments/generalriskassessmentsa/index.html) | Acceptable Risk |  | | UCDA18 | [Fire (General)](https://intranet.ucd.ie/sirc/completedriskassessments/generalriskassessmentsa/index.html) | Moderate Risk |  | | UCDA19 | [Electricity (General)](https://intranet.ucd.ie/sirc/completedriskassessments/generalriskassessmentsa/index.html) | Moderate Risk |  | |  | | | | | ***[Office Risk Assessments](https://intranet.ucd.ie/sirc/completedriskassessments/officeriskassessmentsb/index.html)***  *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)](https://intranet.ucd.ie/sirc/completedriskassessments/officeriskassessmentsb/index.html) | Acceptable Risk |  | | UCDB2 | [Use of Display Screen Equipment](https://intranet.ucd.ie/sirc/completedriskassessments/officeriskassessmentsb/index.html) | Acceptable Risk | Contact SIRC Office to arrange individual assessment | | UCDB3 | [Electricity in the Office](https://intranet.ucd.ie/sirc/completedriskassessments/officeriskassessmentsb/index.html) | Acceptable Risk |  | | UCDB4 | [Fire in the Office](https://intranet.ucd.ie/sirc/completedriskassessments/officeriskassessmentsb/index.html) | Acceptable Risk |  | | UCDB5 | [Manual Handling in the Office](https://intranet.ucd.ie/sirc/completedriskassessments/officeriskassessmentsb/index.html) | Acceptable Risk |  | | | | |
| ***[Chemical Agents Risk Assessments](https://intranet.ucd.ie/sirc/completedriskassessments/chemicalriskassessmentsc/index.html)***  *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)](https://intranet.ucd.ie/sirc/completedriskassessments/chemicalriskassessmentsc/index.html) | 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)](https://intranet.ucd.ie/sirc/completedriskassessments/chemicalriskassessmentsc/index.html) | 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)](https://intranet.ucd.ie/sirc/completedriskassessments/chemicalriskassessmentsc/index.html) | Acceptable Risk |  |
| UCDC4 | [Cryogenic Liquids (General)](https://intranet.ucd.ie/sirc/completedriskassessments/chemicalriskassessmentsc/index.html) | Acceptable Risk |  |
| UCDC5 | [Use of Compressed Gases (General)](https://intranet.ucd.ie/sirc/completedriskassessments/chemicalriskassessmentsc/index.html) | Acceptable Risk |  |
| UCDC6 | [Use and Handling of Corrosive Chemicals (General)](https://intranet.ucd.ie/sirc/completedriskassessments/chemicalriskassessmentsc/index.html) | Acceptable Risk |  |
| UCDC8 | [Use and Handling of Cyanide Compounds (General)](https://intranet.ucd.ie/sirc/completedriskassessments/chemicalriskassessmentsc/index.html) | Moderate Risk |  |
| UCDC9 | [Use and Handling of Mercury and Mercuric Compounds (General)](https://intranet.ucd.ie/sirc/completedriskassessments/chemicalriskassessmentsc/index.html) | Acceptable Risk |  |
| UCDC10 | [Use and Handling of Organic Peroxide Compounds (General)](https://intranet.ucd.ie/sirc/completedriskassessments/chemicalriskassessmentsc/index.html) | Acceptable Risk |  |
| UCDC11 | [Use and Handling of Potentially Explosive Materials (General)](https://intranet.ucd.ie/sirc/completedriskassessments/chemicalriskassessmentsc/index.html) | Acceptable Risk |  |
| UCDC12 | [Use and Handling of Laboratory Diagnostic Kits (General)](https://intranet.ucd.ie/sirc/completedriskassessments/chemicalriskassessmentsc/index.html) | Acceptable Risk |  |
| **Risk Assessment Number** | **Title** | **Risk Rating** | **Comment** |
| UCDC13 | [Use and Handling of Carcinogens and Mutagens (General)](https://intranet.ucd.ie/sirc/completedriskassessments/chemicalriskassessmentsc/index.html) | 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)](https://intranet.ucd.ie/sirc/completedriskassessments/chemicalriskassessmentsc/index.html) | Acceptable Risk |  |
| UCDC15 | [Use and Handling of Irritants, Harmful Agents and Sensitisers (General)](https://intranet.ucd.ie/sirc/completedriskassessments/chemicalriskassessmentsc/index.html) | Acceptable Risk |  |
| UCDC16 | [Use and Handling of Toxic Agents (General)](https://intranet.ucd.ie/sirc/completedriskassessments/chemicalriskassessmentsc/index.html) | Acceptable Risk |  |
| UCDC17 | [Use and Handling of Dry Ice (General)](https://intranet.ucd.ie/sirc/completedriskassessments/chemicalriskassessmentsc/index.html) | Acceptable Risk |  |
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| ***[Biological Agents Risk Assessments](https://intranet.ucd.ie/sirc/completedriskassessments/biologicalriskassessmentsd/index.html)***  *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](https://intranet.ucd.ie/sirc/completedriskassessments/biologicalriskassessmentsd/index.html) | Trivial Risk |  |
| UCDD2 | [Handling and Use of Class 2 Biological Agents](https://intranet.ucd.ie/sirc/completedriskassessments/biologicalriskassessmentsd/index.html) | Acceptable Risk |  |
| UCDD3 | [Use and Propagation of Cell Lines (General)](https://intranet.ucd.ie/sirc/completedriskassessments/biologicalriskassessmentsd/index.html) | Acceptable Risk |  |
| UCDD4 | [Handling and Use of Biological Material of Human / Animal Origin](https://intranet.ucd.ie/sirc/completedriskassessments/biologicalriskassessmentsd/index.html) | Acceptable Risk |  |
| UCDD5 | [Diagnostic Laboratories (General)](https://intranet.ucd.ie/sirc/completedriskassessments/biologicalriskassessmentsd/index.html) | Acceptable Risk |  |
| UCDD7 | [Centrifugation of Biological Samples (General)](https://intranet.ucd.ie/sirc/completedriskassessments/biologicalriskassessmentsd/index.html) | Acceptable Risk |  |
