University of Glasgow Biological Work Risk Assessment

A biological COSHH risk assessment is required for the possession or use of biological agents and hazards. Please complete this form and register any hazard group 2 and 3 biological agents and hazards using the Pathogen and Toxin Registration form. Please note that the possession or use of any hazard group 3 biological agent or the hazard group 2 biological agents *Bordetella pertussis*, *Corynebacterium diphtheriae* and *Neisseria meningitidis* requires permission from HSE. Guidance on completing this form is provided on the Biological COSHH Risk Assessment section of the SEPS website.

Section 1 – General Information	
Assessment Title:	Give a title that describes the work being risk assessed. This might be a comprehensive research project, a procedure, or a single step of a more complex process.
Assessment Reference	This must be a unique reference number. It may be allocated by the person responsible for the work, or by the Committee or group managing risk assessments within a unit.
Principal Investigator / Responsible Person	Name the person who is responsible for the work undertaken; usually the PI.
School / Service / Institute	Name the School or Management Unit responsible for the work undertaken.
Location of Work (Buildings & room numbers)	Name **all** locations where work will take place. This can be single laboratories, containment areas, buildings or facilities.

Section 2 – Project or Activity

2.1. Brief description of project or activity (preferably no more than 500 words unless the work is very complex)

This section should provide an overview of the work covered by the risk assessment. Include background information if relevant to understand the work or the risks associated with it, but keep it brief (this is not a grant application where the need for the research must be justified).

Relevant information in this section includes (this is not an exhaustive list):

- the scientific question(s) you are trying to answer (scope and boundaries of the project)
- the type of material that will be used (e.g. microorganisms, animal or clinical samples, cell lines, animals, plants…)
- the origin of the samples (e.g. cell culture collection, country of origin, wild/farm/lab animals or plants, healthy volunteers or patients recruited in clinics, …). If samples come from abroad, it will be relevant to mention any endemic diseases (for human, plants and animals), or common plant/animal pests, particularly if not indigenous to UK as some may be subject to import restrictions
- the pathogens present or likely to be present in the samples
- any transport to, from and/or between the location(s) of work
- any selection, triage process or screening undergone by samples before the work starts
- any steps taken to reduce the hazards associated with the samples
- any procedures to be carried out and covered by the risk assessment (e.g. propagation, storage only, nucleic acid extraction, infection of animals…); highlight those procedures that present a specific risk (e.g. use of sharps, ultracentrifugation, handling of animals…)

2.2. Supporting Risk Assessments	
GM RA reference(s)	List any other specialist risk assessments relating to the work that have been completed to be sure they can be read in conjunction with this document. Include titles and reference numbers where available.
Biological Services RA reference(s)	
Chemical COSHH RA reference(s)	
Fieldwork RA reference(s)	
Other RA reference(s)	

	Examples include RA for chemical disinfectants, fieldwork for collection of samples, use of equipment or machinery, …

Section 3 – Risks Assessment (prior to use of controls)	
3.1. Biological agents or hazards	
[1] ACDP Approved list of Biological Agents (human pathogens) [2] Specified Animal Pathogens (SAPO agents) [3] Schedule 5 of the Anti-terrorism Crime & Security Act	
Biological agents (Group 1)[1]	Any microbiological agents that do not pose a hazard to human health or the environment (e.g. lab adapted E. coli strains).
Biological agents (Group 2)[1]	Refer to the ACDP Approved list of Biological Agents (link above); list any pathogens categorised in hazard groups 2 and 3 under COSHH that are either **present or likely to be present** in the samples.
Biological agents (Group 3)[1]	
Specified Animal Pathogens (Group 2)[2]	Refer to the Specified Animal Pathogen Order guidance (link above); list any pathogens categorised in hazard groups 2 and 3 under SAPO that are either **present or likely to be present** in the samples.
Specified Animal Pathogens (Group 3)[2]	
Animal Pathogens other than those above	List any animal pathogens not categorised under SAPO, and non-human pathogens **present or likely to be present** in the samples.
Plant pathogens or pests	List any plant pathogens or pests **present or likely to be present** in the samples.
Toxins	List any toxins used, or produced during the work.
Schedule 5 material[3] (Yes/No)	Refer to the Schedule 5 of the Anti-terrorism Crime & Security Act (link above) to determine if any material used or produced is on the list.
Carcinogens	Some pathogens are also classified as carcinogens; refer to the ACDP Approved list of Biological Agents (link above) for more information. Note: chemical carcinogens must be risk assessed separately, using a chemical COSHH RA
Allergens	List any other potential allergens: laboratory animal allergens (LAAs), latex, pollen, etc. Some pathogens are also classified as allergens; refer to the ACDP Approved list of Biological Agents (link above) for more information.
Human primary or continuous cell cultures	List any primary or continuous cell cultures from human origin. If not already described in 2.1, give information on origin of the cells (e.g. organ/cell type, etc.)
Animal primary or continuous cell cultures	List any primary or continuous cell cultures from animal origin. If not already described in 2.1, give information on origin of the cells (e.g. organ/cell type, etc.)
Human cells, tissues or materials	List any material isolated from humans, used in the project (e.g. blood, urine, biopsies, sputum, etc.). If not already described in 2.1, give details on origin of the material (e.g. geographical origin, clinic attended, age, medical history if relevant, etc.)
Animal cells, tissues or materials	List any material isolated from animals used in the project (e.g. swabs, blood, biopsies, fur, etc.). If not already described in 2.1, give details on origin of the material (e.g. geographical origin, lab-reared, farm or wild animal, healthy or visibly sick, etc.)

