**BA Risk Assessment Form: Biological Agents and Materials**

A BA risk assessment is required for any work involving the possession, use or exposure to biological agents and related materials. In addition, please note that the possession or use of any hazard group 3 biological agents or the hazard group 2 biological agents *Bordetella pertussis*, *Corynebacterium diphtheriae* and *Neisseria meningitidis* requires written permission from your School Biological Safety Committee and HSE. Please complete this form and register any hazard group 2 and 3 biological agents using Retain. The School Biological Safety Adviser provides advice to Principal Investigators on biological agent risk assessment, HSE notification and licences. You should read the guidance provided on BA risk assessment and biological safety on the Biosafety Unit website. Please complete those boxes that apply to your work.

### Section 1 Basic Details

<table>
<thead>
<tr>
<th>Title of project</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Local reference number</td>
<td></td>
</tr>
<tr>
<td>HSE reference number</td>
<td></td>
</tr>
<tr>
<td>Principal investigator</td>
<td></td>
</tr>
<tr>
<td>School / Institute</td>
<td></td>
</tr>
<tr>
<td>Date of assessment</td>
<td></td>
</tr>
<tr>
<td>Location of work</td>
<td>(Buildings and room numbers or fieldwork)</td>
</tr>
</tbody>
</table>

### Section 2 Project

This section should describe the project which should be reasonably detailed but not exhaustive.

2.1: Description of project and activities

### Section 3 Risk Assessment

This section should describe any potential risks to humans and or the environment. It should include a clear and explicit justification of any statements made about the risks with a logical explanation and any relevant evidence or references. The level of risk is estimated using the matrix given at the end of this form and then stating the risk as either Effectively zero, Low, Low / Medium, Medium or High.

3.1: Biological agents or materials

- Microorganisms (Group 1)
- Human pathogens (Group 2)
- Human pathogens (Group 3)
- Specified animal pathogens (Group 2)
### Specified animal pathogens (Group 3)
- Plant pathogens or pests
- Toxins
- Carcinogens
- Allergens
- Human tissues, cells or materials
- Human cell cultures
- Animal tissues, cells or materials
- Animal cell cultures
- Plant tissues, cells or materials
- Plant cell cultures
- Humans
- Animals
- Plants
- Soils
- Environmental samples or materials
- Waste
- Other biological materials

### 3.2: Type of work
Select all that apply
- Laboratory / Fieldwork / Other

### 3.3: Human, animal or plant diseases or conditions or environment damage associated with the biological agents

### 3.4: Potential routes of exposure to humans, animals or plants or release to environment
Select all that apply
- Inhalation / Ingestion / Injection / Absorption / Other

### 3.5: Use of biological agents or materials
Select all that apply
- Small scale / Medium scale / Large scale / Fieldwork / Animals / Plants / Other

### 3.6: Frequency of use
Select one
- Daily / Weekly / Monthly / Other

### 3.7: Maximum amount or concentration used
Select one
- Negligible / Low / Medium / High

### 3.8: Levels of infectious aerosols
Select one
- Negligible / Low / Medium / High

### 3.9: Potential for exposure to biological agents or materials
3.10: Who might be at risk
Select all that apply
- Research Staff
- Other Staff
- Students
- Visitors
- Public
- Young people (<18yrs)
- New and expectant mothers
- Other

3.11: Overall assessment of risk to human health (Prior to use of controls)
Level of risk (Select one)
- Effectively zero
- Low
- Medium/Low
- Medium
- High

3.12: Overall assessment of risk to environment (Prior to use of controls)
Level of risk (Select one)
- Effectively zero
- Low
- Medium/Low
- Medium
- High

Section 4 Control Measures to Eliminate or Reduce Risks of Exposure or Release

This section should describe the types of controls which will be required to carry out the work safely. You must follow the hierarchy of risk control by choosing the most effective control measures needed to safely carry out your work and not just the easiest controls. Please do not include detailed standard operating procedures which should be specified in separate documents.

