

**Risk Assessment of An Activity Involving Deliberate Work with Pathogenic Microorganisms or Samples with Potential to Harbour Pathogenic Microorganisms**

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| This risk assessment form should be used to assist in the assessment of risks from an activity involving deliberate work with an infectious of harmful biological agent. The aim of the assessment is to identify those at risk from infection or other harm and the measures required to eliminate or control the risks to human health and the environment to an acceptable level. |

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| **Section 1: General Information** | | | |
| **1.1 Principal Investigator/ Academic Supervisor:** | | | |
| Name | | Faculty | |
|  | |  | |
| Email | | Date | |
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| **1.2 Premises where this work will be carried out:** | | | |
| Building | Laboratories | | Containment level |
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| **Section 2: Project Information** | | |
| 2.1 Person undertaking this risk assessment (if different from above): | | |
| Name | Faculty | |
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| 2.2 Project title: | | |
|  | | |
| **2.3 Project Reference Number:**  Suggested format YYMMDD, PI initials, BIO (number if more than one in a month) | | |
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| **2.3 Is this proposal an extension of a previously approved project?** | | |
| Previously approved  If yes, please complete the form emphasising the connection between the original project and this application. | | Yes  No |
| Previous reference number | |  |
| **2.4 Brief overview of the work** (in layman’s terms)**:**  Please describe the project, detailing aims and objectives, significance, and outcomes, indicating how the biological agent will help to achieve the objectives of the project. This description should contain enough detail to help a non-specialist to understand the project. | | |
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| **2.5 Is this biological agent going to form part of an undergraduate practical class?** | | Yes  No |
| **2.6 Faculty Contacts:** | | |
| Health, Safety and Resilience Advisor | |  |
| Biological Safety Officer | |  |

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| **Section 3: Identification of Biological Hazards** | | | |
| **3.1 List microorganisms deliberately used/ or pathogenic microorganisms that potentially can be present in the sample(s):** | | | |
| Name of microorganism |  |  |  |
| Identified as human pathogen on ACDP list1 | Yes  No | Yes  No | Yes  No |
| If yes, please state hazard group | 2  3  4 | 2  3  4 | 2  3  4 |
| If not on ACDP list, is there any evidence to support the microorganism may present a risk to human health |  |  |  |
| Normal routes of human infection | Inhalation  Oral/ ingestion  Mucocutaneous  Percutaneous  Via vector (e.g., insect)  Allergen | Inhalation  Oral/ ingestion  Mucocutaneous  Percutaneous  Via vector (e.g., insect)  Allergen | Inhalation  Oral/ ingestion  Mucocutaneous  Percutaneous  Via vector (e.g., insect)  Allergen |
| Multiplicity of infection if known (i.e., number of organisms required to establish an infection) |  |  |  |
| Consequence of infection to humans |  |  |  |
| Is the microorganism a specified animal pathogen (SAPO2) | Yes  No | Yes  No | Yes  No |
| If yes, please state SAPO hazard group | 2  3  4 | 2  3  4 | 2  3  4 |
| Detail of any other harm the microorganism may pose to the environment? e.g., harmful to plants, insects, etc. |  |  |  |
| Consequence of spread in environment |  |  |  |
| Route of transmission for environmental pathogens (including animals) |  |  |  |
| Any additional risk to health/ environment e.g. Hyper virulence, multiple antibiotic resistance |  |  |  |
| Listed on Schedule 53 | Yes  No | Yes  No | Yes  No |
| How likely is that Cat 3 and Cat 4 biological agents will be present in the material/ sample to be handled? | Definitely present  Likely present  Unlikely present | Definitely present  Likely present  Unlikely present | Definitely present  Likely present  Unlikely present |
| Will you intentionally isolate, propagate or otherwise increase the risk of the above mentioned (if any) CAT3 and CAT4 biological agents? | Yes  No | Yes  No | Yes  No |
| [*1*](https://collaborate.swan.ac.uk/admin/estates/Safetyofficedocuments/SHE_M_S/HSMS/corp/Shared%20Documents/Policy/Health%20and%20Safety%20Policy%20Arrangements/Biological%20(inc%20COSHH)/Guidance/ACDP%20Approved%20List%20of%20Biological%20Agents.pdf)[[ACDP Approved List of (Human) Pathogens](https://www.hse.gov.uk/pubns/misc208.pdf)](https://www.hse.gov.uk/pubns/misc208.pdf)  [*2 SAPO Pathogens*](https://www.hse.gov.uk/biosafety/sapo.htm)  [*3* Schedule 5 Pathogens on the Anti-terrorism & Security](https://www.legislation.gov.uk/ukpga/2001/24/schedule/5) | | | |