| UCDD8 | [Dealing with Biological Agent Spillages](https://intranet.ucd.ie/sirc/completedriskassessments/biologicalriskassessmentsd/index.html) | Acceptable Risk |  |
| UCD09 | [Zoonoses (General) Risk Assessment](https://intranet.ucd.ie/sirc/completedriskassessments/biologicalriskassessmentsd/index.html) | Acceptable Risk |  |
| UCD10 | [Use and Propagation of Cancer Cell Lines (General) Risk Assessment](https://intranet.ucd.ie/sirc/completedriskassessments/biologicalriskassessmentsd/index.html) | Acceptable Risk |  |
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| ***[Laboratory Risk Assessments](https://intranet.ucd.ie/sirc/completedriskassessments/generallabriskassessmentse/index.html)***  *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)](https://intranet.ucd.ie/sirc/completedriskassessments/generallabriskassessmentse/index.html) | Acceptable Risk |  |
| UCDE2 | [Use of Autoclaves (General)](https://intranet.ucd.ie/sirc/completedriskassessments/generallabriskassessmentse/index.html) | Acceptable Risk |  |
| UCDE3 | [Use of Bunsen / Gas Burners (General)](https://intranet.ucd.ie/sirc/completedriskassessments/generallabriskassessmentse/index.html) | Acceptable Risk |  |
| UCDE4 | [Cold Rooms / Walk in Freezers (General)](https://intranet.ucd.ie/sirc/completedriskassessments/generallabriskassessmentse/index.html) | Acceptable Risk |  |
| UCDE5 | [Use of Fridges / Freezers (General)](https://intranet.ucd.ie/sirc/completedriskassessments/generallabriskassessmentse/index.html) | Trivial Risk |  |
| UCDE6 | [Use of Laboratory Glassware (General)](https://intranet.ucd.ie/sirc/completedriskassessments/generallabriskassessmentse/index.html) | Acceptable Risk |  |
| UCDE7 | [Use of Laboratory Ovens (General)](https://intranet.ucd.ie/sirc/completedriskassessments/generallabriskassessmentse/index.html) | Acceptable Risk |  |
| UCDE8 | [Use of Microwave Ovens (General)](https://intranet.ucd.ie/sirc/completedriskassessments/generallabriskassessmentse/index.html) | Acceptable Risk |  |
| UCDE9 | [Use of Sharps (General)](https://intranet.ucd.ie/sirc/completedriskassessments/generallabriskassessmentse/index.html) | Acceptable Risk |  |
| UCDE10 | [Use of Homogenisers (General)](https://intranet.ucd.ie/sirc/completedriskassessments/generallabriskassessmentse/index.html) | Acceptable Risk |  |
| UCDE11 | [Use of Hot Plates / Stirrers (General)](https://intranet.ucd.ie/sirc/completedriskassessments/generallabriskassessmentse/index.html) | Acceptable Risk |  |
| UCDE12 | [Use of pH Meters (General)](https://intranet.ucd.ie/sirc/completedriskassessments/generallabriskassessmentse/index.html) | Trivial Risk |  |
| UCDE14 | [Use of UV Light Sources](https://intranet.ucd.ie/sirc/completedriskassessments/generallabriskassessmentse/index.html) | Acceptable Risk |  |
| UCDE15 | [Gel Electrophoresis – Non-Chemical Risks (General)](https://intranet.ucd.ie/sirc/completedriskassessments/generallabriskassessmentse/index.html) | Acceptable Risk |  |
| UCDE16 | [Use of Laboratory Personal Protective Equipment](https://intranet.ucd.ie/sirc/completedriskassessments/generallabriskassessmentse/index.html) | Trivial Risk |  |
| UCDE17 | [Use of Microtomes (General)](https://intranet.ucd.ie/sirc/completedriskassessments/generallabriskassessmentse/index.html) | Acceptable Risk |  |
| UCDE18 | [Use of Laboratory Pumps (General)](https://intranet.ucd.ie/sirc/completedriskassessments/generallabriskassessmentse/index.html) | Acceptable Risk |  |
| UCDE19 | [Electrical Safety in the Lab](https://intranet.ucd.ie/sirc/completedriskassessments/generallabriskassessmentse/index.html) | Moderate Risk |  |
| UCDE20 | [Fire Safety in the Lab](https://intranet.ucd.ie/sirc/completedriskassessments/generallabriskassessmentse/index.html) | Moderate Risk |  |
| UCDE21 | [Manual Handling in the Lab](https://intranet.ucd.ie/sirc/completedriskassessments/generallabriskassessmentse/index.html) | Acceptable Risk |  |
| UCDE22 | [Laboratory Waste Disposal](https://intranet.ucd.ie/sirc/completedriskassessments/generallabriskassessmentse/index.html) | Acceptable Risk |  |
| UCDE23 | [Laboratory Personal Hygiene](https://intranet.ucd.ie/sirc/completedriskassessments/generallabriskassessmentse/index.html) | Acceptable Risk |  |
| UCDE24 | [Use of Water / Oil Baths (General)](https://intranet.ucd.ie/sirc/completedriskassessments/generallabriskassessmentse/index.html) | Acceptable Risk |  |
| UCDE26 | [Use of Wax Baths (General)](https://intranet.ucd.ie/sirc/completedriskassessments/generallabriskassessmentse/index.html) | Acceptable Risk |  |
| UCDE27 | [Use of Ice Makers (General)](https://intranet.ucd.ie/sirc/completedriskassessments/generallabriskassessmentse/index.html) | Trivial Risk |  |
| UCDE28 | [Dissection (General)](https://intranet.ucd.ie/sirc/completedriskassessments/generallabriskassessmentse/index.html) | Acceptable Risk |  |
| UCDE29 | [Use of Hand Sanitizers / Soaps (General)](https://intranet.ucd.ie/sirc/completedriskassessments/generallabriskassessmentse/index.html) | Acceptable Risk |  |
| UCDE30 | [Handling and Use Of Disinfectants (General)](https://intranet.ucd.ie/sirc/completedriskassessments/generallabriskassessmentse/index.html) | Acceptable Risk |  |
| UCDE31 | [Use of Lasers (General)](https://intranet.ucd.ie/sirc/completedriskassessments/generallabriskassessmentse/index.html) | Acceptable Risk |  |
| UCDE32 | [Use of Laboratory Analytical Equipment (General)](https://intranet.ucd.ie/sirc/completedriskassessments/generallabriskassessmentse/index.html) | Acceptable Risk |  |

