



**HEALTH and SAFETY STATEMENT**

**OF**

**Focas Research Institute**

Dublin Institute of Technology  
Camden Row  
Dublin 8



**September 2011**

## **The Focas Research Institute Health and Safety Committee**

|                             |  |
|-----------------------------|--|
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**SECTION 1.00:  
INTRODUCTION**

## SECTION 1.00: INTRODUCTION

### 1.01 Introduction

The DIT is required under the provisions of the *Safety, Health and Welfare at Work Act 2005*, to have, and bring to the attention of all its employees and students, a statement of its policy with respect to health, safety and welfare at work and the organisation and arrangements for carrying out the policy. The fundamental aim of the *Safety, Health and Welfare at Work Act 2005* is the prevention of accidents and illnesses at the place of work. Safety consultation procedures and the preparation of a written safety statement are two of the key provisions of the Act.

A **Parent Safety Statement** has been prepared by the DIT in compliance with *the Safety, Health and Welfare at Work Act, 2005* and is available on:- [www.dit.ie/safework](http://www.dit.ie/safework)

It represents the DIT's commitment to safety, health and welfare and sets out in general terms, the overall controls that will prevent accidents and occupational illnesses in the workplace. This **Parent Safety Statement** applies to all staff, students, visitors and contractors.

To deal with the complexities of the Institute, this **Parent Safety Statement** takes the format of a main policy statement, which addresses the generic issues. It is supplemented with the Focas Research Institute (Focas) Safety Statement, Codes of Practice and Procedures and should be read in conjunction with these. The Focas Health and Safety Statement provides details of how the Focas Research Institute manages and conducts its activities safely. Details of the specific hazards and controls in place for each area are outlined and the risk assessments focus on the specific activities within the Focas Research Institute.

The **Focas Research Institute of DIT** has prepared this Health and Safety (H&S) statement in fulfilment of the requirements of the *Safety, Health and Welfare at Work Act 2005*. A copy of the **H&S Statement** is available on the Focas website, [www.focas.dit.ie](http://www.focas.dit.ie). Further information on DIT Health and Safety policies and procedures is available on [www.dit.ie/safework](http://www.dit.ie/safework).

This H&S Statement specifies the manner in which safety, health and welfare (at work) of employees shall be secured and managed within Focas. The Head of the Focas Research Institute and the H&S committee are responsible for the management of safety, health and

welfare within Focas. Individual responsibilities are assigned as appropriate. Each occupant/visitor is responsible for his/her own safety.

## **1.02 STATEMENT OF INTENT**

To each Staff Member, Student, Contractor and Visitor:

This document sets out the safety policy of the Focas Research Institute and specifies the means provided to achieve that policy in compliance with the requirements of the *Safety, Health, and Welfare at Work Act 2005* and other relevant Health and Safety legislation.

The primary objective is to manage and conduct activities in such a way as to ensure, so far as is reasonably practicable, that a safe and healthy work environment is provided for all staff members and students and that obligations to contractors and visitors who may be affected by activities within Focas are met.

It is also intended to manage and conduct activities in such a way as to prevent, so far as is reasonably practicable, any improper conduct or behaviour likely to put the safety, health or welfare of persons at risk.

The success of this policy will depend on the co-operation of all persons. It is therefore important to read the document carefully and understand the role of the individual in the overall arrangements for health and safety. It is intended to review this statement regularly, in the light of experience and developments at Focas, especially if there has been a significant change in the matters to which this statement refers, and in line with statutory requirements. The general requirements of the *Safety, Health and Welfare at Work 2005 Act* in relation to the duties of Employers and Employees are outlined in **Appendix I**

The safety statement will be brought to the attention of staff and students annually and new staff members at induction. The safety statement will be made available to contractors and others as appropriate.

Staff and others are encouraged to put forward suggestions for improvements to this statement.

Signed: \_\_\_\_\_ Date: \_\_\_\_\_

**Prof. Hugh J. Byrne- Head of the Focas Research Institute.**

### **1.03 Scope of Operation of the Focas Research Institute.**

The **Focas Research Institute** has a total of 7 core staff members, one Head, four Technical staff and two Administrative staff. Additionally, approximately 30 research staff members and 80 postgraduate students occupy the Focas Research Institute.

The Focas Research Institute opened in November 2004 to facilitate and support scientific research within DIT. Collaborative projects with industry, state scientific bodies, research organisations and other universities are an important part of the Focas Research Institute's research activities. The research topics cover many aspects of modern science and engineering, such as pharmaceutical, biotechnology, nanotechnology and analytical and range from fundamental, curiosity-driven exploration to applied and industrially motivated research.

The Focas Research Institute supports higher degrees such as postgraduate diplomas (PgDip), Masters of Philosophy (MPhil) and Doctorates of Philosophy (PhD). It also supports undergraduate projects at level 7 and level 8.

**SECTION 2.00**

**ASSIGNMENT OF RESPONSIBILITIES**

**FOR**

**HEALTH & SAFETY**

## **2.00 RESPONSIBILITIES FOR HEALTH & SAFETY**

### **2.01 Safety Management Structure.**

The President, **Prof Brian Norton**, has ultimate overall responsibility, in so far as reasonably practicable, for ensuring the safety, health and welfare of staff members, students and others affected by activities at DIT. He has a duty to manage and conduct the business of the DIT with a view to ensuring that the health, safety and welfare of the employees, students, visitors and contractors are assured. The President delegates responsibilities for the management of health and safety to the unit management functions within the Institute.

It is the responsibility of the President to ensure that the buildings of DIT, at Kevin Street and the Focas Research Institute are structurally sound, intrinsically safe, in good repair and that adequate fire prevention and protection is in place. This responsibility is delegated to the Buildings Maintenance Manager, **Paul Mc Dunphy**, for the DIT, Kevin Street and the Focas Research Institute Campus.

The Building Maintenance Manager has overall responsibility for the management of structural safety, including management of contractors, permit systems, repairs and maintenance etc. The responsibilities of the Building's Maintenance Manager are outlined in the DIT parent safety statement.

The DIT Health and Safety Officer, **Edel Breslin**, and the Occupational Health Officer currently based at the DIT Kevin Street campus, **Yvonne Mc Ardle**, facilitate structural and operational safety arrangements to ensure that the requirements of the safety management system are fulfilled. They facilitate the completion of risk assessments upon request and provide training in specific areas of health and safety (e.g. tool box, talks, Fire safety training, emergency response training and manual handling training etc.) The main responsibilities of the Safety Officer and the Occupational Health Officer are outlined in the DIT **Parent Safety Statement**.

The Head of the Focas Research Institute, **Prof. Hugh J. Byrne**, has responsibility for health and safety within the Focas Research Institute. He implements a health and safety policy and puts in place a health and safety statement for Focas. Research staff, technical staff, administration staff, postgraduate/undergraduate students and other employees are responsible for the safety of their designated areas and for the implementation of the relevant safety procedures and co-operation. He is assisted in this manner by the Focas Health and

Safety Committee (see 3.011), which has representatives of all research units within Focas.

The Focas Research Institute is represented on the Kevin Street Campus Health and Safety Team by the Head or representative. The Campus Health and Safety Team ensure that all structural and operational safety issues are co-ordinated and standardised across the campus buildings.

## **2.02 Head of the Focas Research Institute**

The Head of the **Focas Research Institute**, Prof. Hugh J. Byrne, is responsible, on a day-to-day basis, in so far as is reasonably practicable, for the safety, health and welfare of the **Focas Research Institute's** staff members and others affected by the Institute's activities. The key health and safety responsibilities of the Head, and/or designated personnel, are as follows:

- To manage and conduct the business of the Focas Research Institute with a view to ensuring that the Health, Safety and Welfare of the employees and students is assured.
- To ensure that everyone in the Focas Research Institute is familiar with, and complies with, relevant safety, health & welfare legislation and approved Codes of Practice.
- To ensure that adequate resources are provided on the Institute's basis to ensure that sufficient provision can be made for health and safety.
- To report to the Campus Health and Safety Team and ultimately the Director of Research and Enterprise on all matters relating to safety, health & welfare.
- To ensure that safe work areas and systems of work are provided and adhered to.
- To ensure that the various components of this Safety Statement are communicated to staff members and other appropriate persons, e.g., contractors.
- To promote, in conjunction with other staff members, a safety culture within their areas of responsibility.
- To ensure that structures exist for consultation on, and communication of, safety, health and welfare matters.
- To ensure that contractors directly employed by the Focas Research Institute are provided with a copy of the 'contractors' procedures' and comply.
- To consult, where necessary, with staff members on safety, health and welfare issues affecting them and take appropriate action arising from these consultations.

- To ensure that research staff, technical staff, administration staff and anyone in a supervisory role have discharged their duties with respect to health and safety.
- To liaise with regulatory bodies as appropriate, e.g., Health & Safety Authority.
- To ensure that staff members are adequately trained to carry out their duties.
- To liaise with the Staff Training and Development Office and complete an annual safety training needs analysis for all staff members and identify pre – employment training requirements for new staff members and internal transfers.
- To ensure that arrangements for first-aid and emergency situations are made and that sufficient numbers of staff are designated as first-aid personnel in the Focas Research Institute. All occupants working in laboratories must attend the one day emergency first-aid course.
- To prepare emergency plans to control specific risks in the Focas Research Institute and ensure that staff members, students, visitors etc., are trained in fire safety procedures and are instructed to comply with all emergency procedures in their areas.
- To introduce and document local procedures or regulations to deal with specific safety issues in conjunction with the Campus Safety Committee.
- To ensure that accidents, incidents, and near misses are reported as soon as they occur and for initiating and conducting subsequent investigations.
- To review annually, within the Focas Research Institute, the occupational health and safety performance.
- To ensure that equipment and facilities are maintained to high standards and are as safe as is reasonably practicable in consultation with the Buildings Maintenance Manager.
- To ensure that an annual safety audit is carried out and is submitted to the Campus Safety Committee who in turn will submit a report to the Health and Safety Officer.
- To ensure that all changes which effect health and safety are communicated to all staff members, students and others who may be affected.
- To ensure that high standards of housekeeping are maintained and that the workplace is kept safe and free of physical hazards, e.g., trip / fall hazards, fire hazards, equipment hazards, chemical hazards and any other hazards present.
- To ensure that staff members are familiar with the emergency procedures associated with their work and other emergencies that may arise.
- To ensure that fire / emergency arrangements are in place and up-to-date and that fire / emergency plans are reviewed at least annually and updated as required in consultation with the Building Maintenance Manager.

- To ensure that new plant, equipment and materials comply with appropriate Codes of Practice and safety, health & welfare legislation.
- To ensure that risk assessments are carried out and that reviews of such are undertaken periodically (at least annually) and amended as necessary.
- To produce and maintain risk assessments, ensuring that hazards in the areas are identified, the risks are assessed and the remedial/ recommended actions be taken where necessary.
- To ensure that all statutory registers, notices and documents are maintained and available for inspection.
- To ensure that a list of equipment that requires maintenance/ testing, the frequency of testing and the testing company are retained and available and the required testing takes place.

### **2.03 Individual Staff Members**

The Focas Research Institute is occupied by a combination of research personnel, postgraduate students, administration and technical support. In the case of both postgraduate and undergraduate student projects, supervision is often the responsibility of academic members of staff not resident in the building. For the context of this document "Staff" is taken to encompass all the above categories of personnel.

All staff members of the Focas Research Institute have a duty to take responsibility for their own safety, health & welfare and for that of visitors and any other person who may be affected by their acts or omissions while at work. All staff are legally required to co-operate in matters of health and safety. The key health and safety responsibilities of individual staff members are as follows:

- Individual staff members are required to adhere to and promote safe systems of work as outlined in this Safety Statement, the safety policies and procedures of the Focas Research Institute, any relevant Codes of Practice and must comply with the instructions provided by the Focas management in relation to safety, health and welfare.
- Each individual has a responsibility to act in such a way that his / her safety or the safety of colleagues and others is not put at risk. Each staff member must use any safety equipment provided appropriately.
- Where staff members notice defects in plant equipment, place or a system of work, which could cause danger to themselves or others, they must report them to the Head

of the Focas Research Institute as soon as possible or alternatively the appropriate technical or administration staff, in his absence.

- Each staff member is responsible for using the systems and equipment provided to protect their own safety, health and welfare. Any abuse of equipment or facilities must be reported to the Head.
- Staff members are required to assist in the preparation and updating of the risk assessments within the Focas Research Institute as appropriate.
- Research Staff, in a supervisory position, have responsibility for the safety, health and welfare of the postgraduate/undergraduate students/ visitors etc. under their supervision and must ensure that appropriate instruction and training has been delivered. Each staff member must ensure that equipment is operated in a safe manner and good housekeeping is maintained at all times and that all safety rules are communicated to students and visitors.
- Staff members must attend and co-operate with the training provided by the DIT to ensure compliance with Safety Health and Welfare legislation.
- Staff members must wear appropriate prescribed personal protective equipment (PPE) in the manner intended when entering a hazardous area.
- Staff Members must take appropriate care of any safety equipment or PPE and may not intentionally or recklessly interfere with or misuse it.
- Staff Members should use equipment only if authorised and properly trained.
- Staff Members must ensure that equipment is operated in a safe manner and good housekeeping standards are maintained.
- Accidents / incidents, near misses and dangerous occurrences must be notified to the Head of the Focas Research Institute as soon as they occur and *Incident Report* forms completed in co-operation with management as appropriate. Each incident will be investigated.
- Staff members must adhere to policies and procedures in the case of lone working/ out of hour's access policy (the buddy system).
- Staff members are required to assist and co-operate with periodic safety inspections and audits.
- Staff members of the Focas Research Institute have a right to elect a Safety Representative.
- Staff members are required to notify the Head of any perceived shortcomings in the safety arrangements within the Focas Research Institute.

The statutory duties of employees (with regard to safety, health and welfare) are detailed in Section 13 of the Safety Health and Welfare at Work Act, 2005 and these are introduced in

Appendix I. All employees must familiarise themselves with the requirements of the legislation.

<http://www.oireachtas.ie/documents/bills28/acts/2005/a1005.pdf>

The statutory duties of people in control of the workplace are outlined in Section 15 of the Act.

#### **2.04 Undergraduate Students**

Students have a legal responsibility not to endanger themselves or others by their acts or omissions. The key health and safety responsibilities of individual students are as follows:

- Only engage in activities prescribed by supervisor(s).
- Always register their presence in the laboratory with supervisors and/or responsible laboratory personnel
- Use personal protective equipment (PPE) as necessary. (Students are required to provide their own PPE – laboratory coat, safety glasses etc. in order to gain entry to laboratories).
- Use equipment only if authorised and properly trained.
- Report any accident, incident, near miss dangerous occurrence, defective equipment or potential safety hazard to the Head, Technical staff or their supervisor.
- Do not access or use laboratory facilities or equipment in the Focas Research Institute without the permission of their supervisor and where necessary the staff member in charge of these facilities.
- Participate in any safety training programmes prescribed by the Focas Research Institute, DIT, the Health and Safety Office or their individual supervisor.

#### **2.05 Visitors**

Visitors have a legal responsibility not to endanger themselves or others by their acts or omissions. All visitors must identify themselves to the Focas personnel and follow all safety procedures and policies. It is the responsibility of the host to ensure that visitors are inducted i.e trained in any site specific information necessary.

Where necessary, visitors will wear safety shoes, safety glasses or other appropriate personal protective equipment (PPE), particularly in the laboratories. Such information should be given to the visitor prior to the visit if possible.

Visitors must not enter any area where they do not have the authority to do so. They must not interfere with any of the Institute's property, equipment, materials or substances unless they have permission to do so from the person in charge. During an evacuation the host shall escort their visitor to the assembly point. The Focas Research Institute and Parent Safety Statements are available on request.

## **2.06 Contactors**

Communications take place with contractors prior to them carrying out work for the Focas Research Institute, via the Head or his nominee (Research staff member technical staff member, administrator) and/or the Buildings Maintenance Manager to ensure adherence to safety procedures and to the Safety, Health, and Welfare at Work Act, 2005 and other relevant statutory provisions. Contractors have a legal responsibility not to endanger themselves or others by their acts or omissions. All contractors must identify themselves to the relevant DIT personnel and follow all DIT's safety procedures and policies. Before any contractor is engaged they must submit all required documentation and fully comply with the terms and conditions as specified by DIT.

The following responsibilities are allocated to contractors:

- All contractors will be expected to comply with the Institute's Policy for Safety, Health and Welfare and must ensure that their own health and safety statement is made available whilst work is being carried out. It is the Institutes policy that all contractors have a safety statement in accordance with the *Safety, Health and Welfare at Work Act 2005*.
- All work must be carried out in accordance with relevant statutory provisions and taking into account the safety of others on the site. The contractor must have adequate insurance cover.
- Contractors must not commence with any work on the premises or project site until the Contractor Safety Guidelines and other relevant safety procedures are read, understood and accepted.
- Contractors will take reasonable care of themselves and others who may be affected by their acts or omissions and will co-operate as appropriate with DIT employees.

