**University of Otago**

**Laboratory health and safety audit tool**

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| **Location Details:** |
| **Department:** | **DLM:** |
| **Building:** | **Room:** | **Date:** |
| **Name Of Auditor(s)** | **Signature of Auditor(s)** |
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| **Laboratory Designations:** |
| [ ] **HSNO Exempt** [ ] **Radionuclide Laboratory** [ ] **X-Ray Laboratory** [ ] **Laser Laboratory**[ ] **PC2 Clinical** [ ] **Other:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**  |
| **Is the laboratory part of a MPI registered containment/transitional facility?** [ ] **NO** [ ] **YES*****If yes, please complete details below:*****PC Level:** [ ] **PC1** [ ] **PC2** [ ] **PC3****PC Type:** [ ] **Microbiological** [ ] **Animal** [ ] **Plant** [ ] **Invertebrate** [ ] **Other:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**  |

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| **Corrective actions identified** | **Completed during audit?** | **Date Entered in Vault** |
| **No** | **Yes** |
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| A | Laboratory Facilities (Stat Budget Audit Items) | Yes | No  | na | Comment/Notes |
| 1 | Laboratory can be secured when not occupied. |  |  |  |  |
| 2 | Door signage correct (includes correct lab designations, authorised personnel only and appropriate pictograms) |  |  |  |  |
| 3 | Bench-top surfaces impervious to liquids, resistant to chemicals in use and able to withstand heat. |  |  |  |  |
| 4 | Floors non-slip, easy to clean, impervious to liquids and resistant to chemicals in use. |  |  |  |  |
| 5 | Walls smooth, impervious to liquids, easy to clean, impermeable to liquids and resistant to chemicals in use. |  |  |  |  |
| 6 | Ceilings constructed of rigid, smooth-faced, washable material. |  |  |  |  |
| 7 | Laboratory furniture ergonomically suitable and coverings impervious to liquids. |  |  |  |  |
| 8 | All fixtures, fittings and equipment (including under-bench cupboards) designed to allow ready access to floor for cleaning.  |  |  |  |  |
| 9 | Internal fittings (e.g. lights, ducts) designed to minimise horizontal dust-collecting services. |  |  |  |  |
| 10 | Shelving provided with earth quake restraints and is fixed to wall or other fixed support. |  |  |  |  |
| 11 | Gaps around pipework and other penetrations have been sealed. |  |  |  |  |
| 12 | Skirting boards in good condition or flooring coved to wall. |  |  |  |  |
| 13 | Noticeboards impervious to liquids (can be wiped clean) |  |  |  |  |
| 14 | Varnished surfaces (e.g. window sills, benches, shelves) in good condition. |  |  |  |  |
| 15 | Appropriate provision of chemical storage cabinets for storage of: |  |  |  |  |
|  | a | Flammable liquids (Class 3) |  |  |  |  |
|  | b | Flammable solids (Class 4) |  |  |  |  |
|  | c | Oxidizers (Class 5) |  |  |  |  |
|  | d | Toxic (Class 6) |  |  |  |  |
|  | e | Corrosives (Class 8) |  |  |  |  |
| 16 | Gas cylinder restraints available. |  |  |  |  |
| 17 | Separate write-up areas provided outside of laboratory. |  |  |  |  |
| 18 | Sufficient hooks/storage for laboratory coats provided adjacent to main laboratory exit. |  |  |  |  |
| 19 | Hand-wash facilities provided adjacent to exit from laboratory and able to foot, elbow or electronically operated. |  |  |  |  |
| 20 | Laboratory sinks with hot and cold water provided. |  |  |  |  |
| 21 | Emergency eye-wash facilities available (no more than 15m from any point in the laboratory) and able to be used as drench hose. |  |  |  |  |
| 22 | Safety Shower provided. |  |  |  |  |
| 23 | Gas shut-off valve available and clearly identified. |  |  |  |  |
| 24 | Laboratory is mechanically ventilated. |  |  |  |  |
| 25 | Negative air pressure relative to adjacent non-PC2 areas maintained (i.e. direction of air movement is into PC2 facility). |  |  |  | n/a for non-PC2 labs |
| 26 | Recirculation into area outside PC2 facility does **not** occur. |  |  |  | n/a for non-PC2 labs |