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| [***Radiation Safety Risk Assessments***](https://intranet.ucd.ie/sirc/index.html)  *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)](https://intranet.ucd.ie/sirc/index.html) | Moderate Risk |  |

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| [***Fieldwork Risk Assessments***](https://intranet.ucd.ie/sirc/completedriskassessments/fieldworkriskassessmentsh/index.html)  *These risk assessments may apply to persons engaged in fieldwork.* | | | |
| **Risk Assessment Number** | **Title** | **Risk Rating** | **Comment** |
| UCDH1 | [Fieldwork (General)](https://intranet.ucd.ie/sirc/completedriskassessments/fieldworkriskassessmentsh/index.html) | Acceptable Risk | For general guidance purposes only. Reference should be made to the [*UCD Fieldwork Safety Guidelines.*](https://intranet.ucd.ie/sirc/safetydocumentsandguides/fieldworksafety/index.html) In some cases an expedition specific risk assessment will be required. |
| UCDH2 | [Leptospirosis (Fieldwork)](https://intranet.ucd.ie/sirc/completedriskassessments/fieldworkriskassessmentsh/index.html) | Acceptable Risk |  |
| UCDH3 | [Home Visits – Face to Face Interviews](https://intranet.ucd.ie/sirc/completedriskassessments/fieldworkriskassessmentsh/index.html) | Acceptable Risk |  |