Plant cells, tissues or materials	List any material isolated from plants used in the project (e.g. leaves, rhizomes, cells, vascular tissue, etc.). If not already described in 2.1, give details on the material (e.g. geographical origin, from lab, greenhouse or wild, etc.)
Patient contact	Mention any direct contact with patients if appropriate, including the clinic they are recruited from
Animals	If the project involves direct contact with or handling of animals, list all animals involved. Note: animals here are not only those covered by ASPA; it also includes insects, arachnids, etc.
Plants	If the project involves direct contact with or handling of plants, list all plants concerned.
Soils	Any soil used (e.g. sand, clay, peat, ...) and their origin
Environmental samples or materials	Any environmental samples handled (e.g. air, water, dusts, rubble, etc.) and their origin
Waste	Any waste material worked on (e.g. sewage water, etc.) Note: not the waste produced by the work process, but waste as main research material
Other biological materials	Any biological material not covered above

3.2. Type of work

Select all that apply	☐Laboratory	☐Fieldwork	☐Animals	☐Plants	☐Other

Describe briefly how the above apply: where does the work covered by the RA take place?
'Animals' means any animals, not only those considered by ASPA (e.g. insects, arachnids, ...)
'Other' may be industrial plant facility, insectaries, etc.

3.4. Human, animal or plant diseases or conditions, or environmental damage associated with biological agents or hazards

Describe how exposure to the material could cause harm to people, animals, plants and/or the environment.
Typical information would include (non-exhaustive list):

- for diseases: hosts, incubation period, symptoms, etc.
- acute and chronic effects following exposure to allergens, toxins, or carcinogens
- potential effects on the environment/public in case of release of pathogens or pests
- potential effects on indigenous species in case of release of animals or pollens
- known/suspected adventitious agents in material (i.e. contaminating microorganisms)
- potential effects on human health and the environment in case of exposure to or release of environmental samples

3.5. Potential routes of exposure to humans, animals or plants, or release to environment

Select all that apply	☐Inhalation	☐Ingestion	☐Injection
	☐Absorption	☐*Via* vector (e.g. insect)	☐Other

Describe the routes of exposure or release of all biological agents or hazards used in the project.
If vector-borne, name the species and whether they are indigenous to Scotland/capable of survival in the local environment. Also mention if vector is present in the vicinity (e.g. in an animal facility nearby).

3.6. Use of Biological agents or hazards

Select all that apply	☐Small scale	☐Medium scale	☐Large scale	☐Fieldwork
	☐Animals	☐Plants	☐Other	

Small scale: typically, small volumes in petri dishes, plates, flasks, tubes, small roller bottles, etc. (e.g. up to 0.5L).
Medium scale: larger systems like larger bottles or Erlenmeyers, microcarrier cultures, or small fermenters; could be several small-scale containers (usually from 0.5L to 50L).
Large scale: involves very large volumes like fermenters or bioreactors; could also be several medium or small-scale containers (over 50L in total).

