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		Standard Operating Procedure	
Title	Routine husbandry of rodents		
SOP no	SOP_Viv_Anim 14	Issue no	4
Issue date	13-07-2015	Revision date	13-07-2017
Effective date	15-07-2015	Page no	Page 1 of 10

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1. COMPILATION AND AUTHORISATION

Action	Designated Person	Signature	Date
Compiled by	Mrs A Fick	<i>A Fick</i>	13-07-2015
Checked by	Mr H Buntting	<i>H Buntting</i>	13-07-2015
Authorised by	Mr CJJ Bester	<i>CJJ Bester</i>	13-07-2015

2. DISTRIBUTION

Department	Name	Signature	Date
PCDDP QA Manager	L Scholtz	<i>L Scholtz</i>	14-07-2015
Head: Vivarium	CJJ Bester	<i>CJJ Bester</i>	14-07-2015

3. DOCUMENT HISTORY

Date	Issue no	Reason for revision
15-08-2012	Draft 1	First draft of SOP based on initial process
8-06-2013	1	First issue of SOP based on initial process
14-02-2014	2	Addition of test principal
23-06-2014	3	Training Removed
13-07-2015	4	Change title and content to include mice

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SOP no	SOP_Viv_Anim 14	Issue no	4
Issue date	13-07-2015	Revision date	13-07-2017
Effective date	15-07-2015	Page no	Page 2 of 10

4. POLICY and OBJECTIVE

This SOP will establish the correct procedures for the routine husbandry and care of rats and mice.

5. SCOPE

This SOP concerns the routine husbandry and care of rats and mice by animal caretakers appointed in the rodent rooms of the PCDDP Vivarium.

6. REFERENCE DOCUMENTS

- Guide to the care and use of experimental animals, Canadian Council on Animal Care, Volume 1, 2nd edition, 1993 and Volume 2, 1984
- The laboratory rat, P.E.Sharp and M.C.LaRegina, CRC Press, 1998
- SANS 10386:2008 The Care and use of Animals for Scientific Purposes
- SOP_All_Waste 1 – Waste Management
- SOP_QA_Doc 6.1. Standard Practices for Records.
- SOP_All_Clean 3: The use of F10 products in cleaning and disinfecting procedures

7. ABBREVIATIONS and/or DEFINITIONS

7.1. ABBREVIATIONS

Abbreviation	Description
AEC	Animal Ethical Committee
DST	Department of Science and Technology
GLP	Good laboratory practice
IVC	Individual Ventilated Caging Units
MSDS	Material Safety Data Sheet
N/A	Not applicable
NWU	North West University

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Title	Routine husbandry of rodents		
SOP no	SOP_Viv_Anim 14	Issue no	4
Issue date	13-07-2015	Revision date	13-07-2017
Effective date	15-07-2015	Page no	Page 3 of 10

Abbreviation	Description
PCDDP	Preclinical Drug Development Platform
QA	Quality Assurance
SOP	Standard operating procedure

7.2. DEFINITIONS

Term	Definition
Biological waste	Urine and faeces
<i>Ad libitum</i>	Food and water is offered to the animal in unlimited quantities, so they can choose when and how much they want to eat and drink.

8. RESPONSIBILITIES

This SOP must be followed by all people who have been assessed by the head of the Vivarium or designate, as fully competent to apply the procedure below following a period of training and experience. This SOP applies mainly to staff employed, researchers and clients using the facility.

9. TEST PRINCIPAL

N/A

10. MATERIALS and EQUIPMENT

- Animal room logs
- Daily logs

11. SAFETY

11.1. Required safety equipment

- White laboratory coats or overalls

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COPY

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SOP no	SOP_Viv_Anim 14	Issue no	4
Issue date	13-07-2015	Revision date	13-07-2017
Effective date	15-07-2015	Page no	Page 4 of 10

- Overshoes
- Caps
- Face masks
- Disposable Gloves
- Within the Vivarium, protective clothing such as laboratory coat or scrubs and suitable (non-slip and preferably closed) footwear with overshoes must be worn. Within the animal rooms, disposable gloves, surgical masks and caps must also be worn at all times.

11.2. Emergency procedures

a) Bites or scratches.