- Contractors must supply at tender stage a safety statement, relevant method statements, copies of their public and employers liability insurance and complete the Contractors Compliance Form CCF1 before a contract is awarded.
- They will liaise with the local Buildings Maintenance Manager and obtain work permits as required.
- Scaffolding and other access equipment used by contractors employees must be erected and maintained in accordance with current regulations and Codes of Practice.
- All plant and equipment brought onto the site by contractors must be safe and in good working order, fitted with any necessary guards and safety devices and have all necessary certificates available for inspection.
- All transformers, generators, extension leads, plugs and sockets must be suitable for industrial use and in good condition. No power tools or electrical equipment of greater than 110 volts should be used outdoors. If it is necessary to use equipment operating from a 220-volt supply, a residual current device with a rated tripping current of 30mA and operation of 30 m sec must be used.
- Any injury sustained by a contractor's employee must be reported immediately to the local Building Maintenance Manager.
- Contractors must comply with any safety instructions given by DIT.
- DIT may carry out safety inspections. Contractors informed of any hazards or defects identified during these inspections will be expected to take immediate action. (The safety inspection procedure is outlined on [www.dit.ie/safework](http://www.dit.ie/safework).)
- DIT must be notified of any material or substance brought onto the site which has health, fire or explosive risks. Such materials must be stored and used in accordance with current recommendations.
- Contractors will be accountable for the maintenance of good housekeeping practices at all times within their respective areas of work.
- Contractors are not allowed to use equipment owned by the Institute unless written permission is received from the Head of Focas and a competent person passes it as being safe.
- The Contractors Safety Guidelines are available on the DIT Health and Safety Website. [www.dit.ie/safework](http://www.dit.ie/safework)

The local Buildings Maintenance Manager will ensure that if a contractor is onsite the staff will be notified in the relevant areas of the location and the proposed works.

If the Focas Research Institute employs the services of a contractor, the contractor must liaise directly with relevant staff to notify of time of arrival, proposed works and location/duration of works.

### Focas Research Institute contacts

#### Emergency numbers and contacts

| Role   | Name                        | Location   | Email  | Tel                 |
|--|-----------------------------|--|--|---------------------|
| Head   | Prof. Hugh J. Byrne         | Room 2.03.0  | <a href="mailto:Hugh.byrne@dit.ie">Hugh.byrne@dit.ie</a>               | 7900                |
| Administration   | Mr Damien Bruce             | Room 1.04.0  | <a href="mailto:damien.bruce@dit.ie">damien.bruce@dit.ie</a>           | 7902                |
| Safety Committee<br>Members of<br><i>The Focas Institute</i> | Prof. Hugh J. Byrne (Chair) | Room 2.03.0  | <a href="mailto:Hugh.byrne@dit.ie">Hugh.byrne@dit.ie</a>               | 7900                |
|  | Dr Theresa Hedderman        | Room 2.04.0  | <a href="mailto:Theresa.hedderman@dit.ie">Theresa.hedderman@dit.ie</a> | 7909                |
|  | Dr Luke O' Neill            | Room 2.04.0  | <a href="mailto:luke.oneill@dit.ie">luke.oneill@dit.ie</a>             | 7906                |
|  | Ms Anne Shanahan            | Room 2.04.0  | <a href="mailto:Anne.shanahan@dit.ie">Anne.shanahan@dit.ie</a>         | 7907                |
|  | Dr John Colreavy            | Room G.04.0  | <a href="mailto:john.colreavy@dit.ie">john.colreavy@dit.ie</a>         | 7948                |
|  | Ms Karina Carey             | Room 1.04.0  | <a href="mailto:karina.carey@dit.ie">karina.carey@dit.ie</a>           | 7975                |
| Safety Representative  | Dr Patricia Ennis           | Room 322   | <a href="mailto:Patricia.ennis@dit.ie">Patricia.ennis@dit.ie</a>       | 4780                |
| Incident Controllers/Back Up First-aid Personnel             |                             | Porter's Desk, Kevin Street                                    |  | 4625                |
| Buildings Maintenance Manager                                | Mr Paul Mc Dunphy           | 1 <sup>st</sup> Floor, Buildings Managers Office, Kevin Street |  | 4646<br>087 2250015 |

|                                    |  |   |
|------------------------------------|--|---|
| <b>Occupational Health Officer</b> | Yvonne Mc Ardle                            | Occupational Health Office, First Aid Room ext: 4603, 087 980 9135                                |
| Emergency Services                 |  | 0112/0999   |
| Hospital                           |  | 0112/0999   |
| Departmental first –aiders         | Listed on inside cover of safety statement | Each staff member to receive 1 day emergency first-aid training                                   |
| Health and Safety Officer          | Edel Breslin                               | 402 4192 087 2065537  |
| Occupational Health Officer        | Yvonne Mc Ardle                            | 402 4603 087 9808135  |
| Buildings Maintenance Manager      | Paul Mc Dunphy                             | 402 4646  |
| Medical Centre                     | Aungier Street                             | 01 402 3051<br><a href="http://www.dit.ie/studenthealthcentre">www.dit.ie/studenthealthcentre</a> |
| Porters desk                       |  |   |
| Garda Station                      | Kevin Street                               | 6669400   |
| Gas                                | Gas leak/ Emergency                        | 1850-205050   |
| ESB                                | Electrical Injury/Emergency                | 1850-372999   |
| Chaplain                           | Ms Fionnuala Walsh                         | 4024568   |
| EAP Officer                        | Marion Banville                            | 6620448 or 087 9074178  |

**SECTION 3.00**  
**ORGANISATIONAL MEASURES**  
**FOR THE CONTROL**  
**OF**  
**SAFETY & HEALTH**

### **3.00 ORGANISATIONAL MEASURES FOR THE CONTROL OF SAFETY, HEALTH & WELFARE**

#### **3.01 Statutory Requirements**

It is the intention of the **Focas Research Institute** to apply the statutory provisions of the *Safety, Health and Welfare at Work Act 2005* and other relevant legislation / regulations as our minimum standard. Inspectors, and others concerned with safety and health standards, will be afforded all possible co-operation.

#### **3.02 Standards**

The **Focas Research Institute**, in providing for health and safety, applies the most appropriate technical standards available, including national standards, relevant Codes of Practice, fire safety codes and guidelines of the Health and Safety Authority.

#### **3.03 Co-operation**

The **Focas Research Institute** is committed to co-operating with the local authorities such as the fire and emergency services and the Health and Safety Authority.

#### **3.04 Budget**

Health and Safety arrangements are funded from the annual budget of the Focas Research Institute. It is the responsibility of the Head of Focas to ensure that adequate resources are made available to implement effective safety policies and ensure that such resources are reviewed regularly in so far as is reasonably practicable.

#### **3.05 Fire and Emergencies**

Fire and emergency arrangements cover such areas as, roles and responsibilities, emergency procedures, fire-fighting equipment, fire drills etc. An automatic fire detection system is in place. Fire extinguishers are available on all floors. Fire action procedures are strategically posted throughout the buildings, e.g., in laboratories, offices, corridors etc. Fire and emergency arrangements are reviewed annually and updated in the light of changing circumstances. The Campus Safety Team arranges dates for fire drills. See also Section 5 of this safety statement, '**Arrangements for Dealing With Fire and Other Emergencies**'.

### **3.06 First Aid / Medical Treatment**

First Aid kits and Emergency Eye Wash stations are available in designated laboratories. All staff members in the **Focas Research Institute** must undertake basic training in first aid (one day emergency first-aid course) and emergency response. In addition there are a number of staff members who upon completion of the Occupational First Aid course are certified trained occupational first aid personnel. The first aid procedure is outlined in Appendix IV. Appropriate stocks of First Aid supplies (Appendix IV) are available at all times in the laboratories.

Further details of the DIT first aid policy are available on <http://www.dit.ie/safework>

### **3.07 Personal Protective Equipment**

All PPE and safety equipment purchased by the **Focas Research Institute** is of the approved standard (for example CE marked or appropriate BS). The various areas where PPE is prescribed are outlined in the risk assessments. This is reinforced by appropriate signage.

**Note:** Students and contractors must provide their own PPE for any operations they carry out on the premises where PPE is required.

### **3.08 Welfare Facilities**

The following general welfare and personal hygiene facilities are provided:

- Drinking water
- Toilet / washroom (male and female)
- Staff Kitchen

Staff members and students are obliged to care for these facilities and not to damage or misuse them. Staff members and students are obliged to co-operate in maintaining a high standard of hygiene in these areas at all times.

### **3.09 Maintenance Work and Building Services**

Maintenance work includes routine servicing and repairs to buildings and equipment. Statutory and recommended inspections of equipment are also carried out as required, e.g.,

fire extinguishers. Specialist servicing of equipment is assigned to specific competent contractors e.g., fire and emergency equipment. This is organised by the Buildings Maintenance Manager and details are available in the parent safety statement for DIT. In house maintenance contracts are organised within the Focas Research Institute. Only competent contractors are employed. A liaison person is assigned to each contractor who informs the contractor of any health and safety issues relevant to the work and work area, (provides the contractor with a set of 'contractor rules if directly employed by Focas) and inspects the area after the work has been carried out. A list of equipment that requires maintenance/ testing, the frequency of testing and the testing company are retained by the Head of Focas.

### **3.10 Consultation**

The DIT and the **Focas Research Institute** are committed to meeting its obligations under the *Safety, Health and Welfare at Work Act 2005*. This includes full and early consultation with staff members on all health and safety matters including any alterations or changes which could potentially affect the health and safety of staff members, contractors and visitors to the company. The Head of the Focas Research Institute has responsibility for consultation arrangements and their effectiveness will be reviewed from time to time.

### **3.11 Health and Safety Committee**

The Committee is composed of research and technical staff members. The committee meets regularly (once per quarter or as required) and helps in the organisation of safety in the Focas Research Institute. The Health and Safety committee will also facilitate the consultation process. Minutes of the Health and Safety committee meetings are taken and held by the Head of Focas or delegate.

The H&S Committee facilitates coordination of health and safety activities and assesses health and safety requirements in consultation with the Head of Focas. The present membership of the Committee is listed in *Section 2.8* of this safety statement.

The Safety Committee has the following main functions:

- To co-ordinate and prioritise for action, in consultation with the Head of Focas, any safety, health and welfare issues raised by safety inspections or individual staff members.
- To facilitate the compilation of the safety statement for Focas and its regular review

- To facilitate the production and review of risk assessments relating to hazards within Focas.
- To facilitate the review of all systems of work regularly from a safety, health and welfare point of view, including the provision of Personal Protective Equipment (PPE) where appropriate.
- To identify the safety equipment required and advise on purchase:- type, signage, etc.
- To monitor safety, health and welfare training needs.
- To monitor day to day implementation of the health and safety policy within Focas.
- To facilitate the investigation and review of accidents / incidents occurring within Focas.
- To assist the Health and Safety Officer or Occupational Health Officer with regular safety inspections
- To promote in conjunction with the Management and other staff a safety culture within their areas of responsibility.
- To liaise with the Campus Safety Team.

### **3.12 Provision of Information**

The **Focas Research Institute** recognises its duty to ensure that adequate information is provided to employees, contractors and others regarding any risk inherent in its activities. General health and safety information is available on the DIT website, notice boards and from the Occupational Health Officer. Health and safety is an agenda item at all Focas Co-ordination Board meetings which are held once every two months. The minutes of the Health and Safety Committee meetings are available from the Head of Focas. Staff members are also alerted to health and safety issues by e-mail.

### **3.13 Health and Safety Audits**

The Head of Focas, in liaison with the safety committee, carries out safety audits every six months. The Safety Representative and/or the Occupational Health Officer may accompany him on these audits. The audits are recorded and include physical hazard /risk assessment, systems of work, fire and emergency arrangements and the safety training needs of members. Required actions arising out of the findings of such safety audits are prioritised. It is the duty of the Head of Focas to ensure that non-conformances identified are rectified. The

procedure for safety inspections and checklist forms are available on the DIT health and safety website [www.dit.ie/safework](http://www.dit.ie/safework)

### **3.14 Staff Safety Training**

It is the policy of DIT to ensure that an adequate training resource is always available offering comprehensive safety training to all personnel. Details of all safety courses organised by the DIT Staff Training and Development Office are listed in the staff training and development programme of courses on the weblink: <http://intranet.dit.ie/training/index.html>. Mandatory training for all staff includes emergency response training (refresher every three years) and manual handling training (refresher every two years). All staff working in a kitchen, laboratory or workshop must complete a one day emergency first aid course. Additionally online e-learning programmes are available for staff in manual handling, workstation essentials etc. The manual handling is available to staff who do not have specific manual handling duties and whose manager authorises it.

Briefings and practical training, e.g. Fire safety, chemical risk assessment training, safe handling of chemicals, etc. are held from time-to-time and staff members must attend as appropriate.

Where a staff member considers their training or skills level inadequate or do not provide an adequate level of competence to carry out a task, they should raise this issue with their supervisor or the Head of the Focas Research Institute. The DIT Health and Safety Training policy is available on the DIT website.

**SECTION 4.00**  
**GENERAL POLICIES &**  
**PROCEDURES FOR SAFETY & HEALTH**

## **SECTION 4.00      GENERAL POLICIES & PROCEDURES FOR SAFETY & HEALTH**

### **4.01    Pregnant Employees Policy Statement**

DIT is conscious of its obligations under the Safety, Health and Welfare at Work (Pregnant Employees etc) Regulations 2007, which relate to women who are pregnant, have recently given birth or are breast-feeding.

These Regulations provide specific protection during this period. In order to comply with the Regulations, the Occupational Health Officer with the assistance of the Head of Focas to carry out a 'pregnant employee specific' risk assessment of the tasks and areas in which the staff member works. The confidentiality of the staff member is respected at all times. The staff member must notify management of his/her condition as soon as possible.

Any pregnant staff member should inform their supervisor/manager so that they are in a position to take the appropriate precautions.

For a pregnant staff member an area is provided for him/her to lie down and rest as appropriate in the First-aid room, Kevin Street, room 225.

**“Pregnant Employee etc”**: A staff member who has informed their supervisor/manager of their condition – that they are pregnant or that they have given birth within the past 14 weeks or that they are breast-feeding and have given birth within the past 26 weeks.

Pregnant Students are afforded the same arrangements.

For further details of the risk assessment procedure refer to: <http://www.dit.ie/safework>

### **4.02    Staff Members and Students with Disabilities**

Specific risk assessments are completed by the Occupational Health Officer in conjunction with the Disability Office, Buildings Maintenance Manager, Head of Focas and relevant staff members and the person involved in order to take the needs of the person with disabilities into account. Preventative and proactive measures are put in place following the risk assessment if specific hazards are identified. Individual emergency egress plans will also be prepared if required. The Disability Office (Learning Support Officers) will provide specialist and competent advice and liaise with the Health and Safety Officer or Occupational Health Officer, Head of Focas and the Building Maintenance Manager.

#### **4.03 Anti-Bullying Policies and Procedures for Staff Members**

##### **Definition**

Bullying in the workplace is defined as “repeated inappropriate behaviour, direct or indirect, whether verbal, physical or otherwise, conducted by one or more persons against another or others, *at the place of work and / or in the course of employment*, which could be reasonably regarded as undermining the individual’s right to dignity at work. An isolated incident of the behaviour described in this definition may be an affront to a person’s dignity at work, but as a once off incident, is not considered to be bullying” (Task Force on the Prevention of Workplace Bullying, 2001).

##### **Policy and Procedures**

Fundamental to the concept of equality and respect for individuals in the workplace is that the environment should be free from activities that are likely to adversely affect the dignity of the individual. The DIT and the **Focas Research Institute** is committed to ensuring that all its staff members and students are free from bullying, intimidation and sexual harassment in the Focas Research Institute’s environment. Focas Management will not tolerate bullying and this policy and complaint procedure will be applied to reported incidents of bullying of employees. Where a complaint is upheld following a full investigation, the person or persons responsible will be subject to disciplinary procedures.

This policy is available from the HR department and on [www.dit.ie/safework](http://www.dit.ie/safework)

A comprehensive Anti-Bullying Policy is in place for students.

#### **4.04 Outline Policy on Workplace Stress**

##### **Policy Statement**

The DIT and **Focas Research Institute**, accepts that work activities, including challenging, unruly or inappropriate behaviour, may have the potential to cause stress from time-to-time. The Head of Focas will pay particular attention to the potential risks of stress from work-related activities, will be alert to any signs of stress in staff members and will take appropriate action. Staff members, who feel they are at risk from stress at work, should inform the Head of Focas without delay. Further details of the DIT stress policy and procedures are available on the DIT web link.

Details of the Employee Assistance Programme are available on the web link:

<http://intranet.dit.ie/info/eap/index.html>

#### **4.05 Outline Policy on Dealing with Drugs and Medication**

Staff Members and students are reminded that any person who is under medical supervision or on prescribed medication and who has been certified fit for work, should notify the Head of Focas of any known side – effects or temporary physical disabilities which could hinder their work performance and which may be a danger to either themselves or their fellow workers. This is a legislative requirement under the responsibilities of the employee 2005 Act.

#### **4.06 Policy on Alcohol and Drug Abuse**

The DIT policy on alcohol and drugs is available on [www.dit.ie/safework](http://www.dit.ie/safework) In general alcohol is not permitted on Campus unless prior consent and authorisation is given by the Head of Function. A method statement must be completed in conjunction with the OHO outlining the controls to be implemented for each individual occasion.

