**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**  Use of centrifuges and ultra-centrifuges;  Loading samples into rotors; installation of rotors into centrifuges for centrifugation; unloading and cleaning of rotors as applicable to both high-speed centrifuges and ultra centrifuges. | | | | | |

| **Activity** | **Hazard** | **Person(s) in dange**r | **Existing measures to control risk** | **Risk rating** | **Result** |
| --- | --- | --- | --- | --- | --- |
| Use of centrifuges and ultra-centrifuges | Manual handling – heavy rotors can cause injury when lifting or dropped | Staff and service engineers; damage to back if heavy/bulky items are incorrectly handled/dropped | Users must be trained in the correct and safe use of centrifuges. Dr. John Hughes provides training within the MIB for all users of ultracentrifuges and floor-standing high speed centrifuges.  Dr. Hughes maintains a database of trained centrifuge-users. All users must receive training and must have their name recorded on the database.  Trolley used to transport heavy rotors | low | A |
|  | Mechanical hazard-Serious hand/arm injuries can be caused if centrifuges are opened and rotors touched before they have stopped running. | Staff | Guards in place to ensure centrifuges can’t be opened before they have completely stopped. | low | A |
|  | Mechanical failure at speed - due to possible violent movement of the machine itself or escape of a rotor at speed from the machine. | Staff-could suffer damage to back if heavy/bulky items are incorrectly handled | Monthly inspection and cleaning of rotors by technical support staff.  Database of all communal centrifuges in the MIB to ensure annual service of all centrifuges and rotors by independent engineer | low | A |
|  | Chemical/Biological hazard – due to breakage of centrifuge tubes inside the rotor | User | The following items of PPE must be worn: Howie-style laboratory coat, BS EN374 compliant gloves (nitrile) and BS EN166 compliant eye protection (chemical splash proof safety glasses). 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.  All rotors must be checked after use to ensure that tubes are intact. Any biological/chemical spillages must be cleaned up before returning the rotors to storage. | low | A |
|  | Biological hazard - aerosol formation due to breakage of centrifuge tubes | User and staff in close proximity | In the event of centrifuge failure or imbalance due to sample breakage the centrifuge must be switched off and left to come to a complete stop.  The lid must remain closed for at least 30 minutes to allow biological aerosols to settle.  Dr John Hughes and the PI should be notified.  The following items of PPE must be worn: Howie-style laboratory coat, BS EN374 compliant gloves (nitrile) and BS EN166 compliant eye protection (chemical splash proof safety glasses). 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. | 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.**

| **Name (please print)** | **Signed** | **PI countersignature** | **Date** |
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