

Disposal of Biohazard Wastes

POLICY Administrators and principal investigators (PIs) are responsible for ensuring that biohazard wastes generated by University units are collected and disposed of in a safe and sanitary manner.

Exceptions These procedures do not apply to chemicals or radioactive materials.

Radioactive Materials For current radioactive waste disposal practices, contact the Radiation Safety Office (RSO); telephone 509-335-8916; or refer to the RSO website at:

rso.wsu.edu

See also *SPPM* 9.60.

Some low-level radioactive wastes may be incinerated.

Chemicals For disposal procedures for dangerous chemical wastes see *SPPM* 5.66 or contact Environmental Health and Safety (EH&S); telephone 509-335-3041.

Improper or Illegal Disposal When biohazard material is improperly disposed of, the PI, supervisor, or the waste generator is responsible for cleanup and proper disposal.

Improper Packaging/Labeling Workers are not to handle biohazard materials that are not packaged and labeled in accordance with this section. If workers encounter packaging and labeling irregularities, the workers are to notify the responsible PI or supervisor.

For further information, see the Facilities Services, Operations website at:

facilities.wsu.edu/

Identifying Biohazards Principal investigators or supervisors are responsible for identifying which wastes generated by their University units are biohazardous.

The University Biosafety Officer, Institutional Biosafety Committee, and/or Facilities Services, Operations—Waste Management Manager determine what materials are considered to be biohazard wastes in accordance with federal, state, and local regulations.

Disposal of Biohazard Wastes

Biohazard Waste Examples

Under certain circumstances (e.g., if work or substances could transfer infectious agents to animals, plants, and/or humans), the following materials are considered to be biohazardous:

- Recombinant DNA materials
- Genetically-modified organisms including transgenic animals or plants
- Oncogenic viruses
- Infectious agents
- Blood and blood-contaminated materials
- Animal carcasses and parts (excluding materials which can be rendered or composted)
- Infectious animal bedding and materials
- Human and nonhuman primate tissues, bodily fluids, and tissue cultures
- HEPA filters from biological safety cabinets and BSL-3 facility exhaust ducts
- Sharps (needles, syringes, scalpels, lancets, etc., regardless of whether contaminated or not), in accordance with *WAC* 480-70-041 and *SPPM* 4.25.

Nonbiohazard Waste Examples

The following materials are not considered to be biohazards:

- Noninfectious animal carcasses that can be rendered or composted
- Noninfectious animal bedding and materials
- Noninfectious filters

Questions

If questions arise regarding biohazards, contact the WSU Biosafety Officer; telephone 509-335-4462; or Facilities Services, Operations; telephone 509-335-4530.

Disposal of Biohazard Wastes

BIOHAZARD WASTE TREATMENT AND DISPOSAL

Principal investigators or supervisors must evaluate each research project or medical procedure to determine safe disposal methods for potentially biohazardous materials. Washington State University provides the following five separate management options for biohazard waste treatment and disposal:

- On-site treatment
- Shipment through a licensed shipper
- Shipment through a contract shipper
- Incineration
- Composting

On-Site Treatment

Departments may use Institutional Biosafety Committee (IBC)-approved on-site treatment methods for deactivation of biological materials in certain wastes or contaminated materials. After treatment such wastes or materials may be disposed of as regular solid or liquid waste.

Descriptions of IBC-approved treatment methods are available in the PI's or supervisor's biosafety manual. For further information regarding the biosafety manual, see the Office of Research Assurances' (ORA) IBC website at:

biosafety.wsu.edu/

Autoclaving

Departments may sterilize allowable material by autoclave or other means and then dispose with regular garbage and refuse.

Requirements

Use clear plastic autoclave bags and green autoclave labels available from University Stores, item #54587. Place bags that are to be gradually filled over an extended period of time in biohazard-labeled containers, e.g., boxes or pails. Do not use orange biohazard bags to autoclave waste that will not be incinerated.

After autoclaving, label autoclave bags with the following information:

- The name of the PI
- The room number where the waste was generated
- Identification of the contents

Affix the green autoclave labels to the bags and dispose of the bags with regular solid waste.

Disposal of Biohazard Wastes

Requirements (cont.)

NOTE: For all RG2 and RG3 agents, departments must check the autoclaves periodically for effectiveness using a biological indicator. Some permits also require such effectiveness testing for RG1 agents, e.g., some USDA permits (see [Definitions](#)).

