**Manchester Institute of Biotechnology - Risk Assessment Form**



| **Date:**  Jan 2015 | **Assessed by**:  Sandra Kennedy | **Validated by**:  Tanya Aspinall | **Location**:  MIB |  | **Review date:**  2016 |
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| **Task**  Transport and handling of liquid nitrogen; Dispensing of liquid N2 into appropriate containers for use in laboratories; Filling of cell freezers with liquid N2; Transport of liquid N2 in goods lift. | | | | | |

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| **Activity** | **Hazard** | **Person(s) in dange**r | **Existing measures to control risk** | **Risk rating** | **Result** |
| Transport / handling of liquid nitrogen | Release of liquid nitrogen – risk of asphyxiation | Staff and those in close proximity | All staff must be trained in the correct handling and transport of liquid nitrogen. They must complete COSHH and risk assessments so that they are aware of the hazards associated with the handling of liquid nitrogen, and understand the emergency procedures that should be followed in case of an accident.  All staff who handle/use liquid nitrogen must have attended a chemical safety course which details the risks associated with liquid nitrogen, and what to do in case of a burn injury.  The following items of PPE must be worn: Howie-style laboratory coat, BS EN 511 compliant gloves (low temperature), BS EN166 compliant eye protection (chemical splash proof safety glasses) and face shield. A selection of safety glasses and goggles are available from MIB Stores; users are advised to visit Stores and select eye protection which fits well and is comfortable to use. Regular lab inspections monitor the wearing of PPE; users found not to be wearing PPE when the risk assessment states that it must be worn will be subject to the MIB compliance policy.  In rooms where liquid nitrogen is regularly used, oxygen monitors and alarms are present, and are tested regularly to ensure they are functional. Where it is a one-off experiment, in a room not normally used for such work, personal oxygen monitors must be obtained from MIB technicians and used.  Warning signs and emergency advice are prominently displayed.  Staff are forbidden from travelling in the lift with liquid nitrogen. The lift lock-off system must be used. A warning sign must be displayed to warn others not to enter the lift during liquid nitrogen transport. | low | A |
| Dispensing liquid nitrogen | Release of liquid nitrogen – risk of frostbite / cold burns | Staff and other building users | Use suitable lidded storage containers with proper insulation. Do not dispense into or transport in a non-insulated or non-vented container.  Two personnel to be present when large volumes of liquid nitrogen are dispensed.  No personnel to enter room when oxygen alarm sounds. Staff to evacuate room when alarm sounds continuously.  Equipment regularly checked by designated person. Annual check of containers and valves by B.O.C.  Inspection of the dispensing machinery and room made on a weekly basis. | low | A |
| Lifting liquid nitrogen vessels | Manual handling-could suffer damage to back if heavy/bulky items are incorrectly handled | Staff | Staff trained in correct manual handling techniques.  Trolley used to transport heavy items. | low | A |

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| **Authorisation by PI**  **I confirm that I have considered and understand the experiment and the associated hazards. I am satisfied that all of the hazards have been identified and that the control measures to be followed will reduce the risks to acceptable levels.**  **Print name: Signed:**  **Date:** |

**Declaration by researcher**

**I confirm that I have read this Risk Assessment and that I understand the hazards and risks involved and will follow all of the safety procedures stated. Where PPE has been identified as a control measure, I will ensure that it is worn.**

**Declaration by PI**

**I confirm that the researcher who has signed below is competent to undertake the work. My counter-signature indicates that I am happy for the work to proceed.**

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| **Name (please print)** | **signed** | **PI countersignature** | **date** |
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