4.1: Containment laboratories or facilities
Select all that apply
- Laboratory
- Animal facility
- Plant facility
- Other

4.2: Containment level
Select one
- Containment level 1
- Containment level 2
- Containment level 3

4.3: Microbiological safety cabinets (MSC) and isolators
Select all that apply
- Class I
- Class II
- Class III
- Isolator
- Other

4.4: Sharps controls

4.5: Special controls

4.6: Personal protective equipment (PPE)
Select all that apply
- Lab coat
- Lab gown
- Surgical scrubs
- Disposable clothing
- Apron
- Safety spectacles
- Goggles
- Face shield
- Gloves
- Headwear
- Footwear
- Other

4.7: Respiratory protective equipment (RPE)
Select all that apply
- Filter mask
- Half face respirator
- Full face respirator
- Powered respirator
- Breathing apparatus
- Other
### 4.8: Storage controls

### 4.9: Transport controls

### 4.10: Inactivation controls

Select all that apply

<table>
<thead>
<tr>
<th>Disinfection / Autoclave / Fumigation / Incineration / Other</th>
</tr>
</thead>
</table>

**Disinfection**  
Please give details of disinfectant(s), method and validation including concentration of disinfectant and contact time (eg supplier's instructions or local validation).

**Autoclaving**  
Please give details of autoclave method and validation.

All contaminated materials will be inactivated by autoclaving (100% kill) at 121°C or 134°C prior to disposal of waste or cleaning and recycling of reusable laboratory equipment, such as glassware. Autoclaves will be validated by annual (at least) thermocouple mapping and each run will be monitored by continuous chart or digital recording of the temperature / time profile.

Or

All contaminated materials will be inactivated by autoclaving (100% kill) at 121°C or 134°C prior to disposal of waste or cleaning and recycling of reusable laboratory equipment, such as glassware. Autoclaves will be validated by annual (at least) thermocouple mapping and each run will be monitored using chemical indicators (eg Browne TST indicator test strips).

**Other**  
(Please give details of method and validation).

### 4.11: Waste disposal routes

### 4.12: Immunisations (if applicable)

### 4.13: Instructions, training and supervision

### 4.14: HSE notification (if applicable)

### 4.15: Specified Animal Pathogen Order (SAPO) licence (if applicable)

### 4.16: Plant Health Order (PHO) licence (if applicable)
4.17: Import, export or other licence (if applicable)

<table>
<thead>
<tr>
<th>Section 5 Emergency Procedures</th>
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</thead>
<tbody>
<tr>
<td>This section should describe any emergency procedures used to deal with accidental exposure, release or spillages.</td>
</tr>
</tbody>
</table>

5.1: Emergency procedures

5.2: Emergency contacts

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Telephone</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Principal Investigator</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Section 6 Emergency Planning</th>
</tr>
</thead>
<tbody>
<tr>
<td>This section should describe any emergency plan used to deal with serious accidental release. An emergency plan is only required for high risk work.</td>
</tr>
</tbody>
</table>

6.1: In case of serious accidental release is an emergency plan required to protect humans or environment | Yes / No |

<table>
<thead>
<tr>
<th>Section 7 Approval</th>
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</thead>
<tbody>
<tr>
<td>This section should be signed and dated by the assessor and principal investigator. It should be signed by the biological safety adviser in addition if the project requires HSE notification or an animal health or plant health licence.</td>
</tr>
</tbody>
</table>

7.1: Assessor

<table>
<thead>
<tr>
<th>Name</th>
<th>Signature</th>
<th>Date</th>
</tr>
</thead>
</table>

7.2: Principal investigator

<table>
<thead>
<tr>
<th>Name</th>
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</table>

As the principal investigator for this project you have a legal responsibility to ensure that all those involved or working on the project have an appropriate level of training and expertise to enable safe working. This includes ensuring that workers read and understand this risk assessment and that all the control measures are in strict accordance with those approved for the project. You should also check for compliance with the control measures.

7.3: School Biological Safety Adviser for BSC (Required for notifiable or licenced projects)

<table>
<thead>
<tr>
<th>Name</th>
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</thead>
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<table>
<thead>
<tr>
<th>Section 8 Review</th>
</tr>
</thead>
<tbody>
<tr>
<td>The risk assessment must be reviewed periodically, at least annually, and immediately if there are any significant changes to the work.</td>
</tr>
</tbody>
</table>
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## Risk Estimation Matrix

<table>
<thead>
<tr>
<th>Consequence of hazard</th>
<th>Likelihood of hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High</td>
</tr>
<tr>
<td>Severe</td>
<td>High</td>
</tr>
<tr>
<td>Modest</td>
<td>High</td>
</tr>
<tr>
<td>Minor</td>
<td>Medium / Low</td>
</tr>
<tr>
<td>Negligible</td>
<td>Effectively zero</td>
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</table>