Give specific numbers or a range of values.

3.7. Frequency of use

Select one	☐Daily	☐Weekly	☐Monthly	☐Annually	☐Other

Select the frequency that applies.
If 'Other', specify.

3.8. Maximum amount or concentration used

Select one	☐Negligible	☐Low	☐Medium	☐High

Quantify the concentration of biological agent (microorganism, cells, toxin, allergen, carcinogen), number or amount of plants/animals/patients' samples/environmental samples used.
Negligible, low, medium and high are relative terms, and must be defined within the context of the experiment. The following are given as an indication:
Negligible: amount or concentration that is unlikely to cause any biological effect and/or under the detection level.
Low: amount that might mimic an early stage of natural infection or a chronic low-level exposure; number of animals insufficient to detect a meaningful biological effect and/or to obtain statistically significant data.
Medium: amount or concentration that produces measurable but not maximum effect; number of animals sufficient to detect a biologically meaningful effect and/or to obtain statistically significant data.
High: amount or concentration that ensures a robust, maximum effect or infection; higher number of animals than typically used to detect a biologically meaningful effect and/or to obtain statistically significant data.
Give specific numbers or a range of values.

3.9. Potential for generation of infectious aerosols

Select one	☐Very unlikely	☐Unlikely	☐Possible	☐Likely	☐Very likely

Determine the likelihood of infectious aerosols being produced in the absence of any controls.
Aerosols may only be generated at some steps of the procedure; if this is the case, indicate which ones.

3.10. Potential for exposure to biological agents or hazards (prior to use of controls)

Select one	☐Very unlikely	☐Unlikely	☐Possible	☐Likely	☐Very likely

If no controls were used for the work, what would be the likelihood for exposure to biological agents or hazards? Consider exposure of humans but also of the environment (e.g. release outside of the laboratory).
Negligible: very unlikely.
Low: may happen but unlikely.
Medium: possible, likely to happen.
High: very likely to happen.

3.11. Who might be at risk

Select all that apply	☐Staff	☐Students	☐Visitors	☐Public
	☐Young people (<18yrs)		☐New and expectant mothers	☐Other

Select all persons who may be put at risk by this work if no controls were used. Would only persons in the laboratory be potentially at risk or could the public also be affected?
Mention here if any of the biological agents or hazards poses a specific risk for new and expectant mothers (a personal RA would be needed for new and expecting mothers).
'Other' may include genetic polymorphisms known to affect susceptibility to diseases or response to treatments.
Tick 'Other' if there is a risk for the fauna, flora and/or environment; give details.

3.12. Assessment of risks to human health (prior to use of controls)

Use the matrix on last page to determine level of risk, based of likelihood of hazard and consequences of harm

Select one	☐**Very Low**	☐**Low**	☐**Moderate**	☐**High**	☐**Very High**

3.13. Assessment of risks to environment (prior to use of controls)					
Use the matrix on last page to determine level of risk, based of likelihood of hazard and consequences of harm					
Select one	☐**Very Low**	☐**Low**	☐**Moderate**	☐**High**	☐**Very High**

Note: these are **before** the use of controls; any work with HG3 or SAPO3 agents should be assessed as high or very high.

Section 4 – Control Measures to Eliminate or Mitigate the Risks of Exposure or Release

4.1. Containment

Select all that apply	☐Laboratory	☐Animal Facility	☐Insectary	☐Plant Facility
	☐Fieldwork	☐Other		

Indicate where the work will be done; select all that apply if different location/facilities are used.

4.2. Containment Level (CL)

Select all that apply	☐CL1	☐CL2	☐CL3	☐Derogations apply

Select the containment level(s) appropriate for the body of work.
Any work with HG2 or SAPO2 agents should be done at CL2 minimum, unless derogations can be justified.
Any work with HG3 or SAPO3 agents should be done at CL3 minimum, unless derogations can be justified.
If derogations to containment measures and controls are implemented, list them with justification/rationale for derogation.
If different steps/stages of the project require different containment levels, indicate it here.