Human Blood, Bodily Fluids, Other Infectious Fluids

For human blood or body fluids, departments must follow the provisions of the WSU Bloodborne Pathogen Exposure Control Plan. Copies of the plan are available from EH&S or the EH&S website at:

ehs.wsu.edu/laboratory-safety/bloodborne-pathogens/

Under **Resources**,
Select **Bloodborne Pathogens Exposure Control Plan Template**.

Whenever possible, departments must properly deactivate human blood, bodily fluids, and other infectious fluids by one of the following methods:

- Adding an Environmental Protection Agency (EPA)-registered disinfectant and disposing down a sanitary sewer.
- Sterilizing by means of an autoclave designed for such materials and disposing with regular garbage and refuse (see [Autoclaving](#)).

Contact EH&S or the Biosafety Office for more information.

Shipment Through a Licensed Shipper

Facilities Services, Operations may ship biohazard waste through a licensed shipper of medical and pathological waste. The current provider of this service is Stericycle. Stericycle provides material collection boxes and labels. Boxes vary based on the type of material to be collected.

NOTE: Facilities Services, Operations notifies departments when material is to be shipped through Stericycle and provides packaging materials and instructions. Departments must use Stericycle boxes and labels only to package material submitted to Stericycle for shipment.

Payment

Facilities Services, Operations contracts with Stericycle for services as needed for Pullman campus departments. Non-Pullman departments must set up separate contracts for Stericycle services and pay service charges from departmental funds.

Disposal of Biohazard Wastes

Shipment Through a Contract Shipper

Departments may ship waste through the University's contracted hazardous waste shipper. This option applies to only a few University departments and is coordinated by EH&S on a case-by-case basis.

Incineration

Certain biohazard wastes may be incinerated at the WSU incinerator when autoclaving or other on-site treatment methods are not an option. Facilities Services, Operations and the ORA determine whether materials are to be incinerated.

Place biohazard wastes to be incinerated in biohazard burn boxes. The boxes, which include orange biohazard bags, are available from University Stores, item #49954 (10-gallon capacity) and #49955 (20-gallon capacity).

Contact Facilities Services, Operations to schedule pickups or drop-offs for incineration.

Composting

Bedding material and animal tissue that have been approved for composting by the Institutional Biosafety Committee may be composted. Contact Facilities Services, Operations regarding procedures packaging and transporting such wastes to the WSU Compost Facility.

Additional Information

For more information regarding biohazard waste treatment and disposal options, refer to:

- WSU Biohazardous Waste options on the Biosafety website at:

biosafety.wsu.edu/

- WSU Facilities Services, Operations Waste Management website at:

facilities.wsu.edu/

For specific biological agent disposal advice beyond these resources, contact the WSU Biosafety Officer; telephone 509-335-4462. For operations and logistics questions, contact Facilities Services, Operations Waste Management; telephone 509-335-4530.

NONBIOHAZARD WASTE DISPOSAL

Nonbiohazard Animal Blood

Departments must dispose of nonbiohazard animal blood by either pouring or rinsing the fluid into a sanitary sewer drain.

Disposal of Biohazard Wastes

Other Nonbiohazard Materials

Material that has *not* been identified as biohazard *is not to be* placed in biohazard bags or boxes. If nonbiohazard waste material is placed in an orange biohazard bag, the material must be repackaged so it is not in a biohazard bag and properly disposed of as regular solid waste.

Nonbiohazard animal carcasses must not be placed into dumpsters or the solid waste stream because the solid waste transfer station and landfill will not accept them.

Animal carcasses that researchers determine are nonbiohazards may be disposed by the following methods:

- Nonbiohazard rats, mice, and birds are accepted by the Veterinary Teaching Hospital as food for raptors. Telephone 509-335-0711 to make arrangements to drop off the carcasses at the hospital or to request pickup.
- Other nonbiohazard animal carcasses must be either rendered or composted, instead of incinerated, if possible. Contact the Washington Animal Disease Diagnostic Laboratory (WADDL) for more information or to make arrangements; telephone 509-335-9696.

Carcasses that cannot be rendered; e.g., wild ungulates; must be incinerated.

Contact the Biosafety Office for further clarification or suggestions regarding disposal of hazardous materials not defined as biohazard waste under [Identifying Biohazards](#).

