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| Health and safety services |

Risk assessment form

Anaerobic chamber

**RISK ASSESSMENT FORM - SAMPLE**

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| **RISK ASSESSMENT DETAILS** | | | | | | | | **DEGREE OF RISK** | | | | **RISK RATING MATRIX** | | | | |
| |  |  | | --- | --- | | Faculty/School/Service | Earth and Environment | | Team | Cohen |  |  |  | | --- | --- | | Risk Assessment Title | Handling and servicing anaerobic environments | | Risk Assessment Log Reference |  | | Date | 30/2/2014 | | Name of Assessors | Andy Connelly | | Manager Responsible | Caroline Peacock | | Location | SEE west wing, Cohen, 9.130 | | Details of Activity  Use of high pressure gases to maintain an anaerobic environment inside the Coy anaerobic chamber. | |   Other assessments which might also be required, ✓ if needed:  Manual Handling X REF  COSHH X REF  Personal Protective Equipment (PPE) X REF  Noise REF  Other REF | | | | | | | | |  |  | | --- | --- | | **LIKELIHOOD (L)** | | | 5 | Inevitable | | 4 | Highly Likely | | 3 | Possible | | 2 | Unlikely | | 1 | Remote Possibility | | | | | |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | |  |  | **SEVERITY** | | | | | | **LIKELIHOOD** |  | 1 | 2 | 3 | 4 | 5 | | 1 | 1 | 2 | 3 | 4 | 5 | | 2 | 2 | 4 | 6 | 8 | 10 | | 3 | 3 | 6 | 9 | 12 | 15 | | 4 | 4 | 8 | 12 | 16 | 20 | | 5 | 5 | 10 | 15 | 20 | 25 | | | | | |
| |  |  | | --- | --- | | **SEVERITY (S)** | | | 5 | Very High -Multiple Deaths | | 4 | High - Death, serious injury, permanent disability | | 3 | Moderate - RIDDOR over 3 days | | 2 | Slight - First Aid treatment | | 1 | Nil - Very Minor | | | | | **PERSONS AT RISK** | | | | |
| |  | | --- | | PERSONS AT RISK | | Employees | | Students | | Clients | | Contractors | | Members of the public | | Work Experience students | | Other Persons | | | | | |
| |  |  | | --- | --- | | **REVIEW DATES** | | |  |  | |  |  | |  |  | | | | | | | | | |  |  | | --- | --- | | RISK RATING SCORE | ACTION | | 1 - 4 | Broadly Acceptable - No action required | | 5 - 9 | Moderate - Reduce risks if reasonably practicable | | 10 -15 | High Risk - Priority Action to be undertaken | | **16 -25** | Unacceptable **-Action must be taken IMMEDIATELY** | | | | | | | | | |
| **HAZARD AND RELATED ACTIVITIES**  e.g. trip, falling objects, fire, explosion, noise, violence etc. | | **PERSONS**  **AT RISK**  e.g. Employees, Customers, Contractors, Members of the public | **POSSIBLE OUTCOME** | | **RISK RATING BEFORE CONTROLS (LxS)** | | **EXISTING CONTROLS**  e.g. Guards, Safe Systems of Work, Training, Instruction, Authorised Users, Competent Persons, Personal Protective Equipment (PPE) | | | **RISK RATING AFTER CURRENT CONTROLS (LxS)** | | | **FURTHER CONTROLS REQUIRED?** | | | **RISK RATING AFTER ADDITIONAL CONTROLS (LxS)** |
| Electrocution through use of the airlock and items in the chamber. | | Users of the chamber | death | | 4(s)x2(l)=8 | | All equipment is visually checked annually. These are regularly checked visually and are never removed from the anaerobic chamber. Further, the gloves protect users from electric shocks. | | | 4(s)x1(l)=4 | | | No | | |  |
| Falling objects and use of the shelving unit in the chamber | | User and other lab users and cleaning staff | Spillage of silica gel and catalyst (see COSHH).  Dropped items from the shelves could lead to injury to the lower arms and hands.  See COSHH for individuals samples hazards. | | 3(s)X3(l)=9 | | All users are trained in dealing with these spills and there is a nominated person responsible for the maintenance of the chamber.  Samples are not placed on the higher shelves. Unless the user is capable of comfortably reaching them. | | | 3(s)x2(l)=6 | | | No | | |  |
| Burns from steam whilst degassing water | | See degassing risk assessment and COSHH assessments – **SOP must be followed** | | | | | | | | | | | | | | |
| Use of gas cylinders | | See gas cylinder risk assessment and COSHH assessments – **SOP must be followed** | | | | | | | | | | | | | | |