The DIT recognises that the misuse of alcohol and/or drugs are health problems and will be treated sympathetically in the event that they arise. The DIT policy is to take prompt action in the event of such abuse and to encourage staff members with alcohol and/or drug problems to seek professional advice and counselling. Details of the **Employee Assistance Programme** are available on the web link: <http://intranet.dit.ie/info/eap/index.html>

This policy applies to all staff members in the **Focas Research Institute** and every case will be treated in the strictest confidence. Unacceptable performance or behaviour arising from an isolated incident of alcohol or drug abuse will be dealt with under the normal disciplinary procedures. Further details of the DIT policy and procedures in relation to alcohol and drug abuse are outlined on the web link: <http://www.dit.ie/safework>

#### **Note:**

Staff members' attention is drawn specifically to the extract from the Safety, Health & Welfare at Work Act 2005 contained therein under 'General Duties of Employees', 13 (1) (b) & (c), relating to intoxicants. 'Intoxicant' includes drugs and alcohol and any combination of drugs and alcohol.

#### **4.07 Smoking Policy**

Smoking is not permitted in the building in compliance with the Public Health (Tobacco) (Amendment) Act 2004. Appropriate signage is posted.

#### **4.08 Infectious Diseases**

It is the policy of the **Focas Research Institute** that the spread of infectious diseases is minimised. To this end all infectious diseases (e.g. chicken pox, or meningitis etc) or conditions (e.g. Lice) should be brought to the attention of the Head of Focas as appropriate to ensure the health and safety of staff members and students against such diseases. The Occupational Health Officer in liaison with the Head of Focas will decide on the appropriate action, if any.

#### **4.09 Accidents, Incidents and Near Miss Reporting and Investigation**

All accidents, incidents and near misses to staff members, students, visitors, members of the public, and contractors must be reported as soon as possible to the Head of Focas.

An 'Incident/Accident Report Book' is retained in the main reception area and occupation health office.

The staff member initially completes the DIT accident/incident form. The procedure for reporting and incident/accident is available on the form. Also see Weblink: <http://www.dit.ie/safework>. This form is completed with the accident victim if possible. As much information as possible is recorded, e.g. name of staff member(s) or person(s) involved, time and place, names of witnesses, a description of accident, cause of accident, details of first aid personnel, the first aid administered and medical attention given etc..

Attachments, such as photographs (if taken), medical reports, witness reports, copies of social welfare certificates etc., may be filed as appropriate for use in any follow-up action, e.g., with insurers' or engineers' reports. Staff members, students, visitors, members of the public, and contractors are obliged to co-operate with the incident investigation, and to provide any information which may help to establish the circumstances surrounding the incident.

If an occupational injury causes loss of life or prevents any staff member 'from performing the normal duties of their employment for more than 3 calendar days not including the date of the accident', the Health & Safety Authority are formally notified using Form IR3 by the Occupational Health Officer.

If an accident is fatal, the scene of the accident will be left undisturbed, other than for rescue purposes, for 3 days after notice has been given to the HSA.

If a person not working for the DIT dies or suffers an injury requiring medical treatment (registered GP / Nurse or hospital) as a result of a work activity, the Health and Safety Authority will be formally notified also.

Accidents are recorded and investigated in exactly the same way whether they involve staff members, students, visitors, members of the public, or contractors. The Occupational Health and Safety Officer maintain the records of notified accidents for ten years. Notification responsibility rests with the Occupational Health Officer.

**Note:** 10 minute toolbox talks available by OHO on how to complete an incident report form.

#### **4.10 Procurement Control**

The purchasing of equipment, plant and substances is subject to the provisions of the *Safety, Health and Welfare at Work Act, 2005* and associated Regulations, thus all equipment, plant or substances will undergo risk assessment by the staff member prior to acceptance into the Focas Research Institute. Anyone involved in purchasing items, shall ensure that this written risk assessment has been carried out. The assessment should determine all hazards associated with the item, the frequency of exposure to the hazards, the consequence of contact or exposure, the level of risk as a result of exposure and the necessary control procedures will be determined in consultation with the Campus/Focas Safety Committee and the Occupational Health Officer as required. There should be a liaison with the Staff Training and Development Office to ensure that necessary training recommended is carried out.

**Chemicals:** Before any new chemical is purchased it must first receive approval from the project supervisor. A safety data sheet should be obtained and submitted with the written risk assessment for use, storage and operation (approved by supervisor) to the Head of Focas. The safety data sheet in conjunction with the risk assessment will then be assessed and approved if appropriate.

**Equipment Purchase:** For all new equipment purchased, the purchaser is to ensure that the equipment complies with all ergonomic and safety standards. Machinery suppliers shall be requested to supply all relevant information including specifications for machine guarding, maintenance, noise, fumes, dust, special training needs etc. which will assist in the risk assessment process.

**Contractors:** Before any contractor can be engaged they must submit all required documentation and fully comply with the term and conditions as specified by DIT.

#### **4.11 Policy in Relation to Lone- working.**

Persons working alone should follow the lone/out of hours working procedure and complete all necessary documentation (agree permission with Head and Supervisor). Undergraduate students must never enter a laboratory without the express permission of the academic staff responsible for their activities. Students and staff members are forbidden to work in laboratories alone unless they inform another person who checks on them regularly. Specific Lone –worker risk assessments must be completed in liaison with the direct supervisor.

#### **4.12 General Health & Safety Rules – Staff Members**

A copy of the rules is given to each member of staff and a copy is clearly posted on the Focas intranet. All staff members must have regard for their own safety and that of others and each member of staff is expected to observe the following:

- Staff members are required to comply with the statutory duties of employees under all current health and safety legislation / regulations.
- Smoking is not permitted in the building in compliance with the Public Health (Tobacco) (Amendment) Act 2004.
- Avoid any actions that could increase the risk of fire in the premises.
- Keep water and other liquids away from electrical equipment to prevent the risk of electrical shock and / or fire.
- Report defects in any equipment especially electrical such as loose connections, burning smells, electric sparks or similar obvious faults to Buildings Manager or Head of Focas. No unauthorised person may attempt to carry out electrical or mechanical repair work.
- Avoid creating trip hazards, e.g., handbags on floor, trailing cables, poor storage arrangements etc.
- Take care if handling loads and seek assistance if loads are heavy or awkward.
- Report accidents, incidents and near misses and dangerous occurrences to the Head of Focas.

- Report to the Head of Focas without delay, any defects in equipment or in systems of doing work that might endanger health, safety or welfare of staff members, students, visitors, contractors or members of the public.
- Report any suspicious activities or strangers in the building without delay.
- Avoid running through the building.
- All staff members are obliged to co-operate with safety training and instruction programmes.
- Emergency equipment must never be tampered with.
- No one may work whilst under the influence of alcohol or drugs to such an extent that it could impair their judgement or affect their safety or the safety and comfort of others.
- Ensure you are compliant with mandatory training

*Refer to Section 2.4 for Responsibilities of each Staff Member*

#### **4.13 General Health & Safety Guide – Students**

The Focas Research Institute's research environment possesses some particularly hazardous areas, for example laboratory areas. There is the potential for slips, trips and falls amongst other hazards in all areas. A copy of the rules is clearly displayed in each area. Therefore, all students must have regard for their own safety and that of others and each student and staff are expected to observe the following basic safety steps:

- Avoid any actions that could increase the risk of fire in the buildings.
- Keep water and other liquids away from electrical equipment to prevent the risk of electric shock.
- Report defects in electrical equipment such as loose connections, burning smells, electric sparks or similar obvious faults.
- Report immediately, any defects in any work equipment to your supervisor or laboratory technician.
- Avoid creating trip hazards, e.g., careless storage of materials (e.g., bags), and equipment in all areas.
- No eating or drinking is permitted in the laboratories
- Deposit all litter in the bins provided.

- Take care if lifting or carrying materials and follow the instructions of your supervisor or laboratory technician.
- Report accidents, incidents or near misses to your supervisor or any member of staff immediately.
- Report to your supervisor or any member of staff without delay, anything that might endanger health, safety or welfare of our members, fellow students, visitors or members of the public.
- Report immediately any suspicious activities or strangers in the building to your supervisor or any member of staff
- Avoid running through the buildings.
- 'Horseplay' is strictly forbidden in all areas.
- All students are obliged to co-operate with safety training, including emergency evacuation procedures.
- Emergency escape routes must never be obstructed and emergency equipment, e.g., fire extinguishers, must never be tampered with.
- The use of, or being under the influence of, alcohol or drugs is strictly forbidden.

*Refer to Section 2.5 for Responsibilities of each Student.*

#### **4.14 Contractor Procedures**

In order to meet our obligations for the safety and health of our staff members and of contractors working in our premises, the safety arrangements as outlined in the DIT 'Contractor Policy' are in place. See web link: [www.dit.ie/safework](http://www.dit.ie/safework)

#### **4.15 Safety for Visitors**

In order to meet our obligations for the safety and health of our staff members and of visitors to our premises, the following arrangements are in place:

- Smoking is not permitted in the building in compliance with the Public Health (Tobacco) (Amendment) Act 2004.
- All visitors must report to the appropriate host.
- Visitors must not do anything likely to put themselves or others at risk.
- Visitors must comply with all safety and security arrangements in operation on the site.

- In the event of hearing a fire alarm sounding, visitors must leave the building and report to the relevant Assembly Point at the front of the building. Visitors must remain at the Assembly Point until instructed otherwise.

#### **4.16 Disciplinary Action**

##### **Staff Members**

The management of the **Focas Research Institute** takes its responsibilities in relation to health and safety very seriously. Staff members are required to observe safety rules and regulations, including complying with safe systems of work and the proper use and care of any Personal Protective Equipment provided. If staff members wilfully disregard and refuse to co-operate with such safety rules and regulations, Focas Management may resort to DIT disciplinary procedures to ensure compliance.

##### **Students**

Students are required to observe DIT and **Focas Research Institute** safety rules and regulations. Appropriate disciplinary procedures will be applied to students who wilfully disregard and / or refuse to co-operate with, safety rules and regulations.

**SECTION 5.00**  
**ARRANGEMENTS FOR DEALING**  
**WITH FIRE AND OTHER EMERGENCIES**

## **SECTION 5.00 ARRANGEMENTS FOR DEALING WITH FIRE AND OTHER EMERGENCIES**

### **5.01 Fire Safety Features of the Focas Research Institute**

The **Focas Research Institute** has laboratories in the basement, first, second and third floor of the building (See Appendix II for outline plan of laboratory facilities). Staff members work in laboratory areas and in the offices throughout the building. Emergency evacuation routes are provided from each area. Compartmenting, by means of fire doors, has been provided throughout the building.

### **5.02 Fire Detection / Alarm System**

An automatic fire detection system which is externally monitored is in place and tested regularly.

### **5.03 Fire Marshalls**

All staff members act as Fire Wardens in the event of fire or other emergency. Each staff member is responsible for ensuring that the evacuation of staff members and students under their care is taking place. They direct and assist staff and students and other personnel in their area to the exit routes. Staff members check each area as they evacuate with their students, *without putting themselves at risk*. See also 5.10, 'Action in the Event of Fire'. The Chief Fire Warden/ Incident Controller, Liz Heffernan, liaises with the media in the event of a fire, as appropriate.

### **5.04 Fire Action Procedures**

Fire Action Procedures, advising personnel what to do in event of fire, are strategically posted throughout the building, e.g., in corridors, laboratories, offices etc. All staff must familiarise themselves with them.

### **5.05 Fire Fighting Equipment**

Portable fire extinguishers, e.g., CO<sub>2</sub>, foam, dry powder etc., are provided at strategic locations throughout the building. Fire extinguishers that have been used on a fire or otherwise discharged are replaced or re-filled as soon as reasonably practicable. Fire Points

are designated by appropriate signage. Instructions for appropriate use of extinguishers are provided at the Fire point. Specialised contractors inspect, test and certify fire-fighting equipment at least annually to Irish Standard, IS 29, 2002: "The Use, Citing, Inspection and Maintenance of Portable Fire Extinguishers". The Building's Maintenance Manager is responsible for maintaining appropriate records of test certificates.

#### **5.06 Fire Training / Designated Persons**

In compliance with Statutory Instruments 53 of 2003, all staff members receive basic fire training and have been designated and trained to tackle incipient fires using fire extinguishers where appropriate. All personnel receive training in emergency evacuation procedures and their roles during emergencies. The DIT Training Department maintains records of all fire and emergency training. All staff members must ensure that they are in receipt of this training.

#### **5.07 Emergency Lighting / Emergency Exit Routes**

Illuminated emergency exit lighting is provided throughout the buildings and emergency exit routes are outlined on signs in every corridor.

#### **5.08 Assembly Points**

The Assembly Points are at the front of the Focus Building at the back of the Kevin St buildings.

#### **5.09 Evacuation Drills**

Evacuation drills, initiated by the Campus Safety Team, are regularly carried out. The time for each drill is recorded along with any observations on the effectiveness of the drill. Records are retained by the Campus Safety Team and Maintenance Manager. Evacuation evaluations are circulated to all staff members and a synopsis of the evacuation drill is reviewed at subsequent Campus Safety Team meetings.

#### **5.10 Action in the Event of Fire**

##### **Fire Wardens and All staff members**

If you discover a fire or one is reported to you, immediately raise the alarm as follows:

- Initiate fire alarm, break glass unit.
- If you discover the fire yourself and if it is safe to do so and you have been trained and you feel confident, attack the fire with suitable extinguishers, e.g., do NOT use water or foam on electrical fires, use a CO<sub>2</sub> or the dry powder extinguisher. When attacking a fire be sure to keep an escape route at your back.
- Alternatively your first knowledge of fire may be the sound of the evacuation alarm— in either case: Follow the evacuation procedures

## **5.11 General Fire Evacuation Procedures**

### ***DIT EVACUATION GUIDELINES***

When the evacuation alarm is activated:

- Each office should evacuate the building using the nearest available exit, ensuring the safe shutdown of equipment/electricity/gas.
- All students in offices and laboratories should be led by research staff/technicians.
- All visitors should be escorted to safety by the person they are visiting.
- All persons evacuating should form a single file on both sides of the corridor or stairway, leaving the centre passageway clear.
- Do not use the lift.
- Separate emergency egress plans have been prepared for people with disabilities.
- All doors should be closed (not locked) by the last person in the line.
- Appointed evacuation marshals should “sweep/search” their designated areas, checking to ensure that all offices, meeting rooms, toilets, storage areas have been evacuated. They then should leave via the nearest escape route.
- All evacuation marshals, building maintenance personnel, porter personnel, heads of functions, first-aiders should assemble at Assembly point A (Assembly point A is at the front of the FOCAS Research Institute) to check in, reporting to the Incident Controller, details of any casualties or people in need of assistance. This information is then given by the Incident Controller to the Emergency Services.
- All students and staff should disperse from the building and assemble at Assembly point A, the rear of the Kevin Street building.
- No one must re – enter the building until the all clear has been given by the Incident Controller.

### **5.12 Bomb Threats**

All bomb threats are treated seriously and a search of the building is always carried out. The Gardaí are always alerted and, in consultation with them, a decision is taken as to whether the premises should be evacuated or not. If the decision is to evacuate, the **EVACUATION PROCEDURES** are implemented. See web link for details of DIT policy and procedures in relation to a bomb threat: <http://www.dit.ie/DIT/healthandsafety/sept2005/Bomb-Threatprocedure1.doc> Assembly following an evacuation for a bomb threat should be at least 500 metres from the building, and is designated as the car park to the rear of the Kevin Street building.

### **5.13 Gas Leaks**

Natural gas is used for heating in the Focas building at DIT, Kevin St. If a gas leak is detected in any of the labs, the manual valve at the lab should be closed (position at a 90° angle to the gas supply pipe, which is colour coded yellow). The turn off point is signed with a yellow sign reading “gas valve”. All employees are made aware of the location of the gas turn-off point in the laboratory areas.

In the event of a smell of gas in any location, under no circumstances should electrical equipment (including lighting) be turned on or off. The Head of Focas and Buildings Maintenance Manager are notified immediately. The building should be evacuated without activating the evacuation alarm. It may be necessary to evacuate to a point as for a bomb threat – see 5.11 & 5.12 above. The gas company should be immediately informed using a mobile phone from the Assembly Point. The gas should not be turned on again until the gas supplier has authorised it.

### **5.14 Conclusion**

This Safety Statement will be reviewed annually and will take into account any changes in legislation and Codes of Practice. All changes will be communicated to staff members, visitors and contractors. The appendix of this safety statement contains the risk assessments.

**SECTION 6.00**  
**CHEMICAL AND BIOLOGICAL HAZARDS,**  
**STORAGE AND DISPOSAL**

## 6.0 CHEMICAL AND BIOLOGICAL HAZARDS, STORAGE AND DISPOSAL.

### 6.01 CPL and CLP

Information on hazard and risk can be obtained from the label of the chemical and from the safety data sheet for that chemical. We are currently in a transition period and will have to engage with **TWO** distinct formats to which chemicals and mixtures (preparations) will be labelled until June 2017. In the next sections the requirements of the old system under CPL Regulations and the new system under CLP Regulation will be explored briefly.

