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

Title of project	
Local reference number	
HSE reference number	
Principal investigator	
School / Institute	
Date of assessment	
Location of work (Buildings and room numbers or fieldwork)	

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

Biological agents (Group 1)	
Biological agents (Group 2)	
Biological agents (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	
Select one	Negligible / Low / Medium / High
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	Disinfection / Autoclave / Fumigation / Incineration / Other

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)

Section 5 Emergency Procedures

This section should describe any emergency procedures used to deal with accidental exposure, release or spillages.

5.1: Emergency procedures

5.2: Emergency contacts		
Name	Position	Telephone
	Principal Investigator	

Section 6 Emergency Planning

This section should describe any emergency plan used to deal with serious accidental release. An emergency plan is only required for high risk work.

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

Section 7 Approval

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.

7.1: Assessor		
Name	Signature	Date

7.2: Principal investigator		
Name	Signature	Date

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)		
Name	Signature	Date

Section 8 Review

The risk assessment must be reviewed periodically, at least annually, and immediately if there are any significant changes to the work.

8.1: Assessor

Name	Signature	Date

8.2: Principal investigator

Name	Signature	Date

Risk Estimation Matrix

Consequence of hazard	**Likelihood of hazard**			
	High	**Medium**	**Low**	**Negligible**
Severe	High	High	Medium	Effectively zero
Modest	High	Medium	Medium / Low	Effectively zero
Minor	Medium / Low	Low	Low	Effectively zero
Negligible	Effectively zero	Effectively zero	Effectively zero	Effectively zero