

STANDARD OPERATING PROCEDURE

TITLE: Rodent: Biological Level 2 Hazard Study Information
For ACVS Directly Managed Facilities

SOP NO.:

REVISION: 01

EFF. DATE: DRAFT

SUPERSEDES:

APPROVALS

Prepared by (print name): _____ Dept.: _____
Signature: _____ Date: _____

Reviewed by (print name): _____ Dept.: _____
Signature: _____ Date: _____

Approved by (print name): _____ Dept.: _____
Signature: _____ Date: _____

Comment [JS1]: The comments in blue have been re-done in this version received September 2012. These comments were made back in July 2012 by Dr. Dekaban and J. Stanley. The original file with the comments was sent to Lynne Turner July 31, 2012.

Comment [JS2]: THE COMMENTS IN TURQUOISE IN CAPITAL LETTERS ARE FROM OCTOBER 2012.

Comment [JS3]: Have it signed by Biohazards Subcommittee Chair, once the Committee has reviewed it at an upcoming meeting

1.0 PURPOSE

- 1.1 To outline the procedures for all personnel who are required to work with or could be exposed to Level 2 hazards when present in any ACVS (Animal Care and Veterinary Services) directly managed facility at Western University.
- 1.2 Level 2 hazards are defined as including but not limited to bacteria, non-indigenous viruses & Recombinant Viral Vectors.

Comment [JS4]: I GATHER THAT THIS TERM EXCLUDES VRL/LHRI/LHSC?

Comment [JS5]: MAY INCLUDE BUT ARE NOT LIMITED TO BACTERIA AND OTHER MICROORGANISMS, VIRUSES, PRIONS, PARASITES OR PATHOGENS OF PLANT OR ANIMAL ORIGIN

2.0 SCOPE

- 2.1 This SOP applies to all researcher personnel, ACVS staff, Facilities Management staff or other personnel that are working with or could potentially be exposed to the Rodent Biological Level 2 Hazards when present in any ACVS directly managed facilities at Western University.
- 2.2 This SOP must be followed in conjunction with SOP#800 "Operations & Maintenance of Biological Safety Cabinet (BSC), Health Sciences (HS)/West Valley (WV)".

3.0 RESPONSIBILITIES

3.1 RESEARCHER AND APPROVED RESEARCH STAFF

- 3.1.1 The researcher must have an approved OH&S Biological Agents Registry Form (BARF) before the hazard can be used in a room already approved and certified as a Level 2 room.
- 3.1.2 The researcher must ensure that research staff has successfully completed Western's WHMIS and Biosafety Training prior to entry into an approved hazards room.

Comment [JS6]: SHOULD RESEARCHER BE CAPITALIZED? I'M NOT SURE

Comment [JS7]: LAB SAFETY TRAINING IS REQUIRED. OTHER TRAINING MAY BE REQUIRED BASED ON THE WORK BEING DONE. REFER TO THE SOP - Standard Operating Procedure (SOP) for Use of Biological, Chemical, Radiation and/or Physical Agents with Live Animals

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- 3.1.3 The researcher must ensure that approved research staff has received specific Level 2 room hands-on training by ACVS staff prior to entry into the approved hazards room.
- 3.1.4 Researcher must ensure that research staff follows the Western University Biosafety Guidelines and Procedures Manual for Containment Level 1 & 2 Laboratories.
- 3.1.5 The researcher or designate must provide the following information to facility managers via fmgr@uwo.ca a minimum of 3 business days prior to the administration of any hazard:
- 3.1.5.1 Investigator Name
 - 3.1.5.2 Animal Use Protocol number
 - 3.1.5.3 Name of hazard(s)
 - 3.1.5.4 Administration start and end dates
 - 3.1.5.5 Proposed location of housed animals
 - 3.1.5.6 BARF approval number and expiry date
- 3.1.6 Approval must be given by a facility manager before administration of any hazard begins.
- 3.1.7 The researcher or designate must ensure cages are labeled with completed biohazard cage cards once hazards have been administered.
- 3.1.7.1 Biohazard cage cards are available in the room or from the Animal Care Staff
- 3.1.8 The researcher or designate must ensure the posted Biohazard Level 2 door signage has been completed in full including:
- 3.1.8.1 Investigator Name
 - 3.1.8.2 Name of Hazard
 - 3.1.8.3 Contact Name(s)
 - 3.1.8.4 Contact Phone number(s)
- 3.1.9 If available, the researcher will ensure that all involved staff read, understand, sign-off on and follow the contents of the *Project Specific Biohazard Study Information*. The binder is to include copies of the protocol, specific SOPs, specific requirements, staff sign-off sheets and other project related information.
- 3.1.10 The researcher and research staff are required to comply with Sections:
- 3.1.10.1 Section 4.0 PROCEDURES,
 - 3.1.10.2 Section 5.0 HEALTH and SAFETY &
 - 3.1.10.3 Section 6.0 PPE Requirements.