#### **The Old System (CPL) Classification under CPL (Old) Regulations**

Chemical substances and preparations are collated into various EU hazard classifications associated with their physiochemical hazards, health and environmental hazards in accordance with the labelling legislation (CPL (old system)). Criteria for classifications are outlined in this EU based legislation.

#### **Labelling under CPL (Old) Regulations**








Each hazard class of chemical is indicated by a symbol and sometimes an associated letter indicating its hazard group. These symbols should be clearly visible on the outside of the chemical container and visually identify the hazard to the user. You must be familiar with the hazard warning sign.

**See Table 1 on next page**

#### **Risk Phrases and Safety Phrases**



Chemicals are tested extensively to identify the hazard class (refer to 6.1) and the risk associated with the chemical before they are labelled. Prescribed **risk phrases** are given in the CPL Regulations (List of current risk phrases are given in appendix v).

**Safety phrases** are designed to give information to the user on how to use chemicals safely (Prescribed current safety phrases are given in appendix v).

|  |   |  |
|--|---|--|
|  <p><b>EXPLOSIVE (E)</b><br/>Explosive materials are capable of producing an explosion or will release a substantial instantaneous amount of heat and gas under the right conditions. Explosions can be initiated by heat, static or friction.</p>  |  <p><b>OXIDISING(O)</b><br/>Oxidising agents are chemicals that can react with chemicals that are oxidisable. These agents release oxygen and heat.</p>  |  <p><b>HIGHLY/ EXTREMELY FLAMMABLE/ (F/F<sup>+</sup>)</b><br/>The vapours of highly flammable (Flash pt 0-21°C) substances will catch fire, whereas extremely flammable substance (Flash Pt &lt;0°C) will catch fire when exposed to an ignition source.</p>  |
|  <p><b>(Highly)TOXIC (T+/T)</b><br/>Toxic agents can cause serious damage to health if they are allowed to enter the body.</p>  |  <p><b>Harmful:</b> Harmful chemicals can cause damage to the health of persons if exposed to them. Prolonged exposure can cause serious damage to health.<br/><b>Irritant:</b> Chemicals that cause inflammation of the skin, respiratory system or other parts of the body (e.g. eyes) following any exposure.</p> |  <p><b>CORROSIVE (C)</b><br/>Corrosive materials have an ability to burn biological tissues or materials. The exposure of corrosive chemicals can occur through inhalation of the chemical, skin contact with the chemical or ingestion of the chemical in the forms of fumes, vapours or fine dust</p> |
|  <p><b>Dangerous for Environment (N)</b><br/>These chemicals may present a risk to one or more aspects of the environment (flora, fauna, and aquatic environment). Their use and disposal must be carried out in such a way as to prevent any uncontrolled releases into the environment.</p> |   |  |

### Identifying Carcinogens under CPL (Old) Regulations

There are situations where particular care must be taken when using certain chemicals. Carcinogens, mutagens and reproductive toxins (CMRs) have the potential to cause cancer and/or have an effect on subsequent generations are specifically controlled by the SHWW Carcinogen Regulation 2001. Carcinogens can be identified by their label.

| Classification  | Symbol  | Information   | Use  |
|---|---|---|--|
| <b>Category 1 and 2 carcinogen:</b><br><b>Toxic (T)</b> |                    | Substances known to cause cancer in humans and animals or should be regarded as if they do so.<br><br>R45 R49                 | Used under strict control measures, exposure to the agent must be eliminated or reduced significantly. Zero exposure to any carcinogen must always be the user's main aim. |
| <b>Category 3 carcinogen:</b><br><b>Harmful (Xn)</b>    | <br>Harmful (Xn) | Cause concern as having possible carcinogenic effects to humans, but which sufficient information is not available<br><br>R40 | Treated the same as with categories 1 and 2 i.e. treat as if it is a known carcinogen to humans.   |

A **specific risk assessment for CMRs** with additional requirements is required if you work with a CMR. In addition a **RECORD** of the use of a Class 1 or 2 CMR must be recorded by the technician in a record book specific for this purpose

### Identifying Sensitisers under CPL (Old) Regulations

Sensitisers are substances that have the ability to cause an allergic reaction in 'sensitive' individuals. Respiratory sensitisers affect the respiratory system and can lead to asthma. Skin sensitisers affect the skin and can lead to rashes, dermatitis and eczema.

In order for a person to get 'sensitised' they must come in contact with the substance usually over a period of time. Therefore it is essential that when using a sensitiser strict precautions are in place to minimise contact and therefore minimise the chance of sensitisation occurring. Respiratory sensitisers are classified as **HARMFUL (Xn)** and carry the risk phrase **R42 'may cause sensitisation by inhalation.'** Skin Sensitisers are classified as **IRRITANT (Xi)** and carry the risk phrase **R43 'may cause sensitisation by skin contact.'**

#### **6.02 The New System (CLP) Classification under CLP (New) Regulations**

Chemical substances (from Dec 2010) and mixtures (from June 2015) are collated into various GHS hazard classifications associated with their physiochemical hazards, health and environmental hazards in accordance with the labelling legislation CLP (new system).

Criteria for classifications are outlined in the legislation (purple book) and are in line with GHS. One hazard:-one classification:-one label:-WORLDWIDE.

#### **Labelling under CLP (New) Regulations**














Each hazard class of chemical is indicated by a pictogram indicating its hazard group. These pictograms should be clearly visible on the outside of the chemical container and visually identify the hazard to the user. You must be familiar with the hazard warning pictogram.

**See Table 2 on next page.** For further details on GHS please refer to the Health and Safety Authority website ([www.hsa.ie](http://www.hsa.ie))

#### **Hazard and Precautionary Statements**



Chemicals are tested extensively to identify the hazard class (refer to 2.2) and the risk associated with the chemical before they are labelled. Prescribed Hazard Statements (H) are given in the CLP Regulations. (List of current Hazard statements are given in appendix 1 B) Precautionary Statements are designed to give information to the user on how to use chemicals safely. (Prescribed current safety phrases are given in appendix 1 B)

## **New chemical labeling – globally harmonised system (GHS)**

|  |  |   |
|--|--|---|
| <p style="text-align: center;"><b>NEW</b></p> <div style="display: flex; justify-content: space-around; align-items: center;">   </div> <p><i>GHS07</i><br/><b>What could the new label mean?</b></p> <ul style="list-style-type: none"> <li>•Irritant</li> <li>•Dermal Sensitiser</li> <li>•Acute Toxicity (Harmful)</li> <li>•Narcotic Effects</li> <li>•Respiratory Tract Irritation</li> </ul> | <p style="text-align: center;"><b>NEW</b></p> <div style="display: flex; justify-content: space-around; align-items: center;">   </div> <p><i>GHS02</i><br/><b>What could the new label mean?</b></p> <ul style="list-style-type: none"> <li>•Flammables</li> <li>•Self Reactives</li> <li>•Pyrophorics</li> <li>•Self Heating</li> <li>•Emits Flammable Gas</li> <li>•Organic Peroxides</li> </ul> | <p style="text-align: center;"><b>NEW</b></p> <div style="display: flex; justify-content: space-around; align-items: center;">   </div> <p><i>GHS01</i><br/><b>What could the new label mean?</b></p> <ul style="list-style-type: none"> <li>•Explosives</li> <li>•Self Reactives</li> <li>•Organic Peroxides</li> </ul>              |
| <p style="text-align: center;"><b>NEW</b></p> <div style="display: flex; justify-content: space-around; align-items: center;">   </div> <p><i>GHS06</i><br/><b>What could the new label mean?</b></p> <ul style="list-style-type: none"> <li>•Acute Toxicity (severe)</li> </ul>   | <p style="text-align: center;"><b>NEW</b></p> <div style="display: flex; justify-content: space-around; align-items: center;">   </div> <p><i>GHS05</i><br/><b>What could the new label mean?</b></p> <ul style="list-style-type: none"> <li>•Corrosives</li> </ul>   | <p style="text-align: center;"><b>NEW</b></p> <div style="display: flex; justify-content: space-around; align-items: center;">  </div> <p><i>GHS08</i><br/><b>What could the new label mean?</b></p> <ul style="list-style-type: none"> <li>•Carcinogen</li> <li>•Respiratory Sensitiser</li> <li>•Reproductive Toxicity</li> <li>•Target Organ Toxicity</li> <li>•Mutagenicity</li> <li>•Aspiration Toxicity</li> </ul> |
| <p><b>What could the new label mean?</b></p> <ul style="list-style-type: none"> <li>•Environmental Toxicity</li> </ul>   |  |   |
| <p style="text-align: center;"><b>NEW</b></p> <div style="display: flex; justify-content: space-around; align-items: center;">   </div> <p><i>GHS03</i><br/><b>What could the new label mean?</b></p> <ul style="list-style-type: none"> <li>•Oxidisers</li> </ul>  |  |   |

### Identifying Carcinogens under CLP (New) Regulations

Category 1A and 1B carcinogens are labelled as indicated below.

| Classification                | Symbol  | Hazard statement   |
|-------------------------------|---|--|
| Carcinogen<br>Cat 1A<br>Cat1B | <br><b>DANGER</b>  | <b>H350</b> May cause cancer<br><br><b>H350i</b> May cause cancer by inhalation. |
| Carcinogen<br>Cat 2           | <br><b>WARNING</b> | <b>H351</b> Suspected of causing cancer.   |

### Identifying Sensitisers under CLP (New) Regulations

Hazardous substances that can cause an allergic reaction carry the hazard pictogram and are labelled with the hazard statements outlined below.

#### For Category 1(A and B) sensitisers



**DANGER H334** May cause allergy or asthma symptoms of breathing difficulties if inhaled



**WARNING H317** May cause an allergic skin reaction.

### 6.03 Pregnant Women

Studies have demonstrated that a number of chemicals may interfere with pregnancy or with the development of the unborn baby. These chemicals can be identified from their risk phrases. The first 15 weeks of pregnancy are when chemicals can impact most. It is therefore imperative that when a woman is pregnant or thinks she may be pregnant **she informs her line manager or class supervisor** who will arrange for a specific 'Pregnant woman' risk assessment to be undertaken by the Occupational Health Officer on site in line with the procedure outlined on <http://www.dit.ie/services/healthsafety/procedures/Chemicals>

which are specifically considered can be identified by their associated risk phrases. Risk phrases where the risk must be reassessed (**R40, R45, R47, R49, R60, R61, R62, R63, R64**). The equivalent Hazard Statements (**Insert H numbers here**) must also be considered.

#### 6.04 Safety Data Sheets (SDS)

Safety data sheets are documents prepared by the chemical supplier that give detailed information on the chemical and how to handle it safely. Safety data sheets identify hazards associated with a material and how the material can be safely handled, stored and used. SDS for the chemicals used are available in all laboratories. SDS are provided by the chemical supplier and gives detail on many aspects of the chemical safety. Safety data sheets are available for a large number of chemicals and can be downloaded from the web. Useful websites include: <http://www.sigmaaldrich.com/ireland.html> where sds for substances can be sourced. If you are working on a project the SDS must be available in the area in which you work. SDS must conform to the EU standard as outlined by the REACH regulation 2007. The format is same worldwide. The Sections of a SDS include:

|           | <b>Title</b>                           | <b>Information</b>  |
|-----------|--|---|
| <b>1</b>  | Chemical identification                | Name and manufacturer number  |
| <b>2</b>  | Hazards identification                 | Hazards and risks (R or H) associated with the material. Details of the label.  |
| <b>3</b>  | Composition/information on ingredients | CAS Number, molecular formula, list of common synonyms  |
| <b>4</b>  | First Aid measures                     | First aid measures to be taken if exposed to the material   |
| <b>5</b>  | Fire fighting measures                 | Responses to be taken during a fire involving the material  |
| <b>6</b>  | Accidental release measures            | Details how to respond to a leak or spill of the material.  |
| <b>7</b>  | Handling and storage                   | The requirements for handling and storing the material safely.  |
| <b>8</b>  | Exposure Controls/personal protection  | Information on protection requirements if exposed to the material.  |
| <b>9</b>  | Physical and chemical properties       | Information on the appearance and chemical properties of material.  |
| <b>10</b> | Stability and reactivity               | information on material stability and ability to react with other materials.  |
| <b>11</b> | Toxicological information              | Information on the severe and chronic effects if exposed to the material  |
| <b>12</b> | Ecological information                 | The impact the material has on the environment  |
| <b>13</b> | Disposal Considerations                | correct disposal procedure for the material in question   |
| <b>14</b> | Transport information                  | information on the means of transporting the material   |
| <b>15</b> | Regulatory Information                 | Declaration of EU conformance.  |
| <b>16</b> | Other Information                      | Relevant risk and safety phases and other regulatory information Information such as a disclaimer from the producer of the SDS. |

In general a copy of the SDS should be replaced with an updated copy every 2 years. Check that the SDS you refer to has been updated recently.

### 6.05 Routes of Entry of Chemical Agents into the Body

For the chemical to harm to the health of the person using it, the chemical must come into contact with them. Factors that will affect the impact a chemical has on the biological system include the following parameters.

- Inherent Hazard (how toxic, harmful etc the chemical is)
- Dose (how much gets into the body) at which it exerts its effect.
- Metabolism (what it changes into) and how long it stays in the body (and at what conc.)

There are four main routes by which chemical agents can enter the body. These routes are as follows

| <b>Routes of Entry</b> |   |
|------------------------|---|
| <b>Inhalation</b>      | This is the most important route of entry. Inhalation occurs by absorption of a chemical through the respiratory tract via inhalation. Inhalation of solvent vapour can be very dangerous as the surface area available within the lungs for the absorption of chemical agents is many times greater than that available on the skin. |
| <b>Skin contact</b>    | Skin contact represents the most common route of chemical entry into the body. Chemical agents can enter the body if they come into contact with damaged skin e.g. cuts and abrasions.  |
| <b>Ingestion</b>       | The material enters the body through the mouth (swallowing). Direct ingestion is considered unlikely in the laboratory however, ingestion of toxic materials may occur as a result of eating in a contaminated work area or with dirty hands..  |
| <b>Injection</b>       | Injection occurs when a material is introduced directly into the bloodstream. Injection can occur through mechanical injury from sharp objects e.g. syringe, needle or broken glass   |

The most common route of exposure is by inhalation. It is therefore essential that the concentration of a chemical in the air is kept to a minimum. The ingestion of food and drink is forbidden in the laboratory to minimise the risk of ingestion. When handling chemicals it is essential that contact with the chemical is kept to a minimum. Hands are washed immediately after each laboratory session or if there is inadvertent contact with the chemical (e.g. splash). For particularly hazardous chemicals the use of appropriate chemical resistant gloves may be required. This will be indicated in the laboratory manual and in the chemical risk assessment. The type of glove to be used will also be indicated (e.g. heavy duty rubber

glove, nitrile etc.). In the laboratory safety measures are in place to prevent or minimise the risks associated with the use of chemicals.

#### **6.06 Exposure limits**

The SHWW Chemical Agents Regulations (2001) prescribe exposure limits for **airbourne** hazardous substances (**OELVs**). They are quoted as a time weighted average (TWA) which means that they indicate the safe amount that a healthy adult can be exposed to for a given time (usually 8 hrs). For particularly hazardous substances a Short Term Exposure Limit (STEL 15 mins) is in place. These limits are available in the Code of Practice (2010) for Safety, Health and Welfare at Work (Chemical Agents) Regulations, 2001, which can be downloaded from [www.hsa.ie](http://www.hsa.ie) and is updated regularly. Every person using a chemical agent must design their working practice so as to eliminate or reduce to as low a level as possible their exposure to that agent.

#### **6.07 Chemical Storage**

Proper and correct storage of all chemicals must be in place to minimize hazards associated with leaks, spills and accidental mixing of incompatible chemicals. The SDS can be used as guidance before storing the material in order to obtain information on the materials incompatibilities. A minimum amount of chemicals and solutions should be stored in the laboratory area. Extremely/highly/ flammable chemicals must be stored in flame proof cabinets and safety fridges as appropriate. Chemicals are stored based principally on their UN-Hazard class (section 14 of SDS) in dedicated chemical storage areas. The technical staff are responsible for the proper storage of chemicals in the laboratory and storage areas for which they have responsibility.

When chemicals are stored in a laboratory the following precautions should be taken:

- All chemicals containers (including samples) in the laboratory areas must be labelled with the name of the chemical, its hazard class and risk phrases. The name of the person labelling the chemical must also appear. A disposal date must also be given.
- Check with the laboratory technician if you intend to store materials in the laboratory.
- Some chemicals degrade during storage and may become more hazardous and therefore it is crucial that quantities of hazardous chemicals stored be kept to a minimum.

- Chemicals that are affected by sunlight must not be stored in an area where they can be exposed to direct sunlight
- Chemicals must not be stored under sinks.
- Leaking or damaged packages must be removed to a safe area for repacking or disposal
- Solids should be stored on shelves or in cabinets unless stated otherwise.

