Animal Bedding Disposal

Purpose
The following guidelines are intended for animal facilities and laboratories generating animal bedding waste at UBC. They are designed to ensure compliance with BC Hazardous Waste Regulations bedding disposal requirements.

Scope
The following guidelines address the proper disposal of animal beddings, generated from animal facilities and laboratories at UBC. Guidelines are provided for the proper disposal of non-contaminated beddings, beddings contaminated with Risk Group 1 and Risk Group 2 Biohazards, and bedding contaminated with toxic materials.

Background
The guidelines are based on the following regulations:

1. BC Hazardous Waste Regulations
   - Part 1- Biomedical Waste (g) (i) and (p)
   - Part 1- Hazardous Waste (a) (i), (ii) and (b.1)

2. TDG regulations Part 2.31

Guidelines
Responsibility for Classification and Certification
Waste classification prior to disposal is the responsibility of the area supervisor or Principal Investigator (PI) and the waste generator.

All animal beddings are considered by the regulations as biomedical waste unless a “medical or infection control professional has certified that the waste does not contain a virus or agent listed in Risk Group 2”. To comply with the certification requirement the area supervisor needs to certify that each load of bedding generated, to be disposed as solid waste, is not contaminated.

Additionally, an annual certification by each facility generating animal bedding waste is required. Use the sample “UBC Animal Facility Annual Certification Letter” in Appendix 2 and submit to RMS at the beginning of each calendar year. Contact the Environmental Services Advisor at 604-822-9840 for more information.

A. Uncontaminated Beddings
- After the certification log is signed by the area supervisor dispose as solid waste. For more information contact UBC Building Operations Service Centre (604-822-2173) or UBC Waste Management at 604-822-9619.

B. Beddings Contaminated with Toxic Waste
- Depending on the toxicity level of the contaminating chemicals; these beddings may need to be disposed as toxic waste through the Environmental Services Facility. For more information contact an ESF Technician (604-822-6306).
- Review the contaminant’s MSDS. The following calculation needs to be implemented if:
  i) The material is listed as a TDG 6.1 substance (toxic)
  ii) The material LD_{50} is ≤ 1000 mg/kg (1000 mg/kg is the toxic limit as per TDG Regulation sec. 2.31)
To assess the level of contamination:

- Find the chemical’s LD$_{50}$ value in the MSDS
- Estimate the total weight of the chemicals in the bedding/chemical mixture
- Estimate the total weight of the beddings batch to be disposed
- Calculate the LD$_{50}$ value of the mixture using the following equation:

\[
\text{LD}_{50} \text{ (mixture)} = \frac{\text{LD}_{50} \text{ (chemical)}}{\text{mass fraction of chemical in bedding}}
\]

- If the resulted LD$_{50} > 1000$ mg/kg the mixture can be disposed as solid waste
- If the resulted LD$_{50} \leq 1000$ mg/kg the mixture should be treated for disposal as toxic chemical waste, and disposed as such through the Environmental Services Facility (see Appendix 3 of this procedure)
- In order to be accepted, the detailed calculation needs to be submitted as part of the request for disposal approval.

**C. Risk Group 1 (RG1) Contaminated Beddings**

After the certification log is signed by the area supervisor dispose as solid waste.

**D. Risk Group 2 (RG2) Contaminated Beddings**

All beddings contaminated with Risk Group 2 agents **MUST** be autoclaved prior to disposal. If the bedding cannot be autoclaved, inform ESF (604-827-5389) and make special disposal arrangements.

After the certification log is signed by area supervisor autoclaved waste can be disposed as solid waste into a specially designated compactor at each facility. The waste is picked up by UBC Waste Management for disposal via external hazardous waste contractor. Contact Waste Management (604-822-9619) for questions regarding compactor pick-up.

To ensure and demonstrate autoclave efficiency, quality assurance testing (i.e. using both chemical and biological indicators) needs to be routinely performed and related records need to be kept as per the most recent Canadian Biosafety Standards and Guidelines, published by the Public Health Agency of Canada. Also refer to the “Treatment and Disposal of Biohazardous Waste” for additional details.

**Landfill Disposal**

Animal bedding waste is **NOT** accepted for disposal through the Metro Vancouver composting facilities.

Large quantities of animal bedding waste (e.g. collected in waste compactors) are not accepted for disposal via Metro Vancouver landfills. While currently small quantities of animal beddings waste can be disposed via local landfills, certain landfill restrictions may result in future landfill refusal to accept the waste. Thus alternative disposal arrangements have been evaluated. Most of the animal beddings waste is currently disposed of in a secure landfill in Alberta, via UBC’s external hazardous waste contractor.

Refer to Metro Vancouver’s Solid Waste “Banned & Prohibited Materials” or Metro Vancouver Tipping Fee and Solid Waste Disposal Regulation Bylaw No. 263, 2012.
Appendix 1: Non-Contaminated Waste Certification Form

I, ___________________________ (enter name and position, print clearly) certify that the bedding disposed per description below contained no Risk Group 2, 3, or 4 virus or agent.

<table>
<thead>
<tr>
<th>Date of Disposal</th>
<th>Waste Description</th>
<th>Estimated Weight</th>
<th>Area Supervisor Initials</th>
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Appendix 2: Sample UBC Animal Facility Annual Certification Letter

UBC Letterhead

Animal Care Services
Address
Phone, etc

Date: ______

Attn: Facility Manager
Sumas Environmental Services
4623 Byrne Road
Burnaby BC V5J 3H6

This is to certify that the following load of soiled animal bedding originates from the _____ (ADD NAME HERE) facility at the University of British Columbia. As per requirements of the BC Hazardous Waste Regulations, it is certified that the waste does not contain a virus or agent listed in Risk Group 2, 3 or 4, as defined in the federal transportation of dangerous goods regulations.

Sincerely,

_____________________
Signature, Name, Title of Facility Manager or Veterinarian

Facility address if different than above for ACS
Contact info
Appendix 3: Bedding Disposal Decision Making Chart

Bedding Contaminated with:

- Non-contaminated
- Biohazard RG1
- Biohazard RG2
- Toxic Material [including mutagens]

Calculate:

$$LD_{50} \text{ (mixture)} = \frac{LD_{50} \text{ (chemical)}}{\text{mass fraction of chemical in bedding}}$$

*Based on TDG 2.31*

- $LD_{50} \text{ mix} \leq 1000$
  - Treat as toxic hazardous waste
  - Prior to disposal requires PI / veterinarian/supervisor certification for bedding not to contain RG 2, 3, 4 agents

- $LD_{50} \text{ mix} > 1000$
  - Treat as non-reg contaminated solid waste
  - PI / veterinarian/supervisor to send calculation along with MSDS to ESF for disposal approval

- Treat as solid waste
  - Autoclave