|  |  |  |  |
| --- | --- | --- | --- |
| ***[Workshop Safety Risk Assessments](https://intranet.ucd.ie/sirc/completedriskassessments/engineeringworkshopriskassessmentskmn/index.html)***  *These risk assessments may apply to persons working within any of the schools of Engineering* | | | |
| **Risk Assessment Number** | **Title** | **Risk Rating** | **Comment** |
| UCDK1 | [Use of Abrasive Wheels (General) Risk Assessment](https://intranet.ucd.ie/sirc/completedriskassessments/engineeringworkshopriskassessmentskmn/index.html) | Acceptable Risk |  |
| UCDK2 | [Use of Band Saws (General) Risk Assessment](https://intranet.ucd.ie/sirc/completedriskassessments/engineeringworkshopriskassessmentskmn/index.html) | Acceptable Risk |  |
| UCDK4 | [Use of Lathes (General) Risk Assessment](https://intranet.ucd.ie/sirc/completedriskassessments/engineeringworkshopriskassessmentskmn/index.html) | Acceptable Risk |  |
| UCDK6 | [Use of Table Saws (General) Risk Assessment](https://intranet.ucd.ie/sirc/completedriskassessments/engineeringworkshopriskassessmentskmn/index.html) | Acceptable Risk |  |
| UCDK10 | [Soldering (General) Risk Assessment](https://intranet.ucd.ie/sirc/completedriskassessments/engineeringworkshopriskassessmentskmn/index.html) | Acceptable Risk |  |
| UCDK11 | [Use of Compressors (General) Risk Assessment](https://intranet.ucd.ie/sirc/completedriskassessments/engineeringworkshopriskassessmentskmn/index.html) | Acceptable Risk |  |
| UCDK12 | [Use of Petrol - Diesel Fuel (General) Risk Assessment](https://intranet.ucd.ie/sirc/completedriskassessments/engineeringworkshopriskassessmentskmn/index.html) | Acceptable Risk |  |
| UCDK13 | [Use of Compressed Air (General) Risk Assessment](https://intranet.ucd.ie/sirc/completedriskassessments/engineeringworkshopriskassessmentskmn/index.html) | Acceptable Risk | Refer to UCD Risk Assessment *UCDK11 Use of Compressors (General)* if necessary. |
| UCDK14 | [Use of Handheld Portable Electrical Tools (General) Risk Assessment](https://intranet.ucd.ie/sirc/completedriskassessments/engineeringworkshopriskassessmentskmn/index.html) | Acceptable Risk | The provisions laid down in *UCDA19 Electricity (General) Risk Assessment* and *UCDA14 Noise (General) Risk Assessment* should be adhered to where relevant. |
| UCDK15 | [Use of Handheld Tools (General) Risk Assessment](https://intranet.ucd.ie/sirc/completedriskassessments/engineeringworkshopriskassessmentskmn/index.html) | Acceptable Risk |  |
| UCDK16 | [Use of Pallet Trucks (General) Risk Assessment](https://intranet.ucd.ie/sirc/completedriskassessments/engineeringworkshopriskassessmentskmn/index.html) | Acceptable Risk |  |
| UCDK17 | [Use of Ladders (General) Risk Assessment](https://intranet.ucd.ie/sirc/completedriskassessments/engineeringworkshopriskassessmentskmn/index.html) | Acceptable Risk |  |
| UCDK18 | [Use and Handling of Hydraulic Oil - Workshop Lubricants - Etc (General) Risk Assessment](https://intranet.ucd.ie/sirc/completedriskassessments/engineeringworkshopriskassessmentskmn/index.html) | Trivial Risk |  |
| UCDK19 | [Dust (General) Risk Assessment](https://intranet.ucd.ie/sirc/completedriskassessments/engineeringworkshopriskassessmentskmn/index.html) | Acceptable Risk |  |
| UCDK20 | [Vibration (General) Risk Assessment](https://intranet.ucd.ie/sirc/completedriskassessments/engineeringworkshopriskassessmentskmn/index.html) | Acceptable Risk |  |
| UCDK21 | [General Plant and Equipment](https://intranet.ucd.ie/sirc/completedriskassessments/engineeringworkshopriskassessmentskmn/index.html) | Acceptable Risk | Where relevant the provisions contained within the following risk assessments must be adhered to:  UCDA19 Electricity (General) UCDK19 Dust (General) UCDK20 Vibration (General) |
| UCDK22 | [Welding (General) Risk Assessment](https://intranet.ucd.ie/sirc/completedriskassessments/engineeringworkshopriskassessmentskmn/index.html) | Acceptable Risk |  |

