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

TUOM_4COL

| Date:  26/01/15 | Assessed by:  Derren Heyes | Validated by:  Tanya Aspinall | Location:  LG.045 |  | Review date:  26/01/16 |
| --- | --- | --- | --- | --- | --- |
| Task **Use of liquid nitrogen cryostat (Opstistat DN) for low temperature spectroscopy** | | | | | |

| Activity | Hazard | Person(s) in danger | Existing measures to control risk | Risk rating | Result |
| --- | --- | --- | --- | --- | --- |
| Use of cryostat | 1. Electrical failure  2. Possible exposure to toxic chemicals during sample preparation  3. Cold burns when using liquid nitrogen  Risk of asphyxiation from excess N2 gas into lab | User | 1. Cryostat is fully maintained in accordance with manufacturer’s instructions. Servicing and repair is carried out by the manufacturer or by suitably qualified personnel.  All electrical equipment is fully PAT tested  2. All hazardous chemicals to be used in full accordance with COSSH assessment (provided by the user). All identified control measures are followed.  3. Liquid nitrogen, all cryo containers and connections to be handled using BS EN 511-compliant low-temperature gloves with elasticated cuffs.    The following items of PPE must be worn when filling the cryostat: 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.  Liquid N2 always used in approved cryogenic dewars  Low-level O2 monitors present in lab | Medium | A |
| Generation of a vacuum | Implosion hazard | User | High vacuum pump are inspected and maintained in accordance with manufacturer’s recommendations.  Users are instructed in the safe handling and usage of high vacuum by Senior Experimental Officer.  Ensure all seals, O-rings and windows are clean and all connections are tight to maintain high vacuum | Medium | A |

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| **Authorisation by Facility Manager**  **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 Facility Manager**

**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** | **Facility Manager countersignature** | **date** |
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