### **6.08 Chemical Waste Disposal**

It is extremely important that all the waste produced in the Focas Research Institute is disposed of in a correct, safe and legally compliant manner to avoid any unnecessary problems. Failure to dispose of waste correctly may result in prosecution of both the Focas Research Institute and the individual involved. All chemical waste containers must be clearly labelled to indicate the nature of the waste material.

It is the responsibility of the technical staff to organise the removal of 'collected' hazardous waste from the site.

Methods of disposal of waste are documented in the practical procedure in the laboratory manual and must be adhered to.

The CRA documents how waste generated in the procedure which is risk assessed is to be disposed off.

Information on the disposal of waste is available in the SDS.

| <b>Waste</b>         | <b>Means of Disposal</b>  |
|----------------------|---|
| <b>Aqueous waste</b> | <b>All aqueous waste is neutralised and is poured down the sink and diluted well with plenty of water.</b>  |
| <b>Solid</b>         | <b>All solid samples must be submitted to the supervisor in a sample bottle. Consult the supervisor if there is any solid waste and it will be disposed of appropriately.</b> |
| <b>Organic:</b>      | <b>All organic liquid waste (not water miscible) is to be neutralised and poured into the waste solvent bottle labelled organic waste in the fume cupboard.</b>               |
| <b>Chlorinated.</b>  | <b>All chlorinated organic waste is to be neutralised and poured into the chlorinated waste solvent bottle</b>  |

---

**General methods of disposal for SMALL amounts of waste are given in the practical procedure and CRA.**

### **Solid Chemical Storage and Waste Disposal**

Solid waste produced from postgraduate student synthetic organic and inorganic experiments (unless explosive, flammable or otherwise considered dangerous for transport according to ADR regulations) can be broadly divided into two classifications for transport and disposal.

UN No. 2811, Toxic Solid Organic NOS, Class 6.1 Packaging Group 1

UN No. 3288, Toxic Solid Inorganic NOS, Class 6.1 Packaging Group 1

### **Procedure for collection, storage and disposal**

General Synthetic Laboratory Solid Waste

- Separate samples into organic and inorganic waste materials
- Waste produced should be collected in suitable sealed containers within the laboratory.
- To prevent any unforeseen reaction, different waste solids should not be collected/stored in the same container.
- These smaller individual sealed containers should be transferred to the appropriately labelled disposal container provided
- Pack with sufficient vermiculite to prevent breakage of contents
- Waste materials come under the same segregation policies outlined for general chemical storage
- Large quantities of waste products should not be stock piled
- Once per year, or when full, containers are sealed and disposed of by registered waste disposal company

Waste generated foreseen not to fall within the above categories or which may pose additional safety concerns should be assessed on a case by case basis. Any such waste must be identified clearly and if available the SDS should be consulted with respect to classification and incompatibilities. A registered waste disposal company should be contacted with respect to collection and disposal. Copies of all C1 forms and certificates of destruction should be retained for all chemical waste and stored in the Institute Waste Register.

## 6.09 Chemical spills

### General Spill procedures

In the case of a spill or leak of chemical the following procedures should be carried out.

- The area must be cordoned off and access to area restricted
- Area must be kept well ventilated.
- **APPROACH THE SPILL ONLY IF SAFE TO DO SO.**
- **WEAR PPE: SAFETY GLASSES AND GLOVES (check type in CRA or SDS) before approaching the spill. For larger spills breathing apparatus may be required and is available. You must be trained to use BA when cleaning up a spill.**
- If the spilled material is extremely/highly/ flammable all sources of ignition must be turned off if safe to do so.
- The CRA must be consulted.
- The SDS for the chemical concerned must be consulted before dealing with the spill
- The source of the leak should be identified and sealed if safe to do so.
- All wastes and all contaminated items generated by spillages must be disposed of in a suitable manner.
- Individual spill procedures are outlined in the laboratory manual and in the CRA.

### Spill procedure (up to 250cm<sup>3</sup>)

In addition to consulting the laboratory procedure and CRA:-

#### **WEAR APPROPRIATE PPE**

- Mop up solid waste (up to 5g) with a damp tissue and rinse well with water before putting in the bin.
- Wipe up organic spills with tissue and leave in the fume cupboard to evaporate for at least 1 hr. Inform the technician.
- Acid or base spills must be neutralised and diluted well before collection. Rinse any tissue used well with water before disposal

### Spillage procedure (>250cm<sup>3</sup>)

- Supervisor must be consulted so that they can deal with the situation appropriately.
- Spillage kits are available in the laboratory. All spillage kits must contain the following: Absorbent booms, Absorbent pads, Dry absorbent material, bush and pan, General purpose broad range disposable mask, Heavy duty gloves, Safety glasses waste bag/ Empty container.
- Solid waste must be collected with the minimum of dust generation and disposed off as hazardous waste in consultation with the technician.

### Code of practice for clean up of a chemical spill

#### Solid chemical spill

#### Background information

- If any of the following are true, then the situation should be considered highly hazardous.
  - Is the chemical toxic or a CMR toxin?
  - Is the material a fine powder?
  - Is there a danger of adverse chemical reaction?
  - If any of the above is true, evacuate the immediate area.
- Gather relevant information on the chemical from the Safety Data Sheet (SDS), including its:
  - Reactivity
  - Flammability
  - Explosive nature
  - For example peroxide forming chemicals
  - Corrosive nature
  - Oxidising power
    - For example nitrates, permanganates and perchlorates should be disposed of separately to combustible material.
  - Toxicity
- Gather the appropriate Personal Protective Equipment (PPE) necessary for the clean up. This information is available in the SDS, and may include:
  - A respirator (type P2 as a minimum) if the material is toxic or a fine powder
  - Safety glasses or goggles to prevent eye irritation
  - Gloves to prevent skin absorption or irritation
  - Disposable overalls/lab coat

- Gather material necessary to aid in the clean up, including:
  - Wet paper towel or similar to cover the spilt material
  - Damp sand or saw dust may be of assistance in cleaning up
  - A shovel or dustpan to collect the material
  - A container for disposal

### **Clean up**

- Do not tackle a clean-up procedure by yourself. As a minimum there should be two persons involved. e.g. one to clean up the spill and one to observe.
- Cover the spilt powder with the wet paper towels (or similar items), or use damp sand.
- Carefully shovel this mixture into the disposal container. This method should not be used on substances that in contact with water emit flammable gases or become spontaneously flammable.
- Clean yourself and any equipment as close to the site as possible, without spreading the material around.
- Place material in a suitable container and contact a registered disposal company to arrange for safe disposal

### **6.10 Biological Hazards**

Control of biological hazards is through good laboratory practice when in contact with potentially hazardous biological samples. All new staff/students are required to read and understand the RESC laboratory 'Standard Operating Procedures manual' for biological safety. A demonstration of safety procedures in the RESC laboratory is given to all new staff/students before commencing work in the laboratory. One to one training of new methods/procedures is given as required to new staff/students by senior staff and supervisors. Protective clothing and gloves must be worn at all times when handling such material and protective goggles should be worn where necessary. It is RESC policy to advise all personnel planning to work with potentially infectious samples (e.g. human blood and unfixed tissue samples) to receive vaccination against hepatitis B. When working with biological samples, they must be placed in a laminar flow hood (class II cabinet) which has been switched on 15-20 mins prior to use to ensure sufficient airflow and to eliminate aerosols. Strict rules on correct waste disposal are adhered to in the RESC laboratory as described below. Before leaving the laboratory hands must be thoroughly washed with anti-bacterial soap. Eating or drinking is strictly prohibited in the RESC laboratory.

## **6.11 Biological Waste disposal**

On completion of the work, gloves and any biological waste must be disposed of according to waste disposal procedures described below:

### Liquid waste

All liquid waste must be disposed of safely using disinfectants. Disinfectants used in the RESC laboratory for liquid waste, contaminated lab equipment, materials and work areas are:

- Virkon
- Savlon
- Milton sterilising fluid
- Methylated spirit
- Labguard microbial handsoap

Virkon is the most effective disinfectant used in the RESC laboratory as it is proven effective against HIV/AIDS and Hepatitis B & all other viruses. A 1% solution is used.

All liquid waste must be disposed of safely by adding to a discard beaker containing 1% Virkon in the laminar flow hood. After leaving to stand for at least 30 minutes, liquid waste can be disposed of in the cell culture laboratory sink with copious amounts of running water. Any spillages of blood should be covered with Virkon powder and left for 3 minutes. The powder should then be scraped into a receptacle for disposal and the area should be disinfected with 1% Virkon. 1% Virkon is only stable for 7 days and should be freshly prepared each week. Savlon (chlorhexide gluconate and 1.5% w/v cetramide) and Milton sterilising fluid (2% sodium hypochlorite) are also used in the laboratory for disinfection purposes. Methylated spirit is used for aseptic technique during cell culture eg. spraying bottles, flasks, pipettes before placing in the laminar flow hood. Labguard microbial soap (2% nonoxynol) is used for hand washing before leaving the laboratory.

### Solid waste

Uncontaminated waste, such as paper and packaging should be disposed of in the black refuse sacks in the designated bins. Contaminated biological waste should be disposed of as follows: Any waste human tissue must be sealed in a disposable plastic tube and packed into an autoclave bag and autoclaved at 120°C for 1 hour for complete sterilisation. This autoclaved bag of waste should then be placed in a yellow biohazard bag in one of the designated bins. All plastic waste and gloves must be disposed of in the yellow biohazard bins.

When full, all yellow bags must be tied with a coded tag available in the laboratory. Care must be taken to ensure that no liquids are placed in these bags (all flasks and plates etc should be emptied and the liquid handled as described for liquid waste disposal) and that the bags are not pierced by pipettes etc. The tags can be traced back to the laboratory so care must be taken in ensuring that these yellow bags are completely sealed.

#### Sharps waste

All sharps waste such as needles, disposable scalpels, broken glass etc must be disposed of in the yellow 'Sharpak' bins provided in each cell culture room and in the main RESC laboratory. When full, these bins must be closed properly with the safety closure button and tagged with the same tags as used for the yellow bags. Again these tags can be traced back to the laboratory so care must be taken in ensuring that these bins are used correctly.

#### *Reporting on needle injuries*

There is a 6-30% risk of hepatitis B infection and a 0.6% risk of HIV infection following from exposure to needle injuries in unscreened samples. In most cases, biological samples sent to the RESC laboratory are screened, but safe use of needles must be carried out at all times.

- Double gloves must be worn with protective clothing
- Needles must not be recapped, bent or broken after use
- Needles must be disposed of carefully in the sharps bins provided.

All needle injuries must be reported at once to the laboratory technician or to a senior staff member and a doctor/nurse seen within 48 hours of the accident.

#### *Incorrect use of laboratory equipment*

Incorrect use of laboratory equipment such as centrifuges, laminar flow hoods, cell culture incubators, Coulter counters, pipettes etc can be a potential hazard to the user. All equipment must be handled with care and each researcher must receive full training from the laboratory technician or a senior staff member before attempting to use the equipment to ensure that correct operating and cleaning procedures are implemented.

**Appendix I**  
**Safety Legislation**

## **Safety Legislation**

Safety, health and welfare in the workplace are governed by the *Safety Health & Welfare at Work Act, 2005*. The employer must ensure, in so far as reasonably practicable, that the workplace is safe, that equipment provided is safe, that employees are properly trained and work under a system of work, which helps ensure their safety, health and welfare. The employer must also ensure that the employee is competent to undertake the task assigned. Employees and others must co-operate with systems and arrangements provided for health & safety reasons. The organisation must consult with staff members on safety, health and welfare issues and is entitled to their co-operation in the development of safe systems and arrangements for the workplace.

The Fire Services Act, 1981 and the Building Regulations, 1997 – 2003 set out the fire safety standards that must be met by occupiers of buildings. The Act and the Regulations are concerned with the fabric of buildings and the provisions for emergencies in the event of fire.

The Safety, Health & Welfare at Work (General Application) Regulations, 2007 (as amended) set out some of the specific standards to be met by the workplace, including standards in relation to electricity, manual handling, workplace design and workplace equipment. In addition there are numerous Regulations which pertain to the control of specific hazards within the workplace.

The Safety Health & Welfare at Work Act, 2005 can be downloaded from the Oireachtas website at: <http://www.oireachtas.ie/documents/bills28/acts/2005/a1005.pdf> . The Health and Safety Authority web-site [www.hsa.ie](http://www.hsa.ie) provides useful detail and guidance in relation to the requirements of the legislation.

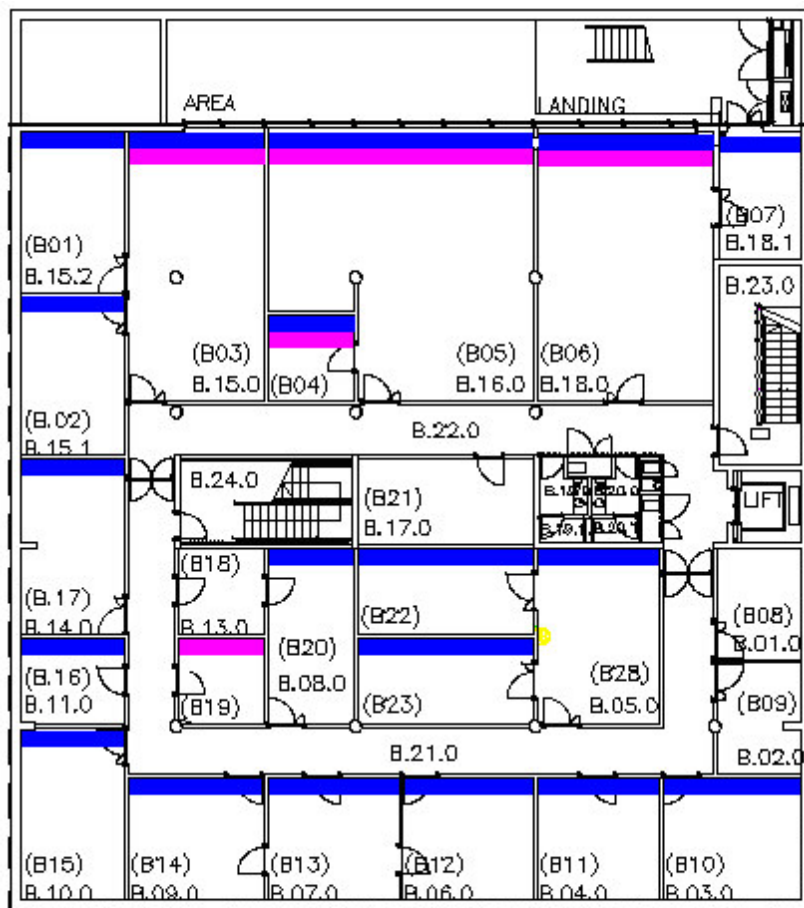
**Appendix II**

**Floor plans of Focas Institute**

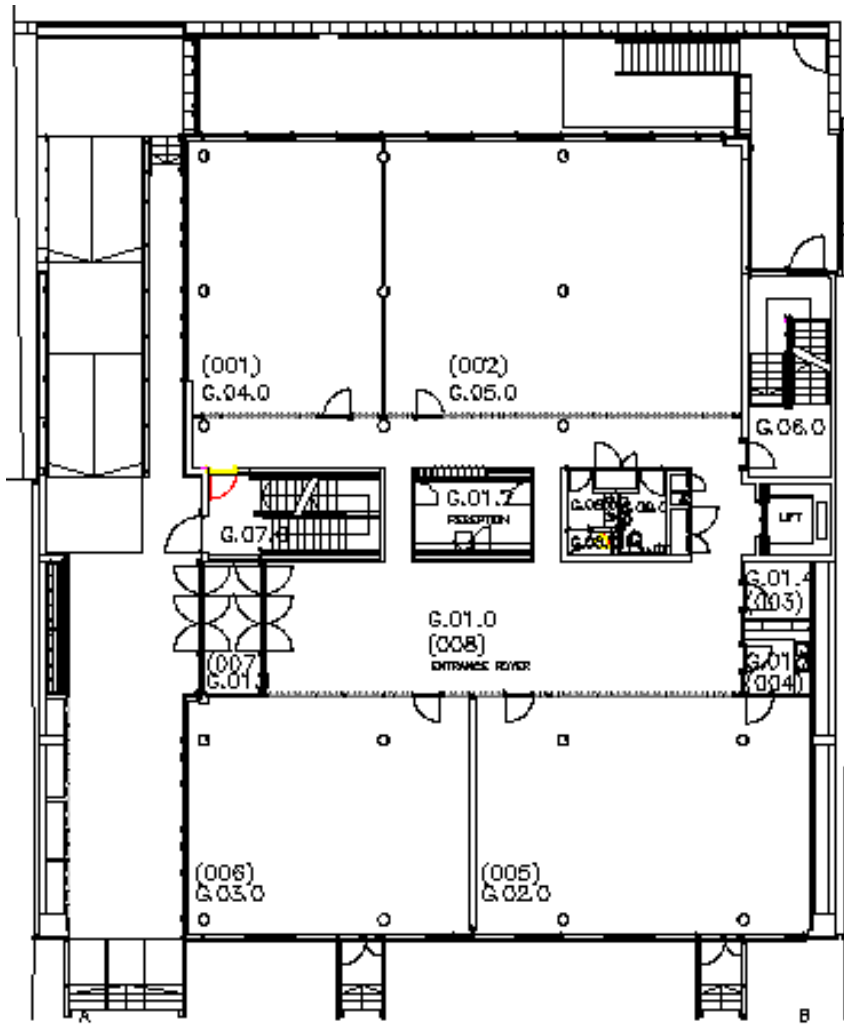
**KEY:**

Blue: indicates the presence of industrial gases.