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| **Section 4: Experimental Procedures** | | | |
| **4.1 Description of experimental procedures:** | | | |
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| **4.2 Quantities used and frequency of use:**  This information will enable you to determine the likelihood of exposure and therefore the risks from this particular activity. Please indicate maximum culture volumes at any time shown as multiples of flask volumes to give an idea of scale. | | | |
| Max. volume per culture/ sample |  | Max. volume per experiment |  |
| Frequency of experiments | |  | |

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| **Section 5: Measures to Prevent or Control Exposure** | | | |
| **5.1 Preventing exposure** | | | |
| 1. Could a less hazardous substance (or form of the substance) be used instead?   If it can, then it should be used, or justification be given here why it is not being used. COSHH requires substitution with less hazardous materials wherever possible, but there may be good reasons for not using them. | | | |
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| **5.2 Controlling Exposure** | | | | |
| 1. Containment Level - what containment level is required for this work with regard to COSHH/ SAPO? | | | | |
| 1 | 2 | | 3 | |
| 1. CL3 only – application for derogation from the following controls (list if relevant and justify): | |  | | |
| 1. Will the work be segregated from others not involved in the work and if not, how will they be informed of the hazards? | |  | | |

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| **5.3 Engineering Controls (Containment & Ventilation)** | |
| 1. Is a microbial safety cabinet (or isolator for in vivo work) required? These must be used for activities generating potentially infectious aerosols or splashes. | Yes  No |
| If yes, please state which class and describe underneath what processes will use it: | Class:  I  II  III |
| If required, what processes require its use? |  |
| 1. Specify other local ventilation control measures considered appropriate (e.g., downdraft table, isolator): |  |
| 1. Will centrifugation be used? | Yes  No |
| If yes, will buckets and rotors be sealed? | Yes  No |
| If yes, where will buckets or rotors be opened? |  |
| If yes, how will spillages in the centrifuge be dealt with? |  |
| 1. Will incubators be used? | Yes  No |
| If yes, what type (e.g., shaking)? |  |
| If yes, how will spillages in the incubator be dealt with? |  |
| 1. Will sharps be used: | Yes  Noill sharps be used: |
| If yes, list and justify their use: |  |
| 1. Will animals be deliberately infected with these biological agents? | Yes  No |
| 1. Do you require a licence/ permit?   <https://staff.swansea.ac.uk/media/tgn002-abps-and-import-permits.pdf> | Yes  No |
| 1. If yes, describe the procedure, control measures and whether shedding of infectious agents by animals is expected? |  |

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| * 1. **Personal Protective Equipment (PPE):** | | | |
| Lab coat | Gloves | Eye or face (specify) | Other |
| Yes | Yes  No | Yes  No | Yes  No |
| Details: | Details: | Details: | Details: |
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| **5.5 Transportation** | |
| a) How will viable material be transported within the laboratory? |  |
| b) How will viable material be transported locally outside the laboratory? |  |
| c) Will viable material be shipped anywhere (off campus)? | Yes  No |
| If yes, what will be shipped? |  |
| If yes, how will this be shipped (e.g., Category A, Category B, Exempt, Non-hazardous)? |  |

| **5.6 Waste Disposal Procedures:**  (Disinfectants, concentrations, exposure times, autoclaving procedures, incinerator procedures, include any animal related wastes.) | | |
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| Waste | Decontamination method (include details on efficacy) | Disposal route  e.g., drain/ incineration/ landfill |
| Liquid waste |  |  |
| Solid waste |  |  |
| Sharp waste |  |  |