**18.0 Appendices**

## 18.1 UCD Risk Assessment Templates

* [Chemical Agents Risk Assessment Template](https://intranet.ucd.ie/sirc/riskassessmenttemplates/index.html)
* [Biological Agent Risk Assessment Template](https://intranet.ucd.ie/sirc/riskassessmenttemplates/index.html)
* [Nanomaterials Risk Assessment Template](https://intranet.ucd.ie/sirc/t4media/UCD%20Nanomaterials%20Risk%20Assessment%20Template_Rev.%205_January%2023.docx)
* [Machinery / Equipment Risk Assessment Template](https://intranet.ucd.ie/sirc/riskassessmenttemplates/index.html)
* [Fieldwork Risk Assessment Template](https://intranet.ucd.ie/sirc/riskassessmenttemplates/index.html)
* [Home Working Risk Assessment Template](https://intranet.ucd.ie/sirc/riskassessmenttemplates/index.html)
* [Lone Working Risk Assessment Template](https://intranet.ucd.ie/sirc/riskassessmenttemplates/index.html)

**18.2 UCD Checklists**

* [Self-Audit Checklist](https://intranet.ucd.ie/sirc/safetyselfassessmentchecklists/index.html)
* [Lab Safety Checklists](https://intranet.ucd.ie/sirc/safetyselfassessmentchecklists/index.html)
  + Biological Safety
  + Chemical Safety
  + Equipment Safety
  + General
  + Housekeeping
  + Radiation

**18.3 Emergency Response Posters**

* Chemical Spill Response Poster
* Biological Spill Response Poster
* Fire Evacuation Poster

## 18.3.1 Chemical Spill Response Poster

**CHEMICAL SPILLAGE / EMERGENCY RESPONSE**

SDS for the chemicals in use within this lab are located at: \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Chemical Spill response equipment is located at: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**IF FIRST AID IS REQUIRED FOLLOWING A CHEMCIAL EXPOSURE**

1. Contact local first aider: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ext. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. The nearest first aid box is located at \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. First aid is also available via the UCD Emergency Line ext. **7999/ 01-7167999**
4. Refer to SDS for first aid response
5. Contact the SIRC Office (ext. 8768 / 8771) for further advice (if SIRC Office personnel cannot be contacted then contact the UCD Emergency Line on ext. 7999)
6. If necessary, contact the [National Poisons Centre](http://www.poisons.ie/) on 01 809 2566 (7 Days a Week: 8am – 10pm)

**IN THE EVENT OF A CHEMCIAL SPILLAGE**

***MINOR SPILLAGE / LOW RISK CHEMCIALS***

1. Isolate the spillage and evacuate the immediate area
2. Refer to SDS and UCD Chemical Safety Manual ([www.ucd.ie/sirc](http://www.ucd.ie/sirc))
3. Don appropriate protective equipment before dealing with spillage
4. For liquid spillages use absorbent materials and if necessary, booms to contain and absorb spillage. For spilled solids use a dustpan and brush to collect material whilst avoiding the generation of airborne dusts.
5. Dispose of waste material appropriately
6. If necessary, clean down affected surfaces and test for the presence of spilled material

***MAJOR SPILLAGE (>~5 litres / kgs) / HIGH RISK CHEMICALS***

1. Evacuate the area opening windows and closing all doors where possible
2. If fire or explosion is a risk activate the fire alarm by pressing a red wall mounted break glass unit
3. Contact the SIRC Office (ext. 8768 / 8771) for further advice (if SIRC Office personnel cannot be contacted then contact the UCD Emergency Line on ext. 7999).