3.2 ANIMAL CARE (AC) STAFF

Comment [JS8]: HAVE?

Comment [JS9]: YOU MAY WISH TO BE CONSISTENT WITH YOUR WORDING. IS IT RESEARCHER OR THE RESEARCHER? SEE 3.1.3 ABOVE AS AN EXAMPLE.

Comment [JS10]: FOLLOW?

Comment [JS11]: BIOHAZARD(S)

Comment [JS12]: What is the purpose of this for Level 2 rooms? Level 2 precautions are required even if the hazard is not present, so this is not really needed from a biosafety point of view.

Comment [JS13]: This is on the approved AUP, so I am not sure why the Researcher needs to provide this again?

Comment [JS14]: BIOHAZARDS

Comment [JS15]: BIOHAZARD(S)

Comment [JS16]: Why is this only available some of the time?

Comment [JS17]: Capitalize Researcher?

Comment [JS18]: ALL STAFF OR ALL RESEARCH STAFF?

Comment [JS19]: DO THEY NEED TO FOLLOW ALL OF THE SOP, OR JUST THESE THREE SECTIONS? YOU MAY WANT TO REWORD THIS AS ONE MAY INTERPRETTED DIFFERENTLY. THEY MAY THINK THAT THEY ONLY HAVE TO FOLLOW THESE THREE SECTIONS.

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- 3.2.1 Are responsible to read, understand, sign-off on, and follow all associated documentation and signage for the biohazard and Level 2 room.
- 3.2.2 Are responsible to ensure that animals are housed in containment caging appropriate for the biohazard.
- 3.2.3 Are responsible to comply with Sections 4.0 PROCEDURES, 5.0 HEALTH and SAFETY & 6.0 PPE Requirements.

3.3 LEAD HAND AND/OR FACILITY MANAGER

- 3.3.1 Are responsible to authorize the use of biohazard administration in animals associated with an ACVS-managed facility
- 3.3.2 Are responsible to supply an appropriate housing room within an ACVS-managed facility, and notify the researcher of the assigned location.
- 3.3.3 Are responsible to ensure that ACVS staff members have successfully completed Western's Biosafety Training prior to entry into approved hazards room.
- 3.3.4 Are responsible to post yellow Biohazard Level 2 door signage on the designated room(s) and notify the researcher that it has been posted. Signage must include:
 - 3.3.4.1 Name of Approved Researcher
 - 3.3.4.2 BARF Permit # -enter on bottom left hand corner
 - 3.3.4.3 Name of Hazard
 - 3.3.4.4 Start Date for Use of Hazard -enter under list of hazard
- 3.3.5 Are responsible to accompany Western's Biosafety officer-Officer during regular Level 2 inspections.
- 3.3.6 Are responsible to ensure Class II Biological Safety Cabinets (BSCs) are up-to-date with annual certifications and related copies of certificates are posted or provided in the room.

4.0 PROCEDURES

- 4.1 Use of Hazard: Biological agents at Level 2 must be handled and administered in a certified Class II Biological Safety Cabinet (BSC) unless otherwise approved by the Biohazards Subcommittee.
 - 4.1.1 All cage manipulations and animal handling must be performed in a BSC using containment/isolation techniques & procedures

Comment [JS20]: YOU MAY WANT TO BE CONSISTENT WITH THE WORDING I.E. ACVS DIRECTLY MANAGED FACILITY PER TITLE OF SOP? IF SO, THIS WOULD APPLY TO 3.3.2 AS WELL.