- Rat/mice bites must be handled with care. If a bite has occurred, immediately wash it thoroughly with soap and water for at least 5 minutes. Control bleeding by applying direct pressure with a sterile gauze bandage. Cover wound with a clean bandage. If necessary seek medical attention.

b) Eye splashes

- Flush eye under running water, or use the eyewash station, or use an eyewash bottle or sterile saline for at least 5 minutes. Consult MSDS for further treatment.

c) Spillages of biological waste

- Suck up dry contents with a vacuum cleaner. Use incontinence pads to collect wet waste. Place in a biological hazard bag. Mop floor with approved cleaning agent.

d) Skin contact with animal waste

- Wash skin with soap and water.

e) Reporting

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Superseded on 15-07-2015

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Title	Routine husbandry of rodents		
SOP no	SOP_Viv_Anim 14	Issue no	4
Issue date	13-07-2015	Revision date	13-07-2017
Effective date	15-07-2015	Page no	Page 5 of 10

- Any human related accident or incident must be reported via the North West University reporting system. Complete the first reporting form available from the GLP technician.

11.3. Reagents and chemicals

- a) Material Safety Data Sheets (MSDS) must be consulted for the correct use of all chemicals.


11.4. Hazards

- Rodent bites
- Occupational asthma
- Allergens from rat/mice urine
- Allergens from feed
- Allergens from rat/mice skin
- Allergens from cleaning material
- Latex allergies
- Aerosol contaminants of biological waste
- Aerosol contaminates in bedding material
- Accidental eye exposure to contaminants

11.5. General

- All material in contact or consisting of biological materials must be disposed of according to SOP_All_Waste 1: Waste Management.
- Floors can be slippery when wet. Appropriate footwear must be worn and care has to be taken when walking on wet floors.
- Rats/mice can be a zoonotic hazard.

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Superseded on 15-07-2015*

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Title		Routine husbandry of rodents	
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Issue date	13-07-2015	Revision date	13-07-2017
Effective date	15-07-2015	Page no	Page 6 of 10

COPY

12. PROCEDURES

12.1. Daily Checks

- Ensure that the animal room door is closed when working with the animals.
- All work is to be documented on the room log sheets (Addendums 1-6) in the Animal Room File. Log sheets are assigned to each room in use. The animal care takers initials the room log sheets as each task is completed.
- Room logs are to be reviewed by the responsible GLP laboratory animal technician or Study Director on a regular basis, preferably weekly, and filed.
- The animal care takers check animal room temperature and humidity before entering the room for daily husbandry duties and record values on the log.
- All rooms are inspected initially for any obvious abnormalities such as cages open, bottles or feeders on floor, escaped animals etc.
- All abnormalities are corrected immediately and noted in the Animal Room File if the animals are part of a study.
- All animals are observed daily for any gross abnormalities or abnormal behaviour and documented as per Addendum 5: Animal check.
- If abnormalities of animals are observed, these are documented and the responsible GLP animal technician is notified.

12.2. Housing

- a) Rodents with potentially infectious pathogens are to be housed in Individual Ventilated Caging units under negative pressure.
- b) Conventional cages (37 x 20 x 15 cm)

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Superseded on 15-07-2015

COPY

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Title	Routine husbandry of rodents		
SOP no	SOP_Viv_Anim 14	Issue no	4
Issue date	13-07-2015	Revision date	13-07-2017
Effective date	15-07-2015	Page no	Page 7 of 10

- Rats: A maximum of one male and one female per breeding cage. Animals < 150 g, a maximum of four rats per cage, animals ≥ 150 g – 250 a maximum of 3 animals, ≥ 250 g a maximum of two rats per cage. Animal numbers recorded as per Addendum 6: Animal stock and cage numbers [
- c) Mice: Maximum 1 male and 2 females per breeding cage. Maximum 6 mice per stock cage.
 - Place water bottle and food in lid of cage.
 - Corn cob is used as bedding material. Some studies may require sanitized or sterilized bedding material.
- d) IVC Units for rats
 - A maximum of two adult rats per breeding cage. A maximum of 4 rats per stock cage.
 - Place water bottle nozzle through grommet on front of cage.
 - Place food in the designated area at the rear of the wire cage lid. Food must not be raised higher than the top of the cage, otherwise it will prevent the cage from sliding back into position on the rack properly for the purpose of achieving the pressurised seal.
- e) IVC Units for mice
 - Maximum 1 male and 2 females per breeding cage. Maximum 6 mice per stock cage.
 - Place water bottle nozzle through grommet on front of cage.
 - Place food in the designated area at the rear of the wire cage lid. Food must not be raised higher than the top of the cage, otherwise it will prevent the cage from sliding back into position on the rack properly for the purpose of achieving the pressurised seal.