Pink: indicates the presence of chemicals.

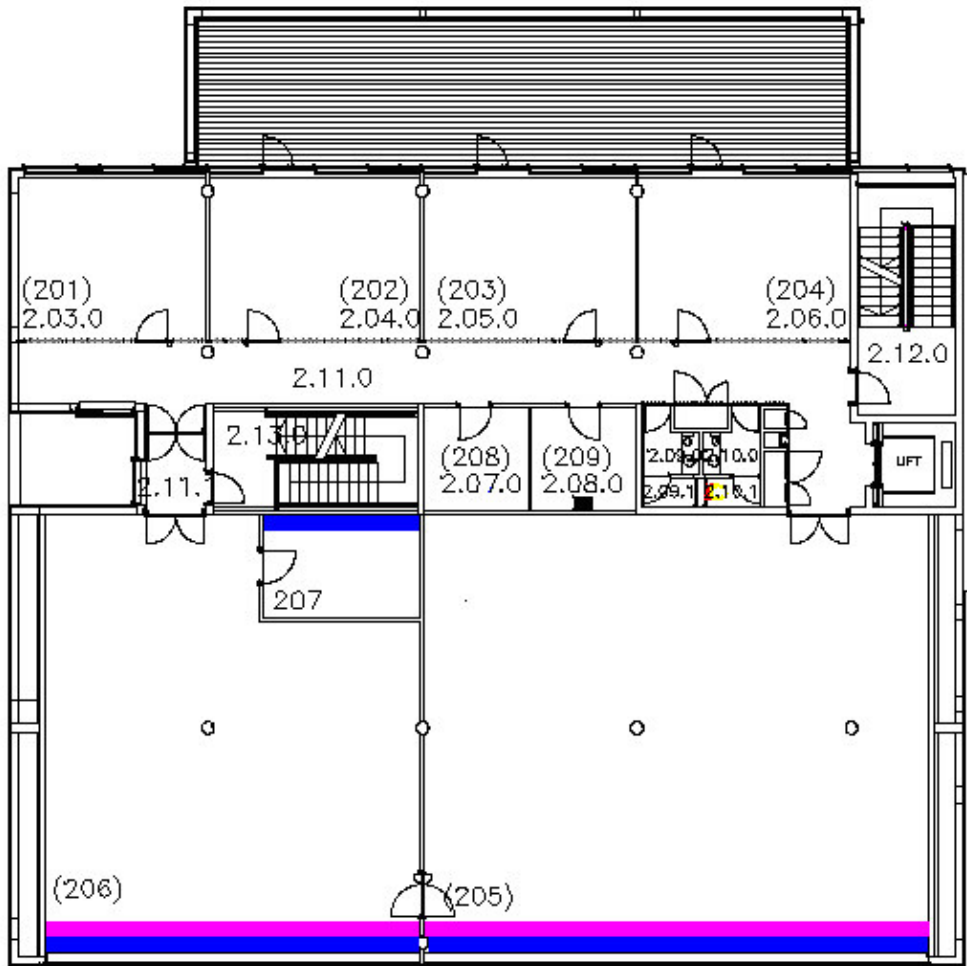


**BASEMENT FLOOR PLAN ROOM NUMBERS**

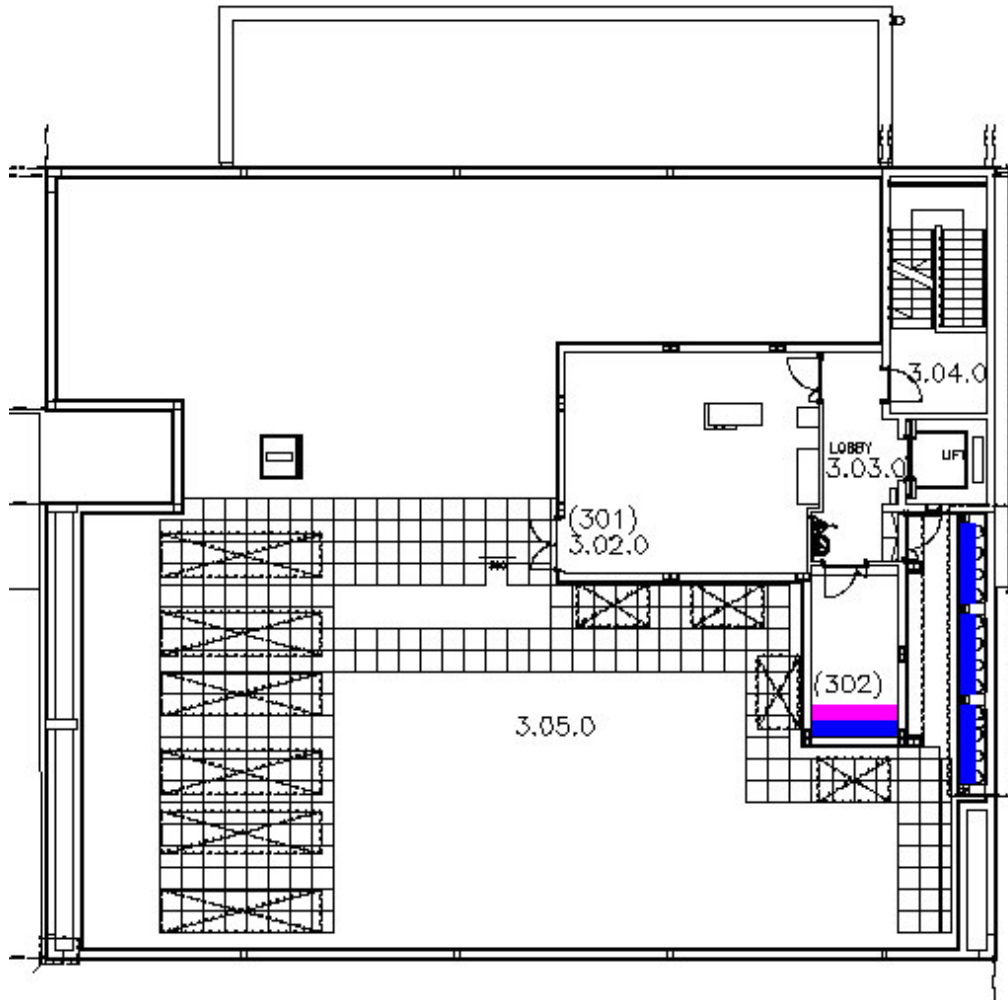


**GROUND FLOOR PLAN ROOM NUMBERS**





**SECOND FLOOR PLAN ROOM NUMBERS**



**PLANT ROOM LEVEL PLAN ROOM NUMBERS**

**Appendix III**  
**Safety Protocol Forms**

## SAFETY PROTOCOLS FOR WORK CONDUCTED IN THE SAMPLE PREPARATION LABORATORY

This form should be completed by a competent assessor for any procedure/system of work to be carried out “out of hours” by any staff member, postgraduate, contractor or visitor. This form should be completed and copied to the Health and Safety Officer.

|   |   |
|---|---|
| <b>Activity being assessed</b>  | Sample preparation in laboratory B 05   |
| <b>Name of Assessor</b>   | Theresa Hedderman   |
| <b>Known or expected hazards associated with the activity (note also particular hazards if any due to lone working)</b> | <b>Control measures taken to reduce the level of risk</b>   |
| Flammable liquids   | Storage in fire proof cabinets  |
| Irritant/Toxic chemicals  | Use in fume hood with protective clothing   |
| Laboratory instrumentation  | Technical training on all instruments   |
| Sharps  | To be disposed in special bins provided   |
| Chemical spill  | Contact laboratory technician   |
| <b>Personal health and safety note.</b>   | Under no circumstances are contact lenses to be worn in the sample preparation laboratory.  |
| <b>Training required?</b>   | Technical   |
| <b>Personal Protective Equipment required</b>   | Eye and hand protection, lab coat   |
| <b>Competent “Buddy” required</b>   | YES   |
| <b>Emergency action to be taken out of hours</b>  | <p>In the case of a <i>minor</i> incidence:</p> <ul style="list-style-type: none"> <li>(i) Alert emergency services (dial 0 112)</li> <li>(ii) Neutralise the cause of the incidence</li> <li>(iii) Take local action immediately for minor personal injuries</li> <li>(iv) Fill out an incident report form</li> </ul> <p>In the case of a <i>serious</i> incidence:</p> <ul style="list-style-type: none"> <li>(i) Alert emergency services (dial 0 112)</li> <li>(ii) Neutralise the cause of the incidence</li> <li>(iii) Move injured parties if possible to safety and evacuate area</li> </ul> |
| <b>Arrangements for evacuation</b>  | <p>A continuous alarm will sound<br/>All staff present act as wardens</p> <ul style="list-style-type: none"> <li>(i) Secure area by turning off appliances and closing doors and windows, if possible.</li> <li>(ii) DO NOT TURN OFF LIGHTS</li> <li>(iii) Leave area without delay</li> <li>(iv) Proceed to nearest clear exit</li> <li>(v) DO NOT USE LIFTS</li> <li>(vi) Assemble at the designated assembly point A (Back gate of Kevin St site)</li> <li>(vii) DO NOT RE-ENTER UNTIL INSTRUCTED</li> </ul>   |

|  |   |
|--|---|
| <p><b>Arrangements for first-aid</b></p> | <ul style="list-style-type: none"> <li>(i) All users of Focas MUST complete the one day first aid training course</li> <li>(ii) First Aid and Eye Wash stations are available in all labs</li> <li>(iii) Decontamination Showers are available in labs.</li> <li>(iv) A list of qualified basic first aiders (and extension numbers) is posted in the main laboratory.</li> <li>(v) If in any doubt or in the case of a <i>serious</i> incidence alert emergency services (dial 0 112)</li> </ul> |
|--|---|

|  |  |
|--|--|
| <p>Risk Category A B C <b>X</b> D</p>  |  |
| <p><b>Request by Supervisor</b><br/> <i>I request that <b>the following</b>, be given permission for out of hours access in this category. I have discussed the work and completed a risk assessment for the task.</i></p> | <p><b>Signature of Supervisor</b></p> <p><b>Name:</b> _____ <b>Date:</b> _____</p> |

**SAFETY PROTOCOLS FOR LASER AND NON-IONISING RADIATION  
EXPERIMENTATION**

This form should be completed by a competent assessor for any procedure/system of work to be carried out “out of hours” by any staff member, postgraduate, contractor or visitor. This form should be completed and copied to the Health and Safety Officer.

|   |   |
|---|---|
| <b>Activity being assessed</b>  | Laser and Non-ionising Radiation Experimentation (including Class 3B and Class 4 lasers) in laboratory B 21,22,28   |
| <b>Name of Assessor</b>   | Anne Shanahan   |
| <b>Known or expected hazards associated with the activity (note also particular hazards if any due to lone working)</b> | <b>Control measures taken to reduce the level of risk</b>   |
| Eye Damage  | <ul style="list-style-type: none"> <li>- Wear suitable eye protection. Avoid at all times direct viewing of laser and UV light.</li> <li>- Remove jewellery /watches using lasers</li> <li>- Beware of reflective surfaces (e.g. mirrors, polished surfaces) and specular reflections using lasers and UV radiation.</li> <li>- Eye level must be above level of laser line at all times. Computer monitors near laser must also be above laser line.</li> </ul>  |
| Skin Damage   | <ul style="list-style-type: none"> <li>-Keep out of line of laser at all times and beware of reflective surfaces.</li> <li>- Avoid long exposure to UV radiation and direct viewing of lamps.</li> </ul>  |
| Fire hazard   | <ul style="list-style-type: none"> <li>- A fire resistant background to be placed behind the target area to prevent interaction with target material.</li> <li>- Remove volatile substances from lab area, which the laser could ignite.</li> </ul>   |
| Inadequate warning of hazards   | - Appropriate warning signs and labels for all laser areas and for lasers themselves for adequate warning of hazards.   |
| Unsupervised usage of lasers  | - Class 4 lasers must be used under the supervision of qualified personnel only.  |
| <b>Training required</b>  | Appointment of Laser Safety Officer for Class 3B and Class 4 lasers recommended by British Standard on laser safety (BS EN 60825-1:1994)  |
| <b>Personal Protective Equipment required</b>   | Recommended eye protection.   |
| <b>Competent “Buddy” required</b>   | YES   |
| <b>Emergency action to be taken out of hours</b>  | <p>In the case of a <i>minor</i> incidence:</p> <ul style="list-style-type: none"> <li>(iv) Neutralise the cause of the incidence</li> <li>(v) Take local action immediately for minor personal injuries</li> <li>(vi) Fill out an incident report form</li> </ul> <p>In the case of a <i>serious</i> incidence:</p> <ul style="list-style-type: none"> <li>(iv) Neutralise the cause of the incidence</li> <li>(v) Move injured parties if possible to safety and evacuate area</li> <li>(vi) Alert emergency services (dial 0 112)</li> </ul> |
| <b>Arrangements for evacuation</b>  | A continuous alarm will sound<br>All staff present act as wardens   |



**Safety Protocols Nanolab Research Centre Focas Room 113**

This form should be completed by a competent assessor for any procedure/system of work to be carried out “out of hours” by any staff member, postgraduate, contractor or visitor. This form should be completed and copied to the Health and Safety Officer.

|   |  |
|---|--|
| <b>Activity being assessed</b>  | Nanolab Research Activities  |
| <b>Name of Assessor</b>   | Dr. Alan Casey   |
| <b>Known or expected hazards associated with the activity (note also particular hazards if any due to lone working)</b>                   | <b>Control measures taken to reduce the level of risk</b>  |
| Flammable liquids   | Storage in fire proof cabinets   |
| Irritant chemicals  | Use in fume hood with protective clothing  |
| Use of Gas Cylinders  | Adequate ventilation in laboratory.  |
| The handling of potentially infectious specimens of blood, human tissue & mammalian cell lines transformed with viruses.                  | All samples must be placed in laminar flow hoods when work is being carried out. The hoods should be switched on 15-20 mins prior to use to ensure sufficient airflow & to eliminate aerosols. All liquid waste will be disposed of safely by using disinfectants. Virkon is the most important disinfectant used in the NanoLab laboratory as it is proven effective against HIV/AIDS and Hepatitis B & all other viruses. A 1% solution is used for effective use. Liquid waste can be disposed of in the cell culture laboratory sink. All plastic waste & gloves will be disposed of in the yellow biohazard bins. Before leaving the laboratory hands must be thoroughly washed with anti-bacterial soap. |
| Use of biological laboratory equipment such as centrifuges, laminar flow hoods, cell culture incubators, coulter counters, pipettes, etc. | All people using the equipment must be trained properly by the laboratory manager or senior staff members before attempting to use, to ensure sufficient operating & cleaning procedures are implemented.  |
| Correct waste disposal of needles, glass, scalpels, etc,  | Use of sharps will be restricted as far as possible. Any sharps used will be disposed of in the yellow “sharapak” bins provided in the laboratory, which are located under each laminar flow cabinet.  |
| Chemical spills   | Contact laboratory technician/ spill kits provided   |
| Use of DLS/Zeta Potential   | All people using the equipment must be trained properly by the laboratory manager or senior staff members before attempting to use, to ensure sufficient operating & cleaning procedures are implemented.  |

|  |   |
|--|---|
| Use of BET                                       | All people using the equipment must be trained properly by the laboratory manager or senior staff members before attempting to use, to ensure sufficient operating & cleaning procedures are implemented. When handling liquid nitrogen PPE must be worn, Cryogenic protective gloves, Lab goggles and a lab coat.  |
| Cryogenic Storage                                | PPE must be worn, Cryogenic protective gloves, Lab goggles and a lab coat, adequate ventilation in the laboratory.  |
| Use of Sonic bath and Sonic Tip                  | All people using the equipment must be trained properly by the laboratory manager or senior staff members before attempting to use, to ensure sufficient operating & cleaning procedures are implemented.   |
| <b>Training required</b>                         | Technical   |
| <b>Personal Protective Equipment required</b>    | Eye protection, lab coat, Gloves  |
| <b>Competent "Buddy" required</b>                | YES   |
| <b>Emergency action to be taken out of hours</b> | <p>In the case of a <i>minor</i> incidence:</p> <ul style="list-style-type: none"> <li>(vii) Neutralise the cause of the incidence</li> <li>(viii) Take local action immediately for minor personal injuries</li> <li>(ix) Fill out an incident report form</li> </ul> <p>In the case of a <i>serious</i> incidence:</p> <ul style="list-style-type: none"> <li>(vii) Neutralise the cause of the incidence</li> <li>(viii) Move injured parties if possible to safety and evacuate area</li> <li>(ix) Alert emergency services (dial 0 112)</li> </ul> |
| <b>Arrangements for evacuation</b>               | <p>A continuous alarm will sound<br/>All staff present act as wardens</p> <ul style="list-style-type: none"> <li>(xv) Secure area by turning off appliances and closing doors and windows, if possible.</li> <li>(xvi) DO NOT TURN OFF LIGHTS</li> <li>(xvii) Leave area without delay</li> <li>(xviii) Proceed to nearest clear exit</li> <li>(xix) DO NOT USE LIFTS</li> <li>(xx) Assemble at the designated assembly point B (Back gate of Kevin St site)</li> <li>(xxi) DO NOT RE-ENTER UNTIL INSTRUCTED</li> </ul>                                 |
| <b>Arrangements for first-aid</b>                | <ul style="list-style-type: none"> <li>(xi) All users of Focas MUST complete the one day first aid training course</li> <li>(xii) First Aid and Eye Wash stations are available in all labs</li> <li>(xiii) Decontamination Showers are available in RESC Lab next Door.</li> <li>(xiv) A list of qualified basic first aiders (and extension numbers) is posted in the laboratory</li> </ul> <p>If in any doubt or in the case of a <i>serious</i> incidence alert emergency services (dial 0 112)</p>   |

|   |   |
|---|---|
| Risk Category A   B <b>X</b> C   D  |   |
| <b>Request by Supervisor</b><br><i>I request that <b>the following</b>, be given permission for out of hours access in this category. I have discussed the work and completed a risk assessment for the task.</i> | <b>Signature of Supervisor</b><br><br>Name: _____ Date: _____ |

