

	<b>Flinders University</b> <b>Safe Work Method Statement</b> <b>Mouse – PC1, PC2, and Infectious</b> <b>Containment Husbandry 18/06/19</b>			
				<b>College of Medicine and Public Health Animal Facility</b>
<b>SWMS Number</b>	<b>RA Number</b>	<b>RA Score</b>		
SWMS- 1.9	RA1.9	Medium		
<b>Contact Person</b>	<b>SWMS prepared by</b>	<b>AWC Approval Date</b>	<b>Review Date</b>	
Roxanne Collingwood	Roxanne Collingwood	18/06/2019	June 2021	

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### Legislation

- *Australian Code for the Care and Use of Animals for Scientific Purposes 8<sup>th</sup> Ed.*
- *Animal Welfare Act 1985*
- *Animal Welfare Regulations 2012*
- [Gene Technology Act 2000](#) (the Act)
- [Gene Technology Regulations 2001](#)
- *Work Health and Safety Regulations 2012*

### University Policy

- Work Health and Safety Policy 2013
- Responsible Conduct of Research Policy 2016
- NHMRC Guidelines

### Local Policy

Use of the College of Medicine and Public Health Animal Facilities by all staff and researchers of the College of Medicine and Public Health, Flinders University, is subject to awareness of, and adherence to the following:

#### **Research Involving Animals:**

- The University holds a licence for the use of animals for teaching and research purposes. To satisfy the requirements of the licence, anyone wishing to undertake teaching and research using animals must submit a proposal to the Animal Welfare Committee (via the Animal Ethics Review Sub-Committee). No work with animals may commence until written approval has been received from the Animal Welfare Committee. Standardised application forms for Research and Teaching can be found on the Flinders University website listed below. It is your responsibility to regularly check this site for updates to guidelines, forms etc  
[http://www.flinders.edu.au/research/researcher-support/ebi/animal-ethics/animal-ethics\\_home.cfm](http://www.flinders.edu.au/research/researcher-support/ebi/animal-ethics/animal-ethics_home.cfm)
- **All staff and students involved in animal research must complete Animal Ethics Online Training (AEOT) and must also regularly attend Animal Researcher Information Sessions (ARIS).**
- **All personnel working with Genetically Modified Animals (GMO) or working with in a PC1 or PC2 facility must attended a Biosafety Training Day every 3 years.**

### Safe Work Method Statement

Refer to Risk assessments, Safe Work Method Statements for chemicals, processes and plant equipment where appropriate. All projects must have an accompanying Risk Assessment signed by the Animal Facility Manager

SWMS 1.0 Mouse- Sexing, Handling, Restraint and Ear Notching  
 RA 1.0 Mouse- Sexing, Handling, Restraint and Ear Notching  
 SWMS 1.7 Mouse -Transportation

RA 1.7 Mouse -Transportation  
 SWMS 10.2 - Emergency Contingency  
 RA 10.2 - Emergency Contingency

### Personal Protective Equipment Required

- **Gloves**
- **Gown**
- **Mask**
- **Hair Net**
- **Shoe Covers**
- **Goggles as necessary**

### Hazards and Controls

- **Animal bites- training, demonstrate competency, adhere to SWMS**
- **Animal Scratches- training, demonstrate competency, adhere to SWMS**
- **Unintentional release of GMO- number of animals checked and recorded on “Researcher Movement Sheet”. Cage/ shipper secured with in the Animal room or PC facility to prevent accidental release. Attend Biosafety training every 3 years.**

### Before Work Commences

**Ensure that you are aware of the locations of the following:**

- **Spill Kit**
- **Fire Extinguisher**
- **Eye Wash**
- **Exits**

**Risk Assessment and SDS (Safety Data Sheet) - Ensure that you have read and understood for all the substances being used.**

### **Equipment**

- **Check for safety and electrical compliance**
- **Ensure that you have read and understood the Risk Assessment and Safe Work Method Statement**
- **Obtain training and demonstrate competency before using any equipment**

