

**BMS\_RA1 Risk Assessment**

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| Describe the activity, experiment or area under assessment. Workshop on Saturday 28th March, run by Biomakespace volunteers, following the established ONT protocol for Nanopore library preparation and MinION loading with pre-prepared DNA samples. |

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| List the significant hazard(s).1 | Describe what could go wrong – that is, say who might be hurt and how.2 | Is the risk high, medium or low?3 | Please list the existing and/or intended control measures which will reduce the likelihood of all this happening.4 | Who will carry these measures out? Is the residual risk high, medium or low?. |
| Contact of any reagents used during protocol with eyes / inhalation / ingestion | Injury to participants or BMS volunteers | Low | Participants will receive an initial safety briefing, and will wear appropriate PPE at all times in the lab: lab coats, goggles, gloves. Any minor injury will be treated using the standard first aid procedure using the first aid kits in the main lab. Any major injury can be referred to the nearby A&E. All spillages will be handled according to the BMS08 Accident at Work Emergency Plan. | Biomakespace volunteers and participants will carry out these measures. Residual risk is thought to be low. |
| Combustion of flammable ethanol (70%) used for disinfection | Injury to participants or BMS volunteers, damage to lab equipment or property | Low | Participants will receive information about fire safety & evacuation during the initial safety briefing, including locations of fire blanket and extinguishers. Ethanol (70%) will be kept in plastic spray bottles and used only for disinfection equipment when absolutely required, then returned to flammables cabinet when not in use. No naked flames are permitted in the lab. | Biomakespace volunteers and participants will carry out these measures. Residual risk is thought to be low. |
| Handling DNA / transfer of purified and amplified DNA prepared for sequencing into the external environment | Containment issue. | Low | Participants will wear lab coats, gloves, safety glasses and dispose of gloves and any contaminated consumables into autoclave-indicated waste disposal bags, with any contaminated glassware being autoclaved. | Biomakespace volunteers and participants will carry out these measures. Residual risk is thought to be low. |
| Boiling agarose in TAE during melting | Sputtering boiling agarose on skin and eyes. | Medium | Wear lab coat, gloves, safety glasses.  Care to be taken when boiling agarose. Periodic affiliation of solution. GLP. Participants will not join in this step. | Biomakespace volunteers only. Residual risk is thought to be low. |
| Ethidium bromide vapour | Ingesting ethidium bromide vapours by touch or breathing. | Medium | Wear lab coat, gloves, safety glasses.  Care to be taken when boiling agarose. Periodic affiliation of solution. Hold flask of molten agarose away from face. GLP. Participants will not join in this step. | Biomakespace volunteers only. Residual risk is thought to be low. |
| Electric shocks during electrophoresis | Electrical shocks from poor connections or spillages. | Medium | Take care that leads are connected properly.  Do not touch spillages during electrophoresis. Turn off power supply and dry up spillage. GLP. | Biomakespace volunteers and participants will carry out these measures. Residual risk is thought to be low. |
| Trailing electrical leads. | Trips or falls due to loose leads. | Medium | Ensure leads are well inside the bench space. GLP. | Biomakespace volunteers and participants will carry out these measures. Residual risk is thought to be low. |

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| Important! It is essential to check regularly that control measures specified in this risk assessment document are actually being used in practice. Any specialist emergency or first aid procedures should be specified here.  None required | |
| If any Standard Operating Procedure (SOP) is required, please specify it here or attach it to this form. Any specialist training required should also be specified here  None required | |
| Are any lone working or out of hours restrictions required for this project?  **All work will be on a weekend day; no lone working will occur.** No lone working or out of hours restrictions beyond standard Biomakespace policies. | |
| Is special monitoring (e.g. hearing test, eye test, health surveillance) required? If so, please enter details and also contact the Safety Officer for advice.  None required. | What personal protective equipment (PPE) is required (e.g. overalls, gloves, respiratory protection, eye protection)? You must ensure that any PPE specified is suitable for the purpose.  Lab coat and nitrile gloves at all times, safety goggles where appropriate, thick insulating gloves for handling -80C freezer or heated liquids. |

Please complete this section to confirm that this constitutes a suitable and sufficient assessment of risk.

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| Name of assessor:  Abigail Wood | Signature:  ABIGAIL WOOD | Date:  3 Mar 2020 | Name of Biomakespace Safety Team member: | Signature: | Date: |

This assessment should be reviewed regularly (usually every 12 months), or earlier if there is a material change to the process, the equipment, location or relevant safety technologies. It should also be reviewed when new people are involved, or after an accident or incident has taken place.

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| Reviewed by (name) | Signature | Date | Indicate changes here5 |
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1 A list of hazards is provided below to help you, but this may not be exhaustive. If any of these hazards can be eliminated altogether, or can be reduced at source by making an inherent change then we must consider doing so. Hazards in **bold** will also need an additional, more technical assessment on a specialist form - please ask the Safety Officer for further advice.

High or low temperatures High pressures **Chemical hazards** **Biological hazards Genetically Modified Organisms**

**Ionising radiations** **Lasers**  Sharp objects **Dusts** Work at heights **Animal houses**

Magnetic fields Machinery hazards Electricity **Manual Handling** Noise Vibration

Falling objects Collapsing structures Flooding Slips, trips and falls Asphyxiant gases **Flammable gases**

2 Please explain how an accident, incident or health condition could arise. We must consider all events which are *reasonably foreseeable*.

3 Please see the health and safety risk assessment handbook for further guidance on levels of risk.

4 When deciding on suitable control measures, you should ensure that you are complying with all relevant University policy and guidance documents, and that you have considered the hierarchy of control measures. In order to comply with legislation, we must also take all steps which are ‘reasonably practicable’ to reduce risk. This means that we should take all steps which are (in terms of time, cost and trouble) reasonable in relation to the reduction of risk achieved.

5 If changes are extensive, you will need to complete a whole new form, or attach a written amendment. If there are no changes say so.