4.3. Microbiological Cabinets (MSC) and enclosures

Select all that apply	☐Class I MSC	☐Class II MSC	☐Class III MSC
	☐Isolator	☐IVC	☐Other

List all engineering controls required to prevent exposure to aerosols. If used only for certain steps/stages of the protocol, detail which ones.
Class II MSCs may be used to protect samples rather than the operator; if this is the case, mention it here.
Note: if enclosures are required to protect the operator and/or the environment, CL1 is NOT appropriate, the work requires CL2 or above.

4.4. Sharps controls

Indicate if sharps are required for any steps of the work, and any controls to mitigate the risk of sharps accident.
Sharps include needles, scissors, dissection tools, blades, etc.
Work with glassware should also be mentioned here due to the risk of accidental sharps (i.e. broken glassware): glass microscope slides or cover slides, glass bottles, etc.
Controls may include:

- presence of sharps bins nearby
- handling techniques (e.g. no cross hands, not handing directly to someone)
- safer alternative (e.g. blunt end scissors, safety needles)
- chainmail gloves
- etc.

Mention if use of sharps is being prohibited.

4.5. Other controls

List any other controls, not already described above.
Examples of control measures that could be listed here (non-exhaustive list):

- sealed buckets or sealed plate holders for centrifugation
- additional access restriction while work is being carried out
- anaesthesia of animals before handling to reduce risk of bite
- counting animals to identify escapees
- quarantine of workers after travelling to certain areas

- no handling/petting of animals after working with SAPO agents
- physical and/or temporal segregation from other work
- physical segregation from other samples for storage
- collection of watering water so it does not enter the drains
- mesh or filters fitted on vents
- etc.

4.6. Personal Protective Equipment (PPE)
** Face fit testing required

 **Dust Mask****	Insert a cross (X) into each box that applies even those that would be considered standard for your workspace. Remember to specify the type of PPE to be used. Where respiratory protection is required, it will be necessary to ensure users are formally face-fit tested by a competent person (usually an external consultant).	 **Gloves**	If PPE is required for some steps only of the project, indicate which ones.
 **Respirator****		 **Footwear**	
 **Eye Protection**		 **Protective Clothing**	
 **Face Shield**		 **Other (Specify)**	

4.7. Storage of biological agents or hazards

Indicate where storage is located, if within or outwith the laboratory; if the latter, list any additional controls required (e.g. locked fridge/freezer).
Indicate temperature(s) required, and if any specific containers are required (e.g. screw cap tubes, cold-resistant vials).
List rules for labelling of containers and/or equipment (tubes, boxes, freezers, etc.), and how records of material will be kept if appropriate.

4.8. Transport of biological agents or hazards

This section covers both receipt and shipment of materials.
Mention any transport between laboratories within a building, between buildings, between campuses and/or outwith the University.
Indicate how the samples are contained/packaged and labelled; indicate dangerous goods classification (e.g. UN3373, UN2814, UN3172, exempt specimen…), and if professional couriers will be used.
Add any controls applied (e.g. disinfection of containers before leaving the lab).

4.9. Inactivation of biological agents or hazards

Select all that apply	☐Disinfection	☐Autoclave	☐Fumigation	☐Incineration	☐Other

Select all inactivation methods used. **All methods used MUST be validated.**
Disinfection: name disinfectant, indicate final concentration and contact time required.
Autoclave: indicate temperature and holding time required.
Fumigation: indicate fumigant used (e.g. formaldehyde, hydrogen peroxide), if used for disinfection of specific equipment only (e.g. MSC), or whole laboratory.
Incineration: mainly for sharps bins; whenever possible, waste should be inactivated on site before being incinerated.
Other: any other method, not listed above. If using nucleic acid extraction kits/protocols, identify which step is inactivating and the agent(s) responsible.
Note: COSHH RA(s) for the use of chemicals named in this section should be listed in section 2.2.

4.10. Waste disposal (post inactivation)			
Select all that apply	☐General waste	☐Clinical waste	☐ABP waste
	☐Chemical waste	☐Drains	☐Other

Indicate all methods of disposal of the waste produced. Waste should be inactivated before disposal.
Inactivated liquid waste may be flushed to drains, unless contaminated by other hazardous materials.
Autoclaved solid waste may be disposed of as general waste or sent for incineration as clinical or animal by-product (ABP) waste, depending on its nature/origin.
Waste may need disposed of as chemical waste.
Consult with lab manager or safety coordinator to make sure waste is disposed appropriately. **DO NOT** create new or change existing waste streams without consulting local management and/or SEPS.