### General Information

- **All procedures are to be performed by trained competent staff.**
- **Training is available from senior animal house staff or Animal Welfare Officer.**
- **Evidence of training must be made available on request.**

### PC1 and PC2 Animal Facility Requirements

- All personnel working with Genetically Modified Animals (GMO) must attend a Biosafety Training Day every 3 years.
- Access to the facility is restricted to authorised (ie. trained) persons while any GMOs are in the facility.
- Except during the entry and exit of personnel, supplies, and/or equipment, doors of the facility must be closed and entrance doors into the facility must remain locked when facility personnel are not in attendance.
- Door barriers are to remain in place when using GMOs. If the door barrier is required to be removed, a check on the floor MUST be performed to ensure there are no animals on the floor prior to removal. Any escapees MUST be captured before removal of door barrier.
- GMOs must not be removed from the facility unless they are to be transported to another containment facility certified at the same PC level, or greater, and be approved by the Institutional Biosafety Committee (IBC).
- All GMOs being transported out of the facility must be transported in accordance with OGTR transport guidelines (double-contained, labelled, primary container sealed to prevent escape), and have approval from the IBC, and may require a Material Transfer Agreement (MTA).
- If a GM animal escapes within the facility, trapping devices must be used to capture the animal, and the animal must be returned to its container, or cage, or euthanized.
- Any real or suspected unintentional release of GMOs outside the facility must be reported to the Chair of Flinders University Institutional Biosafety Committee (Ext. 33239) as soon as reasonably possible, and follow the Biosafety Flow Chart.

### Environmental Parameters

- Light cycle: 12 hours light/12 hours dark (exceptions are noted on the room sign)
- Humidity: 30%-70%
- Temperature: 22°C +/- 2°
- Air flow: 10-20 Air Changes per Hour
- Report environmental problems in the room (i.e. room temperature variations >+/- 2°F from 22°C, obvious ventilation changes) to the Manager or Senior Animal Care Officer and/or FMC Control Centre ext. 64582.

### Room Entry and Exit

- Mop the square in the room entrance with F10sc or Virkon.
- Step into the square and put on mask, hair net, and gown.
- Put one shoe cover on, step over the square, then put on the other shoe cover.
- Put on gloves. If they develop a hole at any time whilst in the room, replace the glove.

- To Exit the room, mop the square with F10sc or Virkon, remove one shoe cover, then step into the square and remove the other shoe cover. NOTE: Shoe covers can be reused if suitable (i.e. no holes in them) and re-entering the room. Please place shoe covers to be reused in the labelled container provided. In rooms where an infectious agent is in use, all shoe covers are only to be used once and then discarded.
- Remove and label gown if required to re-enter the room. Discard cap, mask, and gloves.
- **All consumables must be disposed of after handling infectious animals and waste, and double contained for autoclaving and disposal.**

### Daily Room Checks

- All cages are to be checked daily for food and water, and topped up as necessary. Cages must be changed if the water bottle has leaked.
- Rooms are stocked with supplies.
- Health problems are reported to Senior Animal Technician, Animal Welfare Officer, and the Principal Investigator (PI) or designated lab contact person.
- Floors must be swept to remove any debris.
- Room Check List and Clinical Record Sheets (if applicable) must be filled in on completion of the room check.
- If Animals are entering or exiting the room, they must be recorded on the "Researcher Animal Movement Sheet".

### Water

- Water is provided ad lib via bottle. Technicians must check the sipper tube if the water level has not changed for blockage or air pockets.
- Water bottles are emptied, scrubbed, and refilled weekly.
- When returning water bottles to the cage, invert the bottle several times to ensure there isn't an air lock present or a blocked sipper tube.

### Food

- Food is to be provided ad lib, unless otherwise indicated by special instruction by the researcher.
- Food is to be topped up at cage change time, or as required.
- A handful of food should also be scattered on the bottom of the cage at cleaning to allow for foraging behaviour.
- Bags of food are emptied directly into the feed bin, and the cover in place at all times when mice are not being fed.
- Discard expired feed.