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Title	Routine husbandry of rodents		
SOP no	SOP_Viv_Anim 14	Issue no	4
Issue date	13-07-2015	Revision date	13-07-2017
Effective date	15-07-2015	Page no	Page 8 of 10

12.3. Feeding

- Rodents are fed *ad libitum* on a commercially available rodent chow for which a COA is available. Some Study Plans may require a restricted feeding regimen, sterilized feed or a specially formulated diet. Such changes to normal animal husbandry need to be approved by the AEC.
- Feed in lids is checked daily and topped up if necessary.
- Feed in cage feeders is checked daily for cleanliness and soiled feed is removed. Cage feeders are changed a minimum of once per fortnight.
- A small amount of feed may be placed on the cage floor for sick or injured animals or may be used as a form of enrichment.
- A small amount of standard rodent chow may be stored in the animal room in a covered feed bin.
- Feeding must be documented (Addendum 2).in the Animal Room Log File in accordance with SOP_QA_Doc 6.1. Standard Practices for Records.

12.4. Water

- Tap water is provided *ad libitum*. Some Study Plans may require the use of deionised water. This needs to be approved by the AEC.
- Water bottles are emptied and refilled a minimum of twice per week, and changed or washed at least once per week.
- If used water bottles are refilled, return them to the cage they came from.

12.5. Cleaning

- Cages with bedding are changed a minimum of once per week and the wire lids a minimum of once every 2 weeks. The frequency for this caging will be determined on a case by case basis.

Uncontrolled copy
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Issue date	13-07-2015	Revision date	13-07-2017
Effective date	15-07-2015	Page no	Page 9 of 10

- Prepare the required number of clean cages with approximately 1 to 2 cm of corn cob.
- Prepare the required number of clean water bottles and fill with fresh water.
- If necessary, prepare the required number of wire tops.
- Animals are transferred from a dirty cage to a clean one, one cage at a time, remembering to transfer the cage card at the same time.
- Place a new water bottle in the lid.
- Transfer feed to the new wire lid if appropriate.
- Return the clean cage to the same place on the shelving unit where the dirty cage was.
- Trays of hanging cages with wire floors are changed daily and hanging cages are changed a minimum of once per fortnight.
- Racks for hanging cages are cleaned a minimum of once every four weeks.
- Floors are swept and mopped daily with F10SCXD diluted correctly as per SOP_All_Clean 3: The use of F10 products in cleaning and disinfecting procedures
- Every second week, F919SC (Degreaser) diluted correctly in warm water is used for deep cleaning the floors as per SOP_All_Clean 3: The use of F10 products in cleaning and disinfecting procedures.
 - The degreaser is applied to the floors by spraying.
 - It is left for 5 minutes and then scrubbed with the floor polisher.
 - The floor is then mopped dry.
- Monthly doors are washed and sanitized and air vents cleaned at least once.
 - F10SC diluted correctly, is used to spray the floors and walls of the rooms. Care must be taken not to wet the sensors in the ceilings.
 - The floors are then mopped dry.
- Cleaning must be documented (see Addendum 3) on the Animal room cleaning log sheet in accordance with SOP_QA_Doc 6.1. Standard Practices for Records.

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Issue date	13-07-2015	Revision date	13-07-2017
Effective date	15-07-2015	Page no	Page 10 of 10

12.6. Environment

- The temperature in rodent rooms should be maintained at 22 ±2°C.
- The humidity in the rodent rooms should be maintained at 55 ± 10%
- If temperature or humidity fall outside the specified range inform the Technician who will then contact the right contractor for corrective action.
- Air changes in the room should average a minimum of 18 to 20 per hour.
- A light/dark cycle of 12hr/12hr should be maintained.
- Environmental conditions must be documented in the Animal Room Log File (see Addendum 1).

12.7. Daily activities

- All other daily activities are recorded as per Addendum 4: Activity log sheet and

13. ADDENDUMS

Addendum 1: Environmental conditions log sheet [SOP_Viv_Anim_14 ad 1]

Addendum 2: Daily Feeding Log [SOP_Viv_Anim_14 ad 2]

Addendum 3: Animal room cleaning log sheet [SOP_Viv_Anim_14 ad 3]

Addendum 4: Activity log sheet [SOP_Viv_Anim_14 ad 4]

Addendum 5: Animal check sheet [SOP_Viv_Anim_14 ad 5]

Addendum 6: Animal stock and cage numbers [SOP_Viv_Anim_14 ad 6]

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