**MIB Risk Assessment Form**

TUOM_4COL

| Date:  26/01/15 | Assessed by:  Derren Heyes | Validated by: | Location:  MIB 3.056 |  | Review date:  26/01/16 |
| --- | --- | --- | --- | --- | --- |
| Task **Use of cryogenic stopped-flow instrument** | | | | | |

| Activity | Hazard | Person(s) in danger | Existing measures to control risk | Risk rating | Result |
| --- | --- | --- | --- | --- | --- |
| Use of stopped-flow | 1. Electrical failure  2. Use of high voltage photomutiplier tubes  3. Possible exposure to toxic chemicals during sample preparation  4. Multiple moving parts during operation. | User | 1. All stopped-flows to be fully maintained in accordance with manufacturer’s instructions. Their servicing and repair to be carried out by the manufacturer or by suitably qualified personnel. All electrical equipment to be fully PAT tested  2. a. Users to be instructed in the safe operation of instrumentation by Senior Experimental Officer of Fast Reaction Facility (Dr Derren Heyes, ext. 65159).  b. Always turn voltage off when handling photomultiplier tubes.  3. All hazardous chemicals to be used in full accordance with COSSH regulations (provided by the user).  4. a. Ensure that all moving parts are not impeded by anything.  b. Whenever equipment does not work according to training and/or expectation, report the fault to the Senior Experimental Officer who will check the system before further use. | Medium | A |
| Use of stopped-flow | 5. Possible exposure to UV radiation from Xenon light sources  6. Very hot lamp housings after continued use | User | 5. Care to be taken when handling Xenon light sources. Avoid looking directly at the light source.  6. Avoid touching lamp housing when in use | Medium | A |
| Changing Xenon arc lamps | Possible risk of explosion of hot lamps | User | Only change lamps when they are cold  Wear BS EN 166 compliant protective goggles when changing lamps. | Medium | A |
| Use of N2 gas | Risk of leak of N2 gas into lab | User | All gas lines are checked regularly and used with an approved regulator.  Never exceed the stated pressure.  Low-level O2 monitors present in lab. | Poss | A |
| Handling of liquid N2 | Cold burns when using liquid nitrogen  Risk of asphyxiation from excess N2 gas into lab | User | Liquid nitrogen, all cryo containers and connections to be handled using BS EN 511(low temperature) compliant gloves.  Liquid N2 always used in approved cryogenic containers and dewars  Low-level O2 monitors present in lab | Medium | A |
| Use of methanol | Possible exposure to toxic solvent | User | Methanol to be used in full accordance with COSSH regulations (see attached form)  Methanol only to be used within sealed contained at the back of the stopped-flow instrument | 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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