4.11. Health surveillance or immunisation (If you need advice, contact the University Occupational Health Unit)

Indicate here any requirements for health surveillance (e.g. for work with animals) and whether immunisation is available and recommended.
Occupational Health Unit may be able to issue certificates of fitness where required and help obtain prescription drugs that are not readily available through NHS.

4.12. Instruction, training and supervision

Only competent personnel should be allowed to work unsupervised.
Indicate any training required for all involved in the work; some personnel may require additional, specialist training (e.g. transport of dangerous goods, handling of animals, use of specialist equipment…).
Training may be delivered in house, or through external companies.
Indicate how competency is assessed, and frequency of regular assessment/retraining where appropriate.

4.13. Assessment of risks to human health (with controls)					
Use the matrix on last page to determine level of risk, based of likelihood of hazard and consequences of harm					
Select one	☐**Very Low**	☐**Low**	☐**Moderate**	☐**High**	☐**Very High**

4.14. Assessment of risks to environment (with controls)					
Use the matrix on last page to determine level of risk, based of likelihood of hazard and consequences of harm					
Select one	☐**Very Low**	☐**Low**	☐**Moderate**	☐**High**	☐**Very High**

Note: these are **after** the use of controls; the risk rating should be lower than prior to controls.

Section 5 – Emergency Procedures

5.1. Emergency procedures

Describe emergency procedures to be followed in case of an incident. Depending on the nature of the work, this would typically cover spillages, personal exposure (splash, accidental inoculation), accidental release in the environment (incl. escape of animals, release of pollen).
This section may also include response to failure of engineering controls (e.g. MSCs, autoclaves).

5.2. Emergency contacts

Name	Position	Contact number

Identify the person(s) to be contacted in case of an emergency. This is not necessarily the person responsible for the work; it could be the laboratory manager for example.

Section 6 – Licences and authorisations

6.1. HSE notification

Select one	☐Not required	☐Submitted	☐Obtained

All work with HG3 agents, and the HG2 agents *Bordetella pertussis*, *Corynebacterium diphteriae* and *Neisseria meningitidis* must be notified to HSE in advance of work commencing. **Consent must be obtained before the agents are obtained, and before work can start.**
Consent is given for a body of work; any significant changes must be notified to HSE (e.g. change from *in vitro* work to *in vivo* work) and approval granted by HSE before work can start.

6.2. Specified Animal Pathogen Order (SAPO) licence			
Select one	☐Not required	☐Submitted	☐Obtained

All work with SAPO2, or SAPO3 agents must be notified to HSE in advance of work commencing.
Consent must be obtained before the agents are obtained, and before work can start.
Consent is given for a body of work; any significant changes must be notified to HSE (e.g. change from *in vitro* work to *in vivo* work) and approval granted before work can start.
The SAPO licence is issued to the University of Glasgow, any request for changes must be submitted *via* the University Biological Safety Adviser (aude.aumeunier@glasgow.ac.uk).

6.3. Plant Health authorisation (SASA licence)			
Select one	☐Not required	☐Submitted	☐Obtained

Plant health authorisations are required if the work involves non-indigenous or quarantine plants (including part of plants and seeds), invertebrate plant pests (arthropods, molluscs and nematods), plant pathogens (fungi, bacteria, viruses, virus-like agents and phytoplasmas), certain imported soils and plant material, or prohibited plants.
The Scottish Government also issues plant health authorisation for collection of wild plant material.
Consult the UK Plant Health Register for additional information.
Licence must be granted before the material is obtained, and before work can start.

6.4. Import, export or other licence			
Select one	☐Not required	☐Submitted	☐Obtained

List any other licence that may be required for the work. This could include:

- licence under the Trade in Animals and Related Products Regulations (TARPS)
- licence under the Importation of Animal Pathogens Order (IAPO)
- licence under the Importation of Animal Products and Poultry Products Order (IAPPO)
- licence under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)
- licence under the Animals (Scientific Procedures) Act (ASPA)
- licence for dual-use items
- ethics licence

This is not an exhaustive list; it is the responsibility of the researcher to **obtain all required licences before the material is acquired and work starts**.