### Cage Preparation

- Cages are made up and stored in the clean cage room.
- Corn Cob bedding is to be used in IVC cages at a depth of approx. 1cm plus a small handful of shredded paper towel.
- Fibre Cycle bedding is to be used in micro-isolators and open top cages at a depth of approx. 1cm plus a small handful of shredded paper towel.

### Stocking Density



**Static Micro-isolator**  
18cm(w) x 29cm(l)  
Total floor area 522cm<sup>2</sup>



**IVC – Individually Ventilated Cage**  
Allentown  
18cm(w) x 38cm(l)  
Total floor area 684cm<sup>2</sup>



**IVC – Individually Ventilated Cage**  
Tecniplast  
20cm (w) x 31cm (l)  
Total floor area 620cm<sup>2</sup>

### Minimum Housing Standards for Laboratory Mice\*

Cage Type	Area cm <sup>2</sup>	Maximum No. Mice (<30g)	Minimum Gel Packs
IVC- Allentown	684	6	N/A
IVC- Tecniplast	620	5	N/A
Micro-isolator	522	5	N/A

*\*Dept. Primary Industries "Code of Practice for the Housing and Care of laboratory Mice, Rats, Guinea Pigs and Rabbits" 2004*

## Cage Cleaning

**NOTE: IVCs are to be cleaned fortnightly, unless they are wet due to a leaking water bottle or particularly dirty which may be strain specific. Micro-isolators and open top cages are to be cleaned weekly.**

**Cages should be opened in the cage change station or laminar flow cabinet where possible. Animals infected with microbiological agents may only be opened in Class II Biosafety Cabinets. Immuno-compromised animals must be opened in the provided laminar flow cabinet or biosafety cabinet.**

**Gloves must be changed between Research groups to prevent cross contamination, and spray laminar flow or Cage Change Station with F10sc solution. Virkon is to be used in rooms with Animals infected with microbiological agents.**

**All cages must have a cage card with the researcher's name, ethics number, strain, sex, date of birth or received, source, and number of animals. All animals in studies are to be accompanied (in the room folder) by a coversheet and any procedures listed on this.**

1. Turn on the laminar flow/ Biological Safety Cabinet or cage change station for a couple of minutes to allow air flow to equilibrate (the vents must not be covered at any time). Spray with F10sc/Virkon solution.
2. Remove the first dirty cage from the rack for cleaning, and place it and a clean cage into the cabinet or change station.
3. Remove the dirty water bottle.
4. Open the cage and make sure that the number of mice in the cage matches the number on the cage card. If not, contact the Researcher to see whether they have removed an animal and forgotten to change the cage card, and contact the Senior Animal Technician.
5. Put a handful of food into the bottom of the clean cage.
6. Transfer each mouse by gently picking them up by the base of the tail, and checking the sex and general health of each animal. There must not be more than 5 mice per cage.
7. Top up the food hopper and using a damp cloth wipe over the grid to remove any dust.
8. Replace the lid and clean water bottle. Return the cage to the rack.
9. **Dirty cages from Animals infected with microbiological agents are to be put into high heat autoclave bags, and sealed. Other cages may be emptied into the bin provided in the room. Before leaving, the bin bag is to be secured and removed from the room to be placed in medical waste bins for incineration.**
10. Complete this process until all of the cages have been cleaned.
11. Animals leaving or entering the room must be recorded on the "Animal Movement Check List" located in each animal room. (See *SWMS 1.7 Mouse transportation*).

