

# Treatment and Disposal of Biological Materials

Proper treatment and disposal of cultures and items contaminated by potentially biohazardous agents is a vital step toward protecting laboratory and service personnel from infectious disease. This waste handling process is also necessary to prevent the release of potentially infectious agents into the community at large. Treatment and disposal of biological waste is regulated by several federal and state agencies. General guidelines for handling this waste stream are provided below. Questions regarding these procedures should be directed to the Biological Safety Section, Division of Research Safety at (217) 333-2755 or [via e-mail](mailto:bss@illinois.edu) at [bss@illinois.edu](mailto:bss@illinois.edu).

## Sharps

Sharps are generally agreed to be the most hazardous items in the potentially infectious waste stream. A high degree of precaution must always be taken with any sharp item, contaminated or not. All sharps (hypodermic, intravenous, or other medical needles and syringes; Pasteur pipettes; scalpel or razor blades; blood vials; glass microscope slides and cover slips; and any other laboratory glassware in contact with infectious agents) must be placed immediately upon disposal into a sharps disposal container.

Approved Sharps disposal containers are available from Campus Stores *at no charge* to the laboratory or department. Call 244-0139 or e-mail your request to [cstores@illinois.edu](mailto:cstores@illinois.edu). You can also use a sharps request form available from Campus Stores and Receiving and mail it to 1609 S. Oak, Champaign, MC-662 or fax it to 244-1790. The containers will generally be delivered within three working days of the request. For pick-up of full containers, go to <http://www.drs.illinois.edu/sharps/> and complete the online Sharps Collection Request form. Your containers will generally be picked up within three working days of the request.

## Cultures, Stocks, & Disposable Lab ware

All non-sharp laboratory materials utilized in experiments with biological materials (e.g. cell cultures, microorganisms, recombinant DNA, animal or human tissues, etc.) must be treated prior to disposal by an approved decontamination method such as autoclaving. If autoclaving is used, waste materials should be collected in an autoclavable bag that is stored in a leak-proof container with a lid. All biohazard containers must be labeled with stickers displaying the international biohazard label. If you need "Biohazardous Material" stickers for your biohazard containers you can request them online at [www.drs.illinois.edu/biowaste/](http://www.drs.illinois.edu/biowaste/) or [via e-mail](mailto:bss@illinois.edu) at [bss@illinois.edu](mailto:bss@illinois.edu).

All autoclave bags (including clear) MUST display the international biohazard symbol. After autoclaving, any bag displaying the biohazard symbol must be over bagged with an opaque trash bag and sealed prior to disposal in the regular waste stream. Bags with the biohazard symbol, **regardless of use**, must not be placed, without over bagging, in the regular waste stream.

Other methods for decontamination exist (e.g., decontamination by bleach, ethanol, etc.). Autoclaving may not always be a suitable method. The Biological Safety Section should be consulted for appropriate uses of alternate decontamination procedures.

## Biotoxins

Biological toxins are chemical hazards with biological origins. Disposal of biotoxins and contaminated waste presents special challenges. For information on proper handling and disposal, see the Fact Sheet **Handling and Disposal of Biotoxins** available at: <http://www.drs.illinois.edu/bss/factsheets/>.



# Treatment and Disposal of Biological Materials

## Pathological Waste

Pathological waste includes animal carcasses, tissues and organs and human tissues and organs. University policy requires certain types of pathological waste be disposed of by incineration. However, some pathological waste may be appropriate to be sent for rendering via a commercial vendor.

### Incineration Requirement

All of the following animals and tissues or organs from these animals **must be incinerated**:

- Any animal inoculated with infectious agents
- Transgenic animals, potentially transgenic animals, "no-takes" in the production of transgenic animals, and off-spring of transgenic animals.
- All sheep and goats
- Small research animals (e.g., cats, dogs, rabbits, rats, mice, birds, etc.)
- Human tissues or organs

There are no exceptions to this policy without prior notification and approval by the Institutional Biosafety Committee.

To schedule pickup of pathological waste for incineration go to [www.drs.illinois.edu/biowaste/](http://www.drs.illinois.edu/biowaste/) OR e-mail [biowaste@illinois.edu](mailto:biowaste@illinois.edu). If more than 400 pounds of waste is going to be generated in a one week time period, the Principal Investigator must provide three weeks notice.

### Rendering Option

Rendering of pigs, horses, and cattle is a disposal option as long as these animals:

- Are not transgenic, potentially transgenic, "no-takes" in the production of transgenic animals, or offspring of transgenic animals
- Have not been inoculated with infectious agents
- Have not been contaminated with radioactive materials
- Are not suspected of having rabies or have been cleared by a negative rabies test
- Do not contain insecticides, herbicides or rodenticides
- Do not contain polychlorinated biphenyls (PCBs) or polybrominated biphenyls (PBBs)
- Do not contain heavy metals (i.e. lead, arsenic, chromium, cadmium, mercury, selenium)

**Also, any adult cattle with a central nervous system disorder should not be rendered.**

### Packaging Requirements for Incineration

Materials for incineration must be packaged and labeled by the generating laboratory. Bags for incineration must **NOT** contain glass or liquids. Place no more than thirty pounds of pathological waste in a thick (3-4 mil) black or brown opaque bag. Twist the top closed, fold it over at the top, and tape securely with duct tape. Double bagging may be necessary to prevent leakage and/or protrusion of sharp edges. Each bag must have a completed **DRS INCINERATION TAG** securely attached to the handle. Materials not packaged or labeled properly may be refused. Refrigerate or freeze waste between disposal and pickup.



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You can request Incineration Tags via e-mail at [biowaste@illinois.edu](mailto:biowaste@illinois.edu) or online at [www.drs.illinois.edu/biowaste/](http://www.drs.illinois.edu/biowaste/). If you have questions about how to properly fill out an Incineration Tag you can find instructions at <http://www.drs.illinois.edu/pathwaste/>.

## Fixed Tissues

Fixatives must be separated from the tissue and collected in an approved container for collection and disposal by the Chemical Safety Section. Package drained tissues as described above for pathological wastes. Materials not packaged or labeled properly may be refused.

## Bedding

Bedding from animals inoculated with infectious agents should be treated and disposed by incineration. Package bedding as described above for pathological wastes. Materials not packaged or labeled properly may be refused.

## Questions?

Contact the Division of Research Safety, Biological Safety Section (333-2755 or [via e-mail at bss@illinois.edu](mailto:bss@illinois.edu)) or visit our web site: <http://www.drs.illinois.edu/bss/>.

Other Biological Safety Fact Sheets are available from the Biological Safety Section at our web site: <http://www.drs.illinois.edu/bss/factsheets/>.