## 18.3.2 Biological Agent Spill Response Poster

**BIOLOGICAL AGENT SPILLAGE / EMERGENCY RESPONSE**

Biological Spill response equipment is located at: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**IF FIRST AID IS REQUIRED FOLLOWING A BIOLOGICAL AGENT EXPOSURE**

1. Contact local first aider: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ ext. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. The nearest first aid box is located at \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. First aid is also available via the UCD Emergency Line ext. **7999/ 01-7167999**
4. Contact the SIRC Office (ext. 8768 / 8771) for further advice (if SIRC Office personnel cannot be contacted then contact the UCD Emergency Line on ext. 7999)

**IN THE EVENT OF A BIOLOGICAL AGENT SPILLAGE**

***MINOR SPILLAGE / NO GENERATION OF AIRBORNE AEROSOLS***

1. Isolate the spillage
2. Evacuate the immediate area
3. Don appropriate protective equipment before dealing with spillage
4. Treat the affected area with a dry disinfectant or else cover the area with a dry tissue or similar and apply a wet disinfectant
5. Allow enough time for the disinfectant to take effect
6. Collect the waste material and dispose of appropriately
7. Clean down affected surfaces again with a wet disinfectant and if necessary, test for the presence of spilled material

***MAJOR SPILLAGE / GENERATION OF AIRBORNE AEROSOLS***

1. Evacuate the area closing all doors
2. Contact the SIRC Office (ext. 8768 / 8771) for further advice (if SIRC Office personnel cannot be contacted then contact the UCD Emergency Line on ext. 7999)
3. Allow sufficient time for any aerosol to settle before re-entering the room.

## 18.3.3 Fire Evacuation Poster

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**18.8 Appendix 8**

**UCD School of Biology & Environmental Science**

**Lab Safety Guidelines**

1. Wear appropriate personal protective equipment at all times. A laboratory coat and closed-toed shoes are required for entering a laboratory where chemicals are in use. When necessary, gloves, safety glasses and face masks must be used.

1. Laboratory coats and gloves must always be removed when leaving the work area. Gloves must be removed when answering the phone, opening doors or using the lift.

1. Consuming and storing food (including sweets and chewing gum) and beverages (including water), taking medications or applying cosmetics in laboratories or chemical storage areas is not permitted

1. KNOW THE HAZARDS OF THE CHEMICALS YOU ARE WORKING WITH. Safety Data Sheets (SDS) are available in the lab and should be consulted prior to using a chemical with which you are unfamiliar.

1. Assume that unknown materials are toxic. Beware other lab users may be using toxic or hazardous chemicals in your lab even if you are not.

1. All spillages should be dealt with immediately and in a safe manner, taking steps to neutralize and / or disinfect, as appropriate.

1. Keep your work area clean and uncluttered; clean up work area on completion of an operation or at the end of the day.

1. Minimize exposure to hazardous chemicals through consistent and proper use of laboratory fume hoods

1. Some volatile compounds need 4oC storage. Store these only in a sparkproof fridge.

1. Know the location and proper use of emergency equipment, such as First Aid boxes, safety showers, fire extinguishers, and fire alarms.

1. If the fire alarm goes off, turn off electrical equipment if safe, leave the building via emergency exits and assemble at the designated assembly points across the science complex.

1. Get instructions from a member of staff before using equipment and when required, fill in log books and booking forms. Be aware, each one may be different.  Inform the technical officer responsible for the piece of equipment if you break it or find it broken.

1. Use cautious judgement when leaving unattended operations: i) Post signs to communicate appropriate warnings and precautions, ii) Anticipate potential equipment and facility failures, and iii) Provide containment for release of hazardous chemicals.

1. Label all chemical containers with the identity of the contents (avoid abbreviations/ acronyms); the chemical concentration, date of preparation and hazard warning should also be included.

1. Use appropriate safety carriers (secondary containment) when transporting chemicals either inside or outside of the building

1. All accidents, incidents or near misses, even those appearing insignificant, should be immediately reported to your supervisor and technical officer responsible for the laboratory. Accident Report Forms are available [here](https://www.ucd.ie/bioenvsci/t4media/UCD%20SIRC%20Office%20Incident%20Report%20Form_%20Sept%202022_Editable%20PDF%20(1).pdf) .

1. Wash your hands frequently to minimize chemical exposure through ingestion and direct contact with the skin. Always wash hands before leaving the laboratory

1. Laboratory waste has to be disposed of in appropriate bins within the lab. If in doubt, ask the member of technical staff responsible for the lab.

1. Laboratories should be kept clean and tidy. Passage ways should not be blocked by equipment, boxes or bags.