| There is a possibility of exposure to chemicals used in the chamber by other workers not covered in the COSHH form. | | The person responsible for the maintance of the chamber and other chamber users. | Poisoning, by toxic chemicals. | | 4(s)x4(l)=16  The severity rating depends on the chemicals used in the chamber. | | All samples and material must be labelled with hazard signage according to CHIP.  The users of the chamber must complete a full assessment of their work from a SOP, RA and COSHH BEFORE any work is carried out. All users must be aware of what is in the chamber. All spillages must be cleaned up immediately without exception. A supply of cleaning materials must be maintained within the chamber to aid cleaning. The person responsible for the chamber must wear PPE when handling catalyst and silica gel. | | | 4(s)x2(l)=8 | | | Yes if equipment is to the placed into the chamber and an end needs to be removed then the chamber must have the end removed and left for at least an hour in the lab with the fans running to reduce the risk of asphyxiation inside the chamber itself. To ensure full ventilation of the lab the fume cupboard must be switched on according to SOP for fume cupboards. | | | 4(s)x1(l)=4 |
| Skin infection and dermatological problems | | Chamber users | Spread of warts and contact transferable conditions | | 3(l)x2(s)=6 | | Nitrile gloves MUST be worn inside the chamber gloves by ALL. | | | 1(l)x2(s)=2 | | | No | | |  |
| Gas leaks possible explosion or fire due to damage to the chamber. | | Chamber users and other lab workers | Severe burns to multiple deaths. | | 5(s)x4(l)=20 | | No jewellery especially rings (including watches) are to be worn by users of the chamber with hands in gloves. Sharps and scissors are not to be used inside the chamber. If scissors must be used then they must be blunt nosed type and if sharps are to be used they there must be an SOP put in place. The chamber can be kept slightly deflated to reduce the risk of puncturing the tent. | | | 5(s)x2(l)=10 | | | no | | |  |
| Hot material  Burns due to the drying to silca gel and reactivation of the palladium catalyst. | | Chamber uses and person responsible for maintenance. | Burns to the hands and lower warms | | 3(s)x4(l)=12 | | Heat resistant gloves must be used when handling material directly from the oven and material should be left to cool in the air lock before being placed into the chamber due to the risk of melting the chamber gloves. | | | 3(s)x2(l)=6 | | | no | | |  |
| **MANAGEMENT AGREED**  **ADDITIONAL CONTROL MEASURES REQUIRED** | | | | **ACTIONED BY** | | | | | | | **ACTION COMPLETE** | | | | | |
| **POSITION** | | **NAME** | | | **DATE** | | **MANAGER SIG** | | | | **DATE** | |
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| **COMMUNICATION OF RISK ASSESSMENT FINDINGS TO STAFF** | | | | |
| **REFERENCE OF FORMAL COMMUNICATION TO STAFF** | **METHOD** | **YES** | **DATE** | **COMMENTS** |
| Copy of risk assessment issued to staff |  |  |  |
| Controls covered in team procedure issued to staff |  |  |  |
| Staff Handbook issued to staff |  |  |  |
| Other - |  |  |  |
| **ADDITIONAL METHODS OF COMMUNICATION** | Induction |  |  |  |
| Toolbox Talk |  |  |  |
| Team Meeting |  |  |  |
| E-mail circulation |  |  |  |
| Other - |  |  |  |

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| **COMMENTS AND INFORMATION**  (Use this section to record any dynamic risk assessment comments and information) |
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| **Do additional controls adequately lower high risk activities to an acceptable level?** | **YES / NO**  If NO explain in comments box above | **SIGNATURE OF MANAGER**  "The risks identified in this assessment are controlled so far as is reasonably practicable" | |
| Signature: | Date: |

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| **DATE OF REASSESSMENT**  (Every two years minimum) | **ARE THERE ANY CHANGES TO THE ACTIVITY SINCE THE LAST ASSESSMENT?** | **SIGNATURE OF MANAGER** |
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| **LOCATION OF CURRENT SIGNED RISK ASSESSMENT** |  |