

## Management of BSL 1 Recombinant DNA Waste

All BSL 1 recombinant DNA molecules must be disinfected prior to disposal unless the waste is generated during an Exempt Experiment (described on the next page). Waste from Exempt Experiments does not require disinfection or treatment prior to disposal.

BSL 1 recombinant DNA waste that is not exempt must either be (1) disinfected by the laboratory and disposed of in the trash or down the drain; OR (2) picked up by Environment, Health & Safety (EH&S) for disinfection at an off-site disposal facility (i.e., treated as biohazardous waste). Examples of the various wastes and their appropriate treatment and disposal methods are provided below. Other disinfection methods will be reviewed by the EH&S Biosafety Officer on a case-by-case basis.

Examples of BSL1  
recombinant  
DNA that must  
be autoclaved and  
disposed of as trash

- E-coli K-12, E-coli DH5@
- Yeast (*Sacchromyces Cerevisciae*)
- *Drosophila* cultures
- *C. elegans*
- Zebrafish
- Items such as pipettes, tubes, flasks and tips used with recombinant DNA cultures, as well as paper items saturated with liquid recombinant DNA cultures

These non-exempt BSL 1 wastes are segregated from the regular trash, placed in autoclave bags and autoclaved until disinfected. After the cycle, the bag may be disposed of as regular trash.

**Liquids** - aspirated tissue culture media and other liquid waste generated from Risk Group 1 recombinant DNA molecules must be disinfected with bleach and then drain disposed.

Examples of  
recombinant DNA  
waste that must  
be managed as  
biohazardous waste

- Transgenic rodent carcasses
- Needles, blades and scalpels (regulated sharps) involved in BSL 1 recombinant DNA experiments
- Recombinant DNA waste that cannot be effectively disinfected (because there is no autoclave or the autoclave is not functioning properly, for example)

This waste must be placed in red biohazardous waste bags and sent off-site for treatment and disposal. Please read and understand our other fact sheets on how to properly store and dispose of biohazardous and sharps waste (including recombinant DNA managed at BSL 2 or BSL 3): *Biohazardous Waste Management and Sharps: Handling and Disposal*.



## Exempt Experiments (Section III-F of the NIH Guidelines)

Recombinant DNA waste generated from “Exempt Experiments” can be placed directly into the regular trash or down the drain without being autoclaved or treated with a chemical disinfectant. To determine if an experiment is exempt, the Committee for Laboratory and Environmental Biosafety (CLEB) will review your submitted Biological Use Authorization (BUA) to verify that the research experiment is in one of the following categories of recombinant DNA experiments. See flowchart on page 3 for the experiments that are considered to be exempt under the Guidelines.

## Other Resources

1. EH&S Fact Sheet “Sharps: Handling and Disposal”
2. EH&S Fact Sheet “Biohazardous Waste and Recombinant DNA Waste Management in Biosafety Level 2 and 3 Laboratories”
3. EH&S Fact Sheet “Working Safely with Autoclaves”
4. Biological Use Authorizations
5. NIH Guidelines for Research Involving Recombinant DNA Molecules



### Flow Chart

#### How to determine if your experiment is exempt from the NIH Guidelines