12. **All infectious waste bags must be sealed and double contained. Bags must be sprayed with Virkon prior to leaving the room and put straight into the autoclave for decontamination.**

#### Animal Health and Monitoring

- All cages must be checked daily for any abnormalities, record all abnormalities on the “Animal Health Care Form”, and inform the Researcher and the AWO as required.
- Animals that required ongoing monitoring or treatment must be recorded on a SOMAF Clinical Record Sheet (CRS), and an orange spot placed on the cage card.
- Animals with a ‘Pregnant’ or ‘Newly Weaned’ card must be closely observed/checked daily, and advice sought where necessary.
- If an animal needs medical attention, contact the Animal Welfare Officer and the Principle Investigator or their nominated laboratory contact.
- Abnormal animal deaths must be reported immediately to the SOMAF Manager and Animal Welfare Officer, and an Animal Welfare Incident form completed and (where necessary) a necropsy performed.

#### Floors, Walls, and Vents

- Floors must be swept daily to remove any debris.  
Floors must be swept and mopped with F10sc (1ml F10sc: 125 ml water) or Virkon on the day of cleaning, and recorded on the Room Check List. Virkon is to be used in room with animals infected with microbiological agents.
- Walls and vents are to be dusted at this time.

#### Decontamination and Waste Disposal

- Biological Safety Cabinet must be sprayed with Virkon before and after working with animals infected with microbiological agents, and UV light is to be turned on for 10 mins.
- Infectious cages and other waste must be double contained and sprayed with Virkon prior to leaving the facility.
- Infectious Waste must be Autoclaved on “Biohazard Cycle”, indicator strip and biological indicator must be used on every cycle. Autoclave print out must be initialled by the technician who loaded and started the cycle.
- The Biohazard Waste print out must be kept and the biological indicator incubated to confirm the waste has been decontaminated. Following 12hr incubation, the Biological indicator will remain purple after autoclaving, and will turn yellow if not adequately decontaminated.
- All autoclave disposal records must be kept and made available on request.
- All non-infectious waste from PC1 and PC2 rooms must be contained in a garbage bag and put into medical Waste Bins for disposal. Infectious waste must be decontaminated prior to disposal.



## Room Decontamination

**NOTE:** Rooms must be decontaminated on completion of studies using infectious agents, or between species. PPE (gowns, hair net, mask, goggles, gloves and shoe covers) MUST be worn during decontamination.

1. The room must be empty of animals prior to decontamination.
2. Spray all surfaces, IVC racks and cabinet, sink, etc, with solution of 1% Virkon after using infectious agents or F10sc (8mls F10sc: 1Litre water) between species.
3. Using a paint roller, decontaminate the ceiling, walls, and floors with Virkon or F10sc 9as above).
4. All surfaces should remain wet for at least 10 mins and allowed to dry.
5. Sign door check list stating "Room decontamination" and agent used.
6. Animals may occupy the room the next day after decontamination.

## SWMS Review

This SWMS currently applies to the animals housed in the College of Medicine and Public Health Animal Facility. This SWMS will be reviewed 3 yearly, but also updated more frequently as policies, techniques and animal care requirements change.

Position	Name	Contact Details
Manager Animal Facility	Roxanne Collingwood	8204 4380 <a href="mailto:roxanne.collingwood@flinders.edu.au">roxanne.collingwood@flinders.edu.au</a>
Animal Welfare Officer	Lewis Vaughan	0450 424 143 <a href="mailto:awo@flinders.edu.au">awo@flinders.edu.au</a>

### **Useful References**

<http://www.nhmrc.gov.au>

<http://www.ogtr.gov.au/internet/ogtr/publishing.nsf/Content/home-1>

<http://www.adelaide.edu.au/ANZCCART/>

[http://www.flinders.edu.au/research/researcher-support/ebi/animal-ethics/animal-ethics\\_home.cfm](http://www.flinders.edu.au/research/researcher-support/ebi/animal-ethics/animal-ethics_home.cfm)

<http://www.depi.vic.gov.au/agriculture-and-food/animal-health-and-welfare/animal-welfare/animal-welfare-legislation/victorian-codes-of-practice-for-animal-welfare/code-of-practice-for-the-housing-and-care-of-laboratory-mice,-rats,-guinea-pigs-and-rabbits>

Any questions regarding the above guidelines and any technical advice/ assistance required can be directed to Animal Facility Manager.