Comment [JS21]: OTHER TRAINING SUCH AS WHMIS IS REQUIRED

Comment [JS22]: I WOULD CALL IT THE BIOSAFETY APPROVAL #.

Comment [JS23]: BIOHAZARD(S)

Comment [JS24]: BIOHAZARD(S)

Comment [JS25]: See Dr. Dekaban's comments from July 2012 for more information here.

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- 4.1.2 A layer of towels moistened in Clidox (1:5:1) must be placed on the working surface of the BSC prior to opening cages and performing any manipulations with cages or mice.
- 4.1.2.1 A layer of paper towels may be placed over the moistened towels as a working surface for mouse anesthesia and vaccinations.
- 4.1.3 BSC must be wiped down with an appropriate disinfectant (see 4.2.1) at the end of use and then again with isopropyl alcohol to help prevent corrosion of the BSC.
- 4.2 Required Disinfectants:
- 4.2.1 Biological Safety Cabinet – Clidox (1:5:1 Dilution)
- 4.2.2 Floor – 10% Bleach Dilution with Water
- 4.2.3 Cage Wiping – Clidox (1:5:1 Dilution)
- 4.2.4 Cage Dunking – 10% Bleach Dilution in Water
- 4.2.5 Spray Bottle – Accel TB/Accel Prevention
- 4.3 Cage & Bedding Decontamination and Removal Procedure: Research staff are responsible to perform the following procedures to decontaminate and remove dirty bedding and caging supplies:
- 4.3.1 *Dirty Bedding* –
- 4.3.1.1 Within the BSC, dump & scrape out the dirty bedding one at a time from up to 14 cages into a doubled garbage bag or biohazard bag for incineration.
- 4.3.1.2 When finished dumping & scraping up to 14 cages(s) seal the bag and wipe the outer bag with the appropriate disinfectant (see 4.2). Use extra bags as required.
- 4.3.1.3 Remove the bag from the BSC and room while still wet with disinfectant.
- 4.3.1.3.1 If the disinfectant dries before the bag is removed from the room, the bag must be sprayed with Accel TB/Accel Prevention before removing from the room.
- 4.3.2 *Dirty Caging Supplies* –
- 4.3.2.1 Once removed from the BSC the cages, bottles, sipper tubes and other housing supplies are to be dunked with an appropriate disinfectant again and placed into the red taped off entry square for removal at the end of the day.
- 4.3.2.2 Research staff will remove cages to the hallway and place on the designated cart.
- 4.3.3 Animal Care staff will transport the disinfected cages to the cage wash area.
- 4.4 Laboratory Waste & Carcass Disposal:
- 4.4.1 Waste and infected carcasses must be double bagged, labeled with the risks and wiped out of the BSC with an appropriate disinfectant (See 4.2). An incineration label must be used.
- 4.4.2 The carcass bag should be removed from the room while still wet.
- 4.4.2.1 If the carcass bag dries it must be wiped down with the appropriate disinfectant before leaving the room.

Comment [JS26]: THE BSC?

Comment [JS27]: Is it isopropyl alcohol or ethanol?

Comment [JS28]: IS IT WITH WATER OR IN WATER? PERHAPS IT SHOULD BE CONSISTENT WITH 4.2.4

Comment [JS29]: Is this similar to Accel TB?

Comment [JS30]: WHAT IS DONE WITH THE CAGE ONCE THE BEDDING IS REMOVED? IS IT WIPED DOWN IN THE HOOD OR JUST DUNKED UPON LEAVING THE ROOM AS PER 4.3.2.1? SEE SECTION 4.3.3.1 OF THE LEVEL 2+ SOP FOR INFORMATION.

Comment [JS31]: See Dr. Dekaban's comments from the July 2012 review: How big are the bags? A large bag and multiple cages in the hood at once will cause serious disturbances in the laminar air flow in the hood rendering it useless. Small bags and one cage at a time in the hood will have to be employed.