## SAFETY PROTOCOLS FOR CHEMICAL SYNTHESIS

This form should be completed by a competent assessor for any procedure/system of work to be carried out “out of hours” by any staff member, postgraduate, contractor or visitor. This form should be completed and copied to the Health and Safety Officer.

|   |   |
|---|---|
| <b>Activity being assessed</b>  | Chemical Synthesis  |
| <b>Name of Assessor</b>   | Theresa Hedderman   |
| <b>Known or expected hazards associated with the activity (note also particular hazards if any due to lone working)</b> | <b>Control measures taken to reduce the level of risk</b>   |
| Flammable liquids   | Storage in fire proof cabinets  |
| Irritant chemicals  | Use in fume hood with protective clothing   |
| Unstable materials  | To be used only by experienced personnel in fume hood with protective clothing  |
| Sharps  | To be disposed of in sharps bins  |
| Laboratory instrumentation  | Technical training on all instruments   |
| Chemical spills   | Contact laboratory technician/ spill kits provided  |
| <b>Training required</b>  | Technical   |
| <b>Personal Protective Equipment required</b>   | Eye protection, lab coat  |
| <b>Competent “Buddy” required</b>   | YES   |
| <b>Emergency action to be taken out of hours</b>  | <p>In the case of a <i>minor</i> incidence:</p> <ul style="list-style-type: none"> <li>(x) Neutralise the cause of the incidence</li> <li>(xi) Take local action immediately for minor personal injuries</li> <li>(xii) Fill out an incident report form</li> </ul> <p>In the case of a <i>serious</i> incidence:</p> <ul style="list-style-type: none"> <li>(x) Neutralise the cause of the incidence</li> <li>(xi) Move injured parties if possible to safety and evacuate area</li> <li>(xii) Alert emergency services (dial 0 112)</li> </ul> |
| <b>Arrangements for evacuation</b>  | <p>A continuous alarm will sound<br/> All staff present act as wardens</p> <ul style="list-style-type: none"> <li>(xxii) Secure area by turning off appliances and closing doors and windows, if possible.</li> <li>(xxiii) DO NOT TURN OFF LIGHTS</li> <li>(xxiv) Leave area without delay</li> <li>(xxv) Proceed to nearest clear exit</li> <li>(xxvi) DO NOT USE LIFTS</li> <li>(xxvii) Assemble at the designated assembly point B (Back gate of Kevin St site)</li> <li>(xxviii) DO NOT RE-ENTER UNTIL INSTRUCTED</li> </ul>                 |

|  |  |
|--|--|
| <p><b>Arrangements for first-aid</b></p> | <p>(xv) All users of Focas MUST complete the one day first aid training course</p> <p>(xvi) First Aid and Eye Wash stations are available in all labs</p> <p>(xvii) Decontamination Showers are available in labs.</p> <p>(xviii) A list of qualified basic first aiders (and extension numbers) is posted in the laboratory</p> <p>If in any doubt or in the case of a <i>serious</i> incidence alert emergency services (dial 0 112)</p> |
|--|--|

|  |  |
|--|--|
| <p>Risk Category A B X C D</p>   |  |
| <p><b>Request by Supervisor</b></p> <p><i>I request that <b>the following</b>, be given permission for out of hours access in this category. I have discussed the work and completed a risk assessment for the task.</i></p> | <p><b>Signature of Supervisor</b></p> <p><b>Name:</b> _____ <b>Date:</b> _____</p> |

**SAFETY PROTOCOLS FOR PC CONTROLLED BENCH TOP INSTRUMENTS**

This form should be completed by a competent assessor for any procedure/system of work to be carried out “out of hours” by any staff member, postgraduate, contractor or visitor. This form should be completed and copied to the Health and Safety Officer.

|   |  |
|---|--|
| <b>Activity being assessed</b>  | PC controlled Bench Top Instrumentation  |
| <b>Name of Assessor</b>   | Theresa Hedderman  |
| <b>Known or expected hazards associated with the activity (note also particular hazards if any due to lone working)</b> | <b>Control measures taken to reduce the level of risk</b>  |
| Chemical spill  | Contact technician   |
| Electric shock  | First aid and phone emergency services 999/112   |
| Sharps  | To be disposed of in sharps bin  |
| <b>Training required?</b>   | Technical  |
| <b>Personal Protective Equipment required?</b>  | None   |
| <b>Competent “Buddy” required?</b>  | YES  |
| <b>Emergency action to be taken out of hours?</b>   | In the case of a <i>minor</i> incidence:<br>(xiii) Neutralise the cause of the incidence<br>(xiv) Take local action immediately for minor personal injuries<br>(xv) Fill out an incident report form<br><br>In the case of a <i>serious</i> incidence:<br>(xiii) Neutralise the cause of the incidence<br>(xiv) Move injured parties if possible to safety and evacuate area<br>(xv) Alert emergency services (dial 0 112) |
| <b>Arrangements for evacuation?</b>   | A continuous alarm will sound<br>All staff present act as wardens<br>(xxix) Secure area by turning off appliances and closing doors and windows, if possible.<br>(xxx) DO NOT TURN OFF LIGHTS<br>(xxxii) Leave area without delay<br>(xxxiii) DO NOT USE LIFTS<br>(xxxiv) Assemble at the designated assembly point B (Back gate of Kevin St site)<br>(xxxv) DO NOT RE-ENTER UNTIL INSTRUCTED                              |

|   |   |
|---|---|
| Risk Category A <input type="checkbox"/> B <input type="checkbox"/> C <input checked="" type="checkbox"/> D <input type="checkbox"/>  |   |
| <b>Request by Supervisor</b><br><br><i>I request that <b>the following</b>, be given permission for out of hours access in this category. I have discussed the work and completed a risk assessment for the task.</i> | <b>Signature of Supervisor</b><br><br>Name: _____ Date: _____ |

**SAFETY PROTOCOLS FOR WORK WITH BIOHAZARDS**

This form should be completed by a competent assessor for any procedure/system of work to be carried out by any staff member, postgraduate, contractor or visitor. This form should be completed and copied to the Health and Safety Officer.

|  |  |
|--|--|
| <b>Activity being assessed</b>   | Bio hazardous materials  |
| <b>Name of Assessor</b>  | Niamh Kilmurray  |
| <b>Known or expected hazards associated with the activity (note also particular hazards if any due to lone working)</b>                      | <b>Control measures taken to reduce the level of risk</b>  |
| The handling of potentially infectious specimens of blood, human tissue & mammalian cell lines transformed with viruses.                     | All samples must be placed in laminar flow hoods when work is being carried out. The hoods should be switched on 15-20 mins prior to use to ensure sufficient airflow & to eliminate aerosols. All liquid waste will be disposed of safely by using disinfectants. Virkon is the most important disinfectant used in the RESC laboratory as it is proven effective against HIV/AIDS and Hepatitis B & all other viruses. A 1% solution is used for effective use. Liquid waste can be disposed of in the cell culture laboratory sink. All plastic waste & gloves will be disposed of in the yellow biohazard bins. Before leaving the laboratory hands must be thoroughly washed with anti-bacterial soap. Details can be found in the "Standard Operating Procedures Manual Biological Safety Section 8", which is located in the laboratory |
| The incorrect use of laboratory equipment such as centrifuges, laminar flow hoods, cell culture incubators, coulter counters, pipettes, etc. | All people using the equipment must be trained properly by the laboratory manager or senior staff members before attempting to use, to ensure sufficient operating & cleaning procedures are implemented.  |
| Correct waste disposal of needles, glass, scalpels, etc,   | Use of sharps will be restricted as far as possible. Any sharps used will be disposed of in the yellow "sharps" bins provided in the laboratory, which are located under each laminar flow cabinet.  |
|  |  |
| <b>Training required?</b>  | Technical  |
| <b>Personal Protective Equipment required?</b>   | Lab coat, gloves & goggles (where necessary)   |
| <b>Competent "Buddy" required?</b>   | YES  |
| <b>Emergency action to be taken out of hours?</b>  | In the case of a <i>minor</i> incidence:<br>(xvi) Neutralise the cause of the incidence<br>(xvii) Take local action immediately for minor personal injuries<br>(xviii) Fill out an incident report form<br><br>In the case of a <i>serious</i> incidence:<br>(xvi) Neutralise the cause of the incidence<br>(xvii) Move injured parties if possible to safety and evacuate area<br>(xviii) Alert emergency services (dial 0 112)   |
| <b>Arrangements for evacuation?</b>  | A continuous alarm will sound  |

|   |  |
|---|--|
|   | <p>All staff present act as wardens<br/>                 (xxxvi) Secure area by turning off appliances and closing doors and windows, if possible.<br/>                 (xxxvii) DO NOT TURN OFF LIGHTS<br/>                 (xxxviii) Leave area without delay<br/>                 (xxxix) Proceed to nearest clear exit<br/>                 (xl) DO NOT USE LIFTS<br/>                 (xli) Assemble at the designated assembly point B (Back gate of Kevin St site)<br/>                 (xlii) DO NOT RE-ENTER UNTIL INSTRUCTED</p>     |
| <p><b>Arrangements for first-aid?</b></p> | <p>(xix) All users of Focas MUST complete the one day first aid training course<br/>                 (xx) First Aid and Eye Wash stations are available in all labs<br/>                 (xxi) Decontamination Showers are available in labs on basement, first and second floors.<br/>                 (xxii) A list of qualified basic first aiders (and extension numbers) is posted in each laboratory<br/>                 (xxiii) If in any doubt or in the case of a <i>serious</i> incidence alert emergency services (dial 0 112)</p> |

|  |  |
|--|--|
| <p>Risk Category A <input type="checkbox"/> B <input type="checkbox"/> C <input checked="" type="checkbox"/> D <input type="checkbox"/></p>  |  |
| <p><b>Request by Supervisor</b><br/> <i>I request that <b>the following</b>, be given permission for out of hours access in this category. I have discussed the work and completed a risk assessment for the task.</i></p> | <p><b>Signature of Supervisor</b></p> <p><b>Name:</b> _____ <b>Date:</b> _____</p> |

SAFETY PROTOCOLS FOR OUT OF HOURS WORK GENERIC FORM

This form should be completed by a competent assessor for any procedure/system of work to be carried out “out of hours” by any staff member, postgraduate, contractor or visitor. This form should be completed and copied to the Health and Safety Officer.

|   |   |
|---|---|
| <b>Activity being assessed</b>  |   |
| <b>Name of Assessor</b>   |   |
| <b>Known or expected hazards associated with the activity (note also particular hazards if any due to lone working)</b> |   |
|   |   |
| <b>Training required?</b>   |   |
| <b>Personal Protective Equipment required?</b>  |   |
| <b>Competent “Buddy” required?</b>  |   |
| <b>Emergency action to be taken out of hours?</b>   | <p>In the case of a <i>minor</i> incidence:</p> <ul style="list-style-type: none"> <li>(xix) Neutralise the cause of the incidence</li> <li>(xx) Take local action immediately for minor personal injuries</li> <li>(xxi) Fill out an incident report form</li> </ul> <p>In the case of a <i>serious</i> incidence:</p> <ul style="list-style-type: none"> <li>(xix) Neutralise the cause of the incidence</li> <li>(xx) Move injured parties if possible to safety and evacuate area</li> <li>(xxi) Alert emergency services (dial 0 112)</li> </ul> |
| <b>Arrangements for evacuation?</b>   | <p>A continuous alarm will sound<br/>                     All staff present act as wardens</p> <ul style="list-style-type: none"> <li>(xliii) Secure area by turning off appliances and closing doors and windows, if possible.</li> <li>(xliv) DO NOT TURN OFF LIGHTS</li> <li>(xlv) Leave area without delay</li> <li>(xlvi) Proceed to nearest clear exit</li> <li>(xlvii) DO NOT USE LIFTS</li> <li>(xlviii) Assemble at the designated assembly point B (Back gate of Kevin St site)</li> <li>(xlix) DO NOT RE-ENTER UNTIL INSTRUCTED</li> </ul> |

|  |  |
|--|--|
| Risk Category A B C D X  |  |
| <p><b>Request by Supervisor</b></p> <p><i>I request that <b>the following</b>, be given permission for out of hours access in this category. I have discussed the work and completed a risk assessment for the task.</i></p> | <p><b>Signature of Supervisor</b></p> <p>Name: _____ Date: _____</p> |

**PROCEDURE TITLE** Procedure for Field trips

**REVISION NO.:**

**NUMBER OF PAGES:**

**REFERENCE:** Faculty Safety Statement  
Procedure for Work Placements  
Student Activity Handbook  
Method Statement  
Health Questionnaire  
Basic Health Assessment of Fieldwork

**DATE OF ISSUE:**

**SIGNED BY:** \_\_\_\_\_

## **PROCEDURE**

### **Definitions**

- *Field Trips*  
These may be defined as off Campus group learning activities that supplement, extend or enrich the regular instructional programme in a manner not possible in the School setting.

- *Student Activity*  
Recreational, fun, sports trips or other types of activities which may be on/off Campus. The student activity manual outlines the procedures to be followed in the event of such activities.

- *Work Placement/Experience*

This is a placement on an employers premises (paid/unpaid) in which the student carries out a particular task or duty or range of tasks or duties, more or less as would an employee, but with the emphasis on the learning aspects of the experience. A specific procedure exists for work placement programmes.

### **Duties of the Employer**

In accordance with the policy statement to provide a safe learning and working environment for all staff and students, DIT will take all reasonable steps to secure the safety, health and welfare of students whilst participating in field trip activities.

### **Heads of School**

It is the responsibility of each Head of School to ensure that adequate arrangements are in place for those courses/activities engaging in field trip activity.

**The procedure and steps to be taken should be modified to suit the local arrangements and the revised procedure should be signed by the Faculty Director.**

### **Steps to be taken**

1. A method statement should be drawn up for each field work activity.
2. This should identify the type of activity to take place, the location of the activity and a brief description of the work/tasks to be completed.
3. The people carrying out the work/tasks will need to be identified and the person in charge should also be identified. In most cases, the person in charge will complete the method statement.
4. A sequence of work/task elements should be listed and a risk assessment completed for each of these elements.
5. The following items should be considered in the risk assessment process:
  - Safe access/egress and transport to/from
  - Any protection systems necessary
  - Protection for workforce involved
  - Protection for other workers adjacent
  - Protection for/from public
  - Signage
  
  - Emergency/Contingency Planning
  - Supervision
  - Training required for Personnel
  - Consultation measures for Personnel involved
  - Lone Working
  - Exposure to environmental conditions (weather, traffic, infection, ingestion, inhalation)
  - Contact with equipment/machinery/hazardous substances/people (violence)
  - Medical fitness of Personnel
  - Communication
  - Theft, Vandalism and Crime
6. Each hazard will be classified with a risk rating of high, medium or low
7. Based on the hazard identification process and classification of risks, control measures will have to be listed, so that further protection from hazards involved is provided or managed.
8. Beside each control measure, a person will be designated as responsible for the implementation of that control measure. This person must oversee all control measures allocated with respect to the particular field trip activity.
9. A section will be allocated for “during the operation” so that emerging hazards as they arise may be documented and control measures implemented to deal with these.
10. The method statement must be signed off by the field trip organiser and the Head of School, and a record of such maintained for five years.
11. Liaison with the Disability Office should be made if so required.
12. This procedure will be reviewed in the light of new experience/changes to legislation, process etc.

**METHOD STATEMENT FOR FIELD TRIP ACTIVITIES**

*This should be completed for each field trip. A sheet listing the names of all attendees should be attached to this.*

Title **Method statement**  
**for**.....

Work Location (where activity will occur?)

.....

Description of work/tasks:

.....  
.....  
.....  
.....  
.....  
.....

Statement of who will carry out works/tasks (including details of person in charge)

.....

Sequence of work elements

.....  
.....  
.....