INFORMATION AND TRAINING

It is the responsibility of the PI or administrator to provide information necessary to protect any person who handles biohazard waste.

Workers who handle biohazard materials must be informed of the possible exposure hazards.

Workers are to be properly trained regarding handling and disposal of biohazard materials.

Disposal of Biohazard Wastes

Laboratory Personnel

The PI or laboratory supervisor is responsible for training laboratory personnel. The PI or supervisor must provide the following information to laboratory personnel who handle biohazard waste materials and/or who place biohazard waste materials into biohazard boxes for on-campus incineration or Stericycle containers for shipping:

- General information to enable employees to recognize and identify biohazardous material.
- Function-specific information that addresses:
 - Measures to protect the employee from the hazards associated with biohazard waste.
 - Methods and procedures for avoiding accidents.
 - Emergency or spill response actions to follow if an incident occurs.
- Proper procedures for packaging biohazard materials for shipment.

Waste Collectors

Waste collectors who handle biohazard waste materials must be informed of the identity of any biohazard material that may present a health risk to waste collectors.

Supervisors from the Waste Management section of Facilities Services, Operations are responsible for ensuring that waste collectors receive proper training. Training must include:

- Recognition of properly packaged and labeled biohazard containers.
- Proper collection procedures.
- Use of appropriate protective equipment.

Waste Transporters/Disposers

Transportation and disposal workers who handle biohazard waste materials shipped from WSU must be informed of the identity of any biological agent present in the waste that may present a health risk to the waste transporters.

It is the responsibility of the PI or administrator to provide information necessary to protect human health and the environment during shipment or disposal of biohazard waste.

Disposal of Biohazard Wastes

Waste Transporters/ Disposers (cont.)

Shipping and disposal personnel who handle biohazard waste materials must be informed when biohazard material presents a risk to the health of humans, animals, agriculture, or the environment in case of an accidental release during shipment or disposal.

The PI or supervisor prepares a label or tag that includes required information.

Facilities Services, Operations waste collectors must not transport waste to be shipped and/or disposed off campus unless the waste is properly packaged and labeled.

SPILLS AND LEAKS

If a package containing biohazard waste is leaking, broken, or releasing biohazardous materials, take the following actions:

- Immediately leave the area and notify other personnel in the immediate area of the release.
- Prevent personnel from entering the area.
- Call 911 and report the release to the emergency dispatcher.
- Stay nearby to assist spill response personnel and the 911 dispatcher.

DEFINITIONS

Refer to the biosafety level and risk group definitions below.

BSL-1: Biosafety Level 1

BSL-1 agents are defined as well-characterized agents not known to consistently cause disease in immunocompetent adult humans, and present minimal potential hazard to laboratory personnel and the environment. (Centers for Disease Control (CDC) *Biosafety in Microbiological and Biomedical Laboratories (BMBL)*, 5th edition)

RG1: Risk Group 1 Agents

RG1 agents are defined as agents that are not associated with disease in healthy adult humans. (National Institutes of Health (NIH) Guidelines)

BSL-2: Biosafety Level 2

BSL-2 agents are defined as agents that pose moderate hazards to personnel and the environment. (CDC *BMBL*, 5th edition)

RG2: Risk Group 2 Agents

RG2 agents are defined as agents that are associated with human disease which is rarely serious and for which preventive or therapeutic interventions are *often* available. (NIH Guidelines)

Disposal of Biohazard Wastes

BSL-3: Biosafety Level 3	BSL-3 agents are defined as indigenous or exotic agents that may cause serious or potentially lethal disease through inhalation route exposure. (CDC <i>BMBL</i> , 5th edition)
RG3: Risk Group 3 Agents	RG3 agents are defined as agents that are associated with serious or lethal human disease for which preventive or therapeutic interventions <i>may</i> be available (high individual risk but low community risk). (NIH Guidelines)
BSL-4: Biosafety Level 4	BSL-4 agents are defined as dangerous and exotic agents that pose a high individual risk of life-threatening disease, aerosol transmission, or related agents with unknown risks of transmission. (CDC <i>BMBL</i> , 5th edition)
RG4: Risk Group 4 Agents	RG4 agents are defined as agents that are likely to cause serious or lethal human disease for which preventive or therapeutic interventions are not usually available (high individual risk and high community risk). (NIH Guidelines)