Comment [JS32]: ADD "OF BEDDING" TO CLARIFY IT

Comment [JS33]: What is done with the dirty water? For more information see Dr. Dekaban's comments from July 2012 or Section 4.3.2 of the Level 2+ SOP.

Comment [JS34]: UNDER SECTION 4.3.1.3.1 THE BEDDING BAG IS SPRAYED. HERE THE CARCASS BAG IS WIPED. SHOULD WE BE CONSISTENT? WIPING IS PREFERRED FROM A SAFETY/AEROSOL POINT OF VIEW.

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4.4.3 Laboratory waste should be disposed of according to the hazardous waste disposal protocol.
http://www.uwo.ca/humanresources/docandform/docs/ohs1/manuals/hazardous_handbook.pdf

Comment [JS35]: HAZARDOUS MATERIAL MANAGEMENT HANDBOOK

5.0 HEALTH & SAFETY

5.1 Toxicological Information: In case of an exposure, follow instructions on the MSDS in the facility binder located in the hallway outside rooms DSB 6007 & 6008, and immediately seek medical assistance as follows:

Comment [JS36]: EMERGENCY PROCEDURES

5.1.1 *During Work Hours* - Immediately go to Staff-Workplace Health, UWO, and bring a copy of the MSDS ~~copy~~; inform supervisor; supervisor to complete and submit an Accident/Incident Reporting Form and Investigation Report.

Comment [JS37]: EMERGENCY PROCEDURES

5.1.2 *After Work Hours* - Go to University Hospital Emergency Department, and bring a copy of the MSDS ~~copy~~; inform supervisor; supervisor to complete and submit an Accident/Incident Reporting Form and Investigation Report.

Comment [JS38]: Perhaps the abbreviations should be written out (the first time) such as MSDS? DSB?

Comment [JS39]: Is there only one copy of the MSDS in all of ACVS? Is there a copy in the room as well?

Comment [JS40]: Remove reference to UWO

6.0 Personal Protective Equipment (PPE): Please reference PPE Chart

Comment [JS41]: SHOULD SUPERVISOR BE CAPITALIZED?

6.1 The appropriate individually fitted NIOSH-approved respirator must be used

Comment [JS42]: ADD LINK TO FORM.

6.1.1 **Important Note:** User must be fit tested for respirator prior to use. The fit test must be dated within the last 2 years.

6.2 Disposable gloves (doubled)

6.3 Approved safety glasses

6.4 Tyvek or approved back-closure gown

6.5 Foot covers (doubled)

6.6 Bonnet

6.7 For wiping/dunking caging Extra PPE includes:

6.7.1 Individually fitted half ~~1/2~~ face respirator (for use when dunking with bleach)

Comment [JS43]: DO RESEARCH STAFF DUNK IN BLEACH?

6.7.2 Chemical gloves or Medical grade gloves 14mm thickness and an extended cuff over single pair of disposable gloves

REVISION HISTORY

Revision	Reason(s) for Revision	Initiated by

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SUPERSEDES:

REFERENCES / ASSOCIATED MATERIALS

Toxicological Information: See MSDS in binder located in room.

Treatment for exposure to Agent: See MSDS.

Biological Agents Registry Forms for approved Researchers

Hazardous Waste Disposal Protocol –

http://www.uwo.ca/humanresources/doc/ohs1/manuals/hazardous_handbook.pdf

ATTACHMENTS

Personal Protective Equipment Chart.

MSDS for listed hazard.

Bio Hazard Study Information Sheet Example

Biohazard Containment Level 2 signage Example

Chemical Cage Card Example

Comment [JS44]: THE MSDS CONTAINS A LOT OF HEALTH AND SAFETY INFORMATION. NOT JUST TOXICOLOGICAL INFORMATION. IT WOULD BE BETTER REFERRED TO AS HEALTH AND SAFETY INFORMATION.

Comment [JS45]: CAN WE SEE THE ATTACHMENTS/EXAMPLES FOR REVIEW?

Comment [JS46]: BIOHAZARD (TO HAVE CONSISTENT SPELLING)

Comment [JS47]: Put Biological cage card example here (not chemical)