Signed: \_\_\_\_\_  
Field Trip Organiser

\_\_\_\_\_  
Head of School

Date: \_\_\_\_\_

\_\_\_\_\_

### RISK ASSESSMENT

|  |                  |              |                         |
|--|------------------|--------------|-------------------------|
| <b>Exact Location:</b>   | <b>Activity:</b> | <b>Date:</b> | <b>Date for Review:</b> |
| <b>Assessors:</b>  |                  |              |                         |
| <b>Information referred to:</b><br>(manuals, safe work practice sheet, policies, procedures, incident stats etc)   |                  |              |                         |
| <b>Staff consulted:</b>  |                  |              |                         |
| <b>Number of people exposed &amp; frequency of exposure:</b><br>(office staff, maintenance personnel, contractors, cleaners, members of the public, visitors, inexperienced staff, lone workers, technicians, students, lab aids, lecturers, people sharing the workplace etc)<br>(Routinely/daily/weekly/rarely/start, finish time) |                  |              |                         |

List hazards based on the sequence of work elements/structural environment/plant & equipment etc.

| <b>Hazard No.</b>   | <b>Description of Hazard &amp; Associated Risks</b><br>(Physical, chemical, biological, electrical fire, human factor) | <b>Risk Classification</b><br><b>High – H</b><br><b>Medium-M</b><br><b>Low - L</b> | <b>Control Measure</b><br>(eliminate, reduce, substitute, safe systems of work, training, health surveillance, storage, disposal, personal protective equipment) | <b>Person Responsible</b> | <b>Safe Work Practice Sheet</b><br><b>New procedure/policy required</b><br><b>Y/N?</b> |
|---|--|--|--|---------------------------|--|
|   |  |  |  |                           |  |
|   |  |  |  |                           |  |
|   |  |  |  |                           |  |
| Emerging Hazards 'during operation' <i>(please list and identify control measures – attach sheet)</i> |  |  |  |                           |  |

### HEALTH QUESTIONNAIRE

|               |       |
|---------------|-------|
| Name          | ..... |
| Date of Birth | ..... |
| Male/Female   | ..... |

Do you have, or have you had in the past, from any of the following:

| <b>MEDICAL CONDITION</b>   | <b>YES/NO</b> | <b>DETAILS</b> |
|--|---------------|----------------|
| Asthma bronchitis or other lung problems   |               |                |
| Heart Disorders  |               |                |
| High Blood Pressure  |               |                |
| Seizures or fainting episodes  |               |                |
| Mental illness or depression   |               |                |
| Rheumatic fever  |               |                |
| Rheumatism or arthritis  |               |                |
| Digestive disorders  |               |                |
| Liver disease  |               |                |
| Kidney disease or urinary infections   |               |                |
| Diabetes   |               |                |
| Back problems/injuries   |               |                |
| Skin diseases  |               |                |
| Recurrent headaches or migraine  |               |                |
| Allergies  |               |                |
| Vision defects   |               |                |
| Bleeding Disorders   |               |                |
| Ear problems or hearing difficulties   |               |                |
| Injury from past accidents   |               |                |
| Major surgical operations  |               |                |
| Do you have a disability   |               |                |
| Do you have any other condition not listed above and if so, please give details        |               |                |
| Are you taking any medication  |               |                |
| If you are taking any medication, please name it and briefly state what it is used for |               |                |
| If you are taking any medication, please name it and briefly state what it is used for |               |                |
| Are you taking any illegal substances or drugs   |               |                |
| Do you smoke?<br>If yes, how many a day?   |               |                |
| <b>WOMEN</b><br>Are you pregnant   |               |                |
|  |               |                |

Next of kin details: \_\_\_\_\_

Contact no. in the event of injury/illness: \_\_\_\_\_

**BASIC HEALTH ASSESSMENT for FIELDWORK**

In a very small number of cases, the ability of an individual to undertake fieldwork may be compromised by an existing medical condition. In such cases, specific control measures such as supervision may have to be introduced to allow the person to carry out the fieldwork safely. In order to assess these needs, and to ensure the College fulfills its legal Health and Safety obligations, it is necessary to ascertain any medical conditions which may seriously affect any individuals during field work.

You are therefore asked to look at the attached questionnaire. If you respond with a yes to any of the medical conditions, you are asked to contact your medical practitioner who will advise you if any precautions are necessary for the type of fieldwork you are to undertake.

Medical Practitioners are bound by professional codes of conduct which precludes them from divulging any personal details. Hence all information will be treated in strict confidence.

**I have read the attached health questionnaire and would confirm the following.**

- 1) I am able to undertake all fieldwork duties.
- 2) Any control measures specified by my medical practitioner are listed below

|                   |
|-------------------|
| Control Measures: |
|-------------------|

**SIGNED**.....

**DATED**.....

**Risk Assessment for Pregnant Employees**

|                        |                            |                           |
|------------------------|----------------------------|---------------------------|
| <b>Name:</b>           | <b>Date of Birth:</b>      | <b>Staff/Student No.:</b> |
| <b>Job Title:</b>      | <b>Location:</b>           |                           |
| <b>Manager:</b>        | <b>Date of assessment:</b> |                           |
| <b>Shift Pattern:</b>  | <b>Due Date:</b>           |                           |
| <b>Assessors Name:</b> | <b>Reassessment Dates:</b> |                           |

**FORM DITPREG Corrective Action Required**

| Ref No.                  | Issue  | Control Measures | Date | Person Responsible | Status |
|--------------------------|--|------------------|------|--------------------|--------|
| S1 – Working Environment | Are there steps?   | •                |      |                    |        |
| S1                       | Are there spillages?   | •                |      |                    |        |
| S1                       | Is there rubbish or clutter?                                 | •                |      |                    |        |
| S1                       | Are there trip hazards?                                      | •                |      |                    |        |
| S3 – Chemical Agents     | Does the task involve regular exposure to chemicals?         |                  |      |                    |        |
| S3                       | Is there exposure to carcinogens?                            |                  |      |                    |        |
| S3                       | Are any chemicals listed in the Chemical Agents Regulations? |                  |      |                    |        |
| S3                       |  |                  |      |                    |        |
| S5 – Employees Comments  | When did you last receive manual handling training?          | •                | -    |                    | -      |
| S5                       | Is there a buddy system in place in your area?               | •                |      |                    |        |

Assessors \_\_\_\_\_ Occupational Health Officers  
 Date: \_\_\_\_\_

## HIERARCHY OF CONTROL MEASURES

1. **Elimination** – change the process/activity so that the hazardous substance is no longer required
2. **Substitution** – replace it with a safer substance/process
3. **Engineering Controls** – isolate the substance/process from workers; enclose the process; provide ventilation
4. **Administrative Controls** – safe systems of work, training
5. **Personal Protective Equipment** – PPE is a last resort

**Appendix IV**  
**First Aid Procedures**

## **EMERGENCY FIRST AID PROCEDURE**

### **SAFE GUARD YOUR OWN SAFETY**

Should a person be involved in an accident in a laboratory/office, the following directions should be followed:

1. Assess the nature of the injury/illness:

#### **Slight**

If it is straight forward and can be dealt with immediately, the departmental first-aider should deal with it.

They may seek assistance from the Occupational Health Officer, 01 4024603 or 087-9809135 (9.00 a.m. – 5.00 p.m.)

#### **Worrying**

If the incident requires immediate medical attention:

Students should be referred to the Medical Centre, Aungier Street, 402 3051 (9.00 a.m. – 5.00 p.m.) Staff should be referred to their local GP/A&E Department. The nearest is St. James Hospital and for eye related injuries, the Eye and Ear Hospital.

If outside the hours of 9.00 a.m. – 5.00 p.m. or in doubt, Emergency Services should be contacted 112/999.

A friend or designated person should accompany the staff/student to hospital.

#### **Serious**

Contact Emergency Services immediately 112/999.

Keep the person comfortable until the ambulance arrives.

A friend or designated person should accompany the staff member/student to hospital.

Should the supervisor accompany the person to hospital, the laboratory should be cancelled.

In the event of the incident being chemically related, the chemical risk assessment with the experiment procedure and MSDS should be brought.

2. If you are in doubt regarding the severity of an injury/illness, the emergency services should be contacted 112/999.
3. An emergency first-aid kit is available at each porters desk.
4. Once the immediate first-aid has been given, and it is judged that an ambulance is not necessary but a visit to the A&E department or Doctor is advisable, then the injured person should be sent in a taxi and accompanied by a friend/responsible person.
5. The first-aider shall at the earliest opportunity, complete either a 'first-aid record card', if the illness is ongoing, or an 'incident report form' if the illness is as a result of an incident in DIT, and inform the person's supervisor and the Occupational Health Office of the action taken.
6. An Incident Report form must be completed and forwarded to the Health and Safety office.

**Recommended Contents of First-Aid Boxes and Kits**

| Materials  | First-Aid Travel Kit Contents | First-Aid Box Contents |                |                     |
|--|-------------------------------|------------------------|----------------|---------------------|
|  |                               | 1 – 5 Persons          | 6 – 25 Persons | 26 – 50 (a) Persons |
| <b>Adhesive Plasters</b>   | 12                            | 12                     | 20             | 40                  |
| <b>Sterile Eye Pads [Bandage attached]</b>   | -                             | -                      | 2              | 4                   |
| <b>Individually Wrapped Triangular Bandages</b>  | 2                             | 2                      | 6              | 6                   |
| <b>Safety Pins</b>   | 2                             | 2                      | 6              | 6                   |
| <b>Medium Individually Wrapped Sterile Unmedicated Wound Dressings [approx 10 x 8 cms]</b>         | -                             | -                      | 6              | 8                   |
| <b>Large Individually Wrapped Sterile Unmedicated Wound Dressings [approx 13 x 9 cms]</b>          | 1                             | 1                      | 2              | 4                   |
| <b>Extra Large Individually Wrapped Sterile Unmedicated Wound Dressings [approx 28 x 17.5 cms]</b> | -                             | -                      | 3              | 4                   |
| <b>Individually Wrapped Wipes</b>  | 8                             | 8                      | 8              | 10                  |
| <b>Paramedic Shears</b>  | 1                             | 1                      | 1              | 1                   |
| <b>Pairs of Latex Gloves</b>   | 1                             | 1                      | 2              | 2                   |
| <b>Additionally, where there is no clear running water, sterile eye-wash (b)</b>                   | 1                             | 1                      | 2              | 2                   |

**Notes**

- (a) Where more than 50 persons are employed pro rata provision should be made
- (b) Where mains tap water is not readily available for eye irrigation, sterile water or sterile normal saline (0.9%) in sealed disposable containers should be provided. Each container should hold at least 300ml and should not be re-used once the sterile seal is broken. At least 900 ml should be provided. Eye bath / eye cups / refillable containers should not be use for eye irrigation.

Analgesics must **NOT** be stored in the First Aid Kit nor administered by staff member.

**Certified First Aid Personnel**

| <b>Name</b>              | <b>Location</b>  |
|--------------------------|--|
| <b>Anne Shanahan</b>     | <b>Technical Office, 2<sup>nd</sup> floor, room 2.02</b> |
| <b>Theresa Hedderman</b> | <b>Technical Office, 2<sup>nd</sup> floor, room 2.02</b> |
| <b>Hugh Byrne</b>        | <b>Managers Office, 2<sup>nd</sup> floor, room 2.01</b>  |
| <b>Luke O Neil</b>       | <b>Technical Office, 2<sup>nd</sup> floor, room 2.02</b> |

**Appendix V**  
**Risk and Safety Phrases**

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

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

## **SAFETY NOTICE POINT**

1. Your Safety Board is located at the OHO office on the second floor
2. Your Safety Representatives are  
**Dr Theresa Hedderman**
3. Occupational health Officer can be contacted on **087-980-9135**
4. The Parent Safety Statement is located in the Director of Science Faculty Office
5. Faculty/Function safety statements are available from each Head of Faculty/Function
6. Emergency First aid kit is available at Reception area
7. First-aid boxes are sited in each Laboratory/kitchen/workshop
8. Defibrillators are sited at Reception area
9. Incident report books are sited at
  - Faculty administrators Office
  - Building Maintenance Manager's Office
  - Occupational health Office
  - Reception Areas/ Porters Desk
- 10 Hazard Report forms are available from [www.dit.ie/safework](http://www.dit.ie/safework)
- 11 Fire register, Emergency manual and Emergency phone numbers are located at Reception/Porters Desk
- 12 Southside Health Centre is located at Aungier Street, 4<sup>th</sup> Floor  
Phone 4023051 (FOR STUDENTS ONLY)
- 13 The Health and Safety Officer for the DIT is Edel Breslin 402-331

## **Appendix VI**

### **Risk Assessment and Hazard Evaluation Forms**

**Risk assessment Form:**

| <b>Number</b> | <b>Hazard</b> | <b>Risk</b> | <b>Recommended Action/<br/>Control Measure(s)</b> | <b>Risk<br/>Rating:<br/>High (H)<br/>Medium(M)<br/>Low (L)</b> | <b>Timescale/<br/>Target Date</b> | <b>Person(s)<br/>Responsible</b> |
|---------------|---------------|-------------|---|--|-----------------------------------|----------------------------------|
|               |               |             |   |  |                                   |                                  |
|               |               |             |   |  |                                   |                                  |
|               |               |             |   |  |                                   |                                  |
|               |               |             |   |  |                                   |                                  |
|               |               |             |   |  |                                   |                                  |
|               |               |             |   |  |                                   |                                  |
|               |               |             |   |  |                                   |                                  |

**Risk assessments are a continually reviewed and evolving. In light of this, risk assessments are not available to view in this document but are available upon request from the safety officer, EXT: 7907.**

## SAFETY PROTOCOLS FOR WORK CONDUCTED IN THE SAMPLE PREPARATION LABORATORY

This form should be completed by a competent assessor for any procedure/system of work to be carried out “out of hours” by any staff member, postgraduate, contractor or visitor. This form should be completed and copied to the Health and Safety Officer.

|   |   |
|---|---|
| <b>Activity being assessed</b>  |   |
| <b>Name of Assessor</b>   |   |
| <b>Known or expected hazards associated with the activity (note also particular hazards if any due to lone working)</b>   |   |
| Flammable liquids   |   |
| Irritant/Toxic chemicals  |   |
| Laboratory instrumentation  |   |
| Sharps  |   |
| Chemical spill  |   |
| <b>Personal health and safety note.</b>   |   |
| <b>Training required?</b>   |   |
| <b>Personal Protective Equipment required</b>   |   |
| <b>Competent “Buddy” required</b>   |   |
| <b>Emergency action to be taken out of hours</b>  |   |
| <b>Arrangements for evacuation</b>  | (l)   |
| <b>Arrangements for first-aid</b>   | (xxiv)  |
| Risk Category A   B   C X D   |   |
| <b>Request by Supervisor</b><br><i>I request that <b>the following</b>, be given permission for out of hours access in this category. I have discussed the work and completed a risk assessment for the task.</i> | <b>Signature of Supervisor</b><br><br>Name: _____ Date: _____ |

### Instructions for completing a hazard evaluation form

The main features of the form are:

1. **Name of the laboratory** (room number)

2. **Identification of users** the room and any **restrictions on access**. The **maximum number of people** that can use the room should also be mentioned.
3. **List of main activities**, including a list of potentially dangerous equipment/materials. If these are chemical please identify the type of risk- flammable, carcinogenic etc. Potentially dangerous equipment should be identified, including details, eg: class of laser.
4. **Hazard identification specific to the laboratory**. Please note that general safety issues will be covered by a general statement and need not be included here, unless there is a special risk, eg storage of flammable materials. The areas covered in the general statement will be: manual handling (lifting heavy objects etc) , ventilation, emergency lighting, fire, slips and trips, electrical hazards (plugs, cables etc) and eyestrain due display screens.
5. **Risk assessment**. Risks should be classified according to their *severity* and *frequency of exposure*. In other words the risk rating should distinguish between the remote chance of a serious accident and the relatively likely chance of a minor accident. In the case of cumulative risks, for example due to carcinogenic materials an assessment should be made as to the severity of the risk *per exposure*.

In each case a 3 level scheme is to be used. The scheme for **severity** is intended to assess if the risk is of a minor injury or a serious injury which may even be potentially fatal. **High** risk means potentially a serious injury which would result in a hospital stay. **Medium** risk means potential for injury requiring outpatient care, **Low** risk means minor injury (eg cuts and bruises). These risks should be denoted by H, M or L in the relevant box on the form.

**Frequency** of exposure should be assessed in the following way: a rating of L means the exposure to the risk is low- once per week or less, M means once per day, H means more than once per day.

6. **Control Measures**- these will be detailed in the main section of the safety statement, and will be cross-referenced to each room. The box on the form will eventually be completed by the safety committee, and give the relevant section number of the statement. Currently these sections cover: lasers, chemicals, electrical, mechanical and radiation safety. Please send details of any special control measures to the safety committee. If

there are any outstanding measures that need to be taken (eg: checking wiring, replacing outdated equipment) please inform the safety committee.

7. **Dated signatures of people responsible.** Each lab will be assessed by 2 people, one of whom, will be the person responsible for the lab. Both assessors must sign and date the hazard evaluation form. However this will be done when the forms are checked and completed, and the control measures have been finalized.