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| **5.7 Emergency Procedures**  Spillages   * If covered by local rules/ standard operating procedure, please attach. * If not covered by local rules/ standard operating procedure. Remember to take into account route of exposure | |
| 1. Inside primary containment (if relevant e.g., MSC, isolator): |  |
| 1. Outside primary containment but within the laboratory (secondary containment): |  |
| 1. Outside secondary containment (if relevant): |  |
| 1. Other procedures (e.g., first aid following any accidental exposure, needle stick, etc.): |  |

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| **Section 6: Personnel and Health Issues** | |
| **6.1 Vaccination** | |
| For ACDP 2 or above human pathogens  Is an effective vaccination available for any of the pathogens associated with this work? |  |
| **6.2 Is health surveillance/ health clearance required?** | |
| Staff and postgraduate research students | Yes  No |
| Taught students (undergraduate and MSc) | Yes  No  (Initial health clearance only) |
| **6.3 Identify any groups of workers who may be at increased risk from this material:** | |
| **Anyone who might have compromised resistance to disease for any reason should seek advice from the University Occupational Health Service regarding the need for additional precautions.**  (For example, pregnant workers, young persons under 18, disabled workers, those with pre-existing disease that increases susceptibility). |  |
| **6.4 Information, Instruction, and Training** | |
| Describe the training that will be given to all those affected (directly or indirectly) by the work activity. |  |

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| **Section 7: Declaration and Approval** | | |
| **7.1 Principal Investigator:** | | |
| I the undersigned:   * Confirm that all information contained in this assessment is correct and up to date. * Will ensure that suitable and sufficient instruction, information, and supervision is provided to all individuals working on the activity. * Will ensure that no work will be carried out until this assessment has been completed and approved, and that all necessary control measures are in place. * Will ensure that all information contained in this assessment will remain correct and up to date and re-submit for approval if any significant changes occur. * Work will only be undertaken in appropriate facilities. | | |
| Name | Signature | Date |
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| * 1. **Approval on behalf of the Faculty:** | | |
| * Approval of Hazard Group 1 only. * I support the presentation of this proposal to the Biological Hazards and Genetic Modified Organisms Sub-Committee (for ACDP Hazard Group 2-4, SAPO Hazard Group 2-4 and organisms listed on schedule 5).   The person supporting this proposal must not be involved in the project being proposed. | | |
| **Faculty BSO** | Name |  |
| Signature |  |
| Date |  |
| **University BSO** | Name |  |
| Signature |  |
| Date |  |

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| **7.3 Approval on behalf of the University:** | | |
| * The risk assessment has been reviewed and approved by the Biological Hazards and GMO Sub-Committee. * Approval of ACDP Hazard Group 2-4, SAPO Hazard Group 2-4 and organisms listed on schedule 5. | | |
| Chair of Biological Hazards and GMO Sub-Committee | Name |  |
| Signature |  |
| Date |  |

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| **Section 8: List of Workers Under This Project** | | | | | | |
| List any persons who will be working on this project. They must have access to this risk assessment and other associated risk assessments. Those listed should sign and date to confirm they have read understand the risk assessment. | | | | | | |
| Full Name | Worker Type | | | | | Signature and date |
| Staff | PG Research | PG Taught | UG | Other |
|  |  |  |  |  | Details |  |
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This can also be completed manually and kept as a hard copy in the laboratory – copies must be available for review by Biological Safety Officer/ Biological Safety Advisor.