Section 7 – Approval

7.1. Assessor

This risk assessment was written by:

Name	Signature	Date

Person completing the risk assessment.

7.2. Approver: Principal Investigator or person responsible for the work

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 reviewed if any significant changes occur.
- Work will only be undertaken in appropriate facilities.

Name	Signature	Date

The RA must be approved by the person responsible for the work (PI, manager, group/project lead, …).
The risk assessment may have been written for another research group or body of work; if relevant for a project, the PI/person responsible for the project may sign it as appropriate for their own group/work.
If the PI/responsible person wrote the RA, they must sign it twice: once as assessor, once as approver.

7.3. Other approval where appropriate (e.g. Safety Committee, safety or facility manager…)			
Name	Position	Signature	Date
Any other internal approval required: chair of H&S Committee, safety manager, facility manager, etc. Note: SEPS does not approve risk assessments but can provide advice on their content.			

Section 8 – Review

This risk assessment must be reviewed periodically, and immediately if there are any significant changes to the work or after an incident.

8.1. Summary of changes	
Review 1	Summarise the changes/amendments made at each review cycle. Complete this section even if no changes are needed to indicate that the document has been reviewed. Writing amendments in a different colour in the text may help visualise the changes and identify significant changes more easily.
Review 2	

8.2. Assessor		
Name	Signature	Date
Person reviewing the risk assessment. Sign off is required even if no changes are made after the review to indicate the process has been completed.		

8.3. Approver: Principal Investigator or person responsible for the work		
Name	Signature	Date
The RA must be approved by the person responsible for the work (PI, manager, lead, …). Sign off is required to confirm that the RA has been reviewed and is suitable and sufficient for the work (even if no changes are needed).		

8.4. Other approval, where appropriate (e.g. Safety Committee, safety manager…)			
Name	Position	Signature	Date
Any other internal approval required: chair of H&S Committee, safety manager, facility manager, etc.			

Risk Estimation Matrix

Consequence of hazard	Likelihood of hazard				
	Very unlikely	Unlikely	Possible	Likely	Very likely
Insignificant	Very Low	Very Low	Low	Low	Low
Minor	Very Low	Low	Low	Moderate	Moderate
Moderate	Low	Low	Moderate	Moderate	High
Major	Low	Moderate	Moderate	High	Very High
Catastrophic	Low	Moderate	High	Very High	Very High

Glossary

Scoring Consequence of hazard

Consequence	Impact to human	Impact to community	Impact to environment
Insignificant	Not likely to cause harm or injury	Does not lead to disease in human or animal	No impact to environment
Minor	Injury requiring first aid treatment only. Discomfort is temporary and reversible	May infect lab worker but no community risk	No impact to environment
Moderate	Injury requires medical treatment (up to three days of absence)	May infect lab worker but worker is not contagious or may spread to the community, but prophylaxis is available	May have impact that takes weeks to reverse
Major	Significant injury (up to seven days of absence) or long-term life-threatening occupational disease	High risk of spreading to the community but effective prophylaxis or treatment is available	Great impact to environment, may take years to reverse
Catastrophic	Permanent injury or life-long disease or death	High risk of transmission to human or animal. No effective prophylaxis or treatment is available.	Irreversible impact to environment

Scoring Likelihood

Likelihood	Description
Very unlikely	Not expected to happen in a lifetime
Unlikely	May occur at some time
Possible	Known to occur
Likely	Will probably occur in most circumstances or at constant interval
Very likely	Is expected to occur in most circumstances

Action Level Table

Risk Level	Actions to be taken	
Very Low Risk	**No Action**	No further action is usually required but ensure that existing controls are maintained and reviewed regularly.
Low Risk	**Monitor**	If possible, try to reduce risk; monitor the situation to ensure that risk remains low.
Moderate Risk	**Action**	Moderate risks may be tolerated while further control measures to reduce the risks are being planned and implemented or if no risk reduction is possible. Where practicable, improvements should be made.
High Risk	**Urgent Action!**	Take immediate action and stop the activity, if necessary. Maintain existing controls rigorously. The continued effectiveness of control measures should be monitored periodically.
Very High	**STOP!**	Stop the activity and take immediate action to reduce the risk. A detailed plan should be developed and implemented before work commences or continues. Senior management should monitor the plan.