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| B | Operational Requirements | Yes | No  | na | Comment |
| 1 | Are hazardous substances appropriately segregated according to their mutually compatibility and class? |  |  |  |  |
| 2 | Are hazardous substance storage areas clearly identified with the major hazard present? |  |  |  |  |
| 3 | Are corrosives stored in a manner that ensures segregation of: |  |  |  |  |
|  | **a** | Oxidizing acids from flammable or combustible substances (including organic acids such as glacial acetic acid) |  |  |  |  |
|  | **b** | Strong bases from strong acids |  |  |  |  |
|  | **c** | Other incompatible substances (e.g. cyanides, azides) |  |  |  |  |
| 4 | Are all containers in good condition and clean (i.e. free of residue/spills on outside). |  |  |  |  |
| 5 | Are the contents of unattended working containers clearly identified? |  |  |  |  |
| 6 | Is secondary containment provided for liquid substances? |  |  |  |  |
| 7 | Storage of hazardous substances in refrigerators: |  |  |  |  |
|  | a | Fridges used for storage of hazardous substances labelled with appropriate hazard symbols. |  |  |  |  |
|  | b | Are incompatible substances appropriately segregated within the fridge? |  |  |  |  |
|  | c | Fridges used for storing flammable liquids are designed or modified to eliminate internal sources of ignition (e.g. lights, fans, thermostat switches). |  |  |  |  |
|  | d | Fridges not designed/modified for storage of flammable liquids clearly signed as “Not to be used for storage of flammable liquids” or similar. |  |  |  |  |
| 8 | All gas cylinders appropriately restrained as below: |  |  |  |  |
|  | a | Large cylinders double-chained (top and bottom) using appropriate gas cylinder restraint |  |  |  |  |
|  | b | Small cylinders single chained or in stand. |  |  |  |  |
| 9 | No more than two cylinders of each gas formulation stored adjacent to each instrument. |  |  |  |  |
| 10 | Flash-back arrestors fitted between cylinders of flammable gases and equipment where gas used. |  |  |  |  |
| 11 | Benches clean and free of clutter, chemical residue and sharps. |  |  |  |  |
| 12 | Floors clean, free of clutter and trip/slid hazards (pools of liquid, ice, boxes, cables, damaged floor tiles etc.) |  |  |  |  |
| 13 | Items of portable electrical equipment have been electrically tested and tagged within the last 12 months. |  |  |  |  |
| 14 | Fume hood certification current. |  |  |  |  |
| 15 | Fume hoods clean, free of clutter and not used for storage of chemicals. |  |  |  |  |
| 16 | Laboratory coats, Safety Glasses and disposable gloves available. |  |  |  |  |
| 17 | Personnel working in laboratory are wearing appropriate PPCE (including appropriate footwear). |  |  |  |  |

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| C | Emergency Management and Documentation | Yes | No | na | Comment |
| 1 | University of Otago Emergency Procedures available? |  |  |  |  |
| 2 | Are the following emergency contact details provided adjacent to laboratory phones? |  |  |  |  |
|  | **a** | Emergency services? |  |  |  |  |
|  | **b** | The building street address? |  |  |  |  |
|  | **d** | Contact details for key personnel (e.g. lab managers, health and safety personnel, security) |  |  |  |  |
| 3 | First Aid Kit available? |  |  |  |  |
| 4 | Fire extinguishers available and appropriate for substances in use? |  |  |  |  |
| 5 | Fire blankets available. |  |  |  |  |
| 6 | Chemical spill kit available. |  |  |  |  |
| 7 | Safety Data Sheets readily available? |  |  |  |  |
| 8 | Is an inventory maintained which documents the following for all hazardous substances present |  |  |  |  |
| 9 | **a**  | The identity of any substances present? |  |  |  |  |
|  | **b** | The quantity (container size) of any substances present? |  |  |  |  |
|  | **c** | The hazard classifications of any substances present? |  |  |  |  |
| 10 | Tracked substances recorded, including records of all disposals or transfers in last 12 months? |  |  |  |  |

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|  | **Notes/comments** |
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NOTE: This section only needs to be completed by Sector Managers for MPI-registered Physical Containment Laboratories only

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| D | Sector Manager Checklist (MPI Registered Facilities Only) | Yes | No  | na | Comment |
| 1 | Is access to the laboratory is limited to specified personnel? |  |  |  |  |
| 2 | Are training registers available and if so are they up to date? |  |  |  |  |
| 3 | Does the laboratory hold registers for uncleared biological materials and new organisms? |  |  |  |  |
| 4 | Current Containment and Transitional Facility Manual available? |  |  |  |  |
| 5 | A biological spill kit containing SOP for cleaning spills is available? |  |  |  |  |
| 6 | Standard Operating Procedures (SOPs) |  |  |  |  |
|  | PC1 and PC2 SOP Version 1 |  |  |  |  |
|  | **a** | Current version present? |  |  |  |  |
|  | **b** | Have all old versions of the PC1 and PC2 SOP been removed? |  |  |  |  |
| 7 | Disinfectants: |  |  |  |  |
|  | **a** | Available for decontamination or sanitation use in the laboratory (record expiry date) |  |  |  |  |
|  | **b** | Present in biological spill kit (record expiry date) |  |  |  |  |
|  | **c** | What disinfectant is used to wipe down work surfaces wiped down at the end of each work period (list in comments section)? |  |  |  |  |
| 8 | Biological waste disposal: |  |  |  |  |
|  | **a** | Describe the waste disposal pathways used in the comments section. |  |  |  |  |
|  | **b** | All microbiological waste is autoclaved before disposal? |  |  |  |  |
|  | **c** | All contaminated glassware is autoclaved or chemically disinfected prior to washing and reuse? |  |  |  |  |
| 9 | Work practices: |  |  |  |  |
|  | **a** | Are food and drink present in the laboratory? |  |  |  |  |
|  | **b** | Is Long hair tied back? |  |  |  |  |
|  | **c** | Are incidents/accidents recorded? |  |  |  |  |
|  | **d** | Have there been any significant spills or accidents this year? |  |  |  |  |
|  | **e** | Are cultures clearly identified and appropriately stored? |  |  |  |  |
|  | **f** | Are water baths maintained in clean state? |  |  |  |  |
|  | **g** | Are benches free of clutter and other surfaces reasonably dust free? |  |  |  |  |
|  | **h** | Biohazard waste bags are NOT over full? |  |  |  |  |
| 10 | Storage of risk material: |  |  |  |  |
|  | **a** | Are biohazard symbols placed on all cupboards, refrigerators and freezers that contain risk material? |  |  |  |  |
|  | **b** | If other items are present, is the risk material in a container with a biohazard symbol and a code that relates it back to the BACC/MPI movement authority that accompanied it? |  |  |  |  |
|  | **c** | Freezers in public spaces are kept locked? |  |  |  |  |
| 11 | Additional requirements for PC2: |  |  |  |  |
|  | **a** | Are the laboratory doors normally closed when work is in progress? |  |  |  |  |
|  | **b** | Containers for infectious materials/waste |  |  |  |  |
|  | **c** | Is a Class II biological safety cabinet (BSC) available? |  |  |  |  |
|  | **d** | Is the Class II BSC inspected by a qualified inspector at least annually (record retest date)? |  |  |  |  |
|  | **e** | Is the Class II BSC used for procedures that may generate aerosols, such as shaking, mixing and ultrasonic disruption? |  |  |  |  |
|  | **f** | All material of human origin handled in a Class II BSC? |  |  |  |  |
|  | **g** | Is a centrifuge fitted with sealed rotors or cups used if large volumes or high concentrations of infectious material used? |  |  |  |  |
|  | **h** | Are washable keyboards or protective covers provided for keyboards on workbenches? |  |  |  |  |
|  | **i** | Are viable organisms transported double contained between laboratories? |  |  |  |  |

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|  | **Notes/comments** |
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