

<b>Title: Response to Biohazard / Recombinant DNA Incidents</b>			
<b>Approval Date:</b>	<b>October 1, 2012</b>	<b>Effective Date:</b>	<b>October 1, 2012</b>

## 1. Purpose

To ensure timely and appropriate follow-up and to comply with federal reporting requirements, Principal Investigators shall report exposures and releases involving biohazards and recombinant DNA materials as well as violations of the *NIH Guidelines for Research Involving Recombinant DNA Molecules (NIH Guidelines)* to the University Biological Safety Officer (BSO).

This policy defines immediate follow-up and reporting requirements for biohazard and recombinant DNA incidents. Detailed procedures on response to spills and exposures can also be found on the [EHS Website](#).

## 2. Responsibilities

All personnel working with and responding to incidents with biohazards and recombinant DNA.

## 3. Procedures

### A. Personnel Exposures

Needlesticks or other percutaneous injuries from a contaminated sharp item; splashes to mucous membranes (eyes, nose, mouth) or bites/scratches from animals that have been exposed to biohazards or any recombinant DNA material, whether or not the exposure leads to illness.

#### Immediate Response:

To the SKIN: Immediately remove contaminated clothing and wash the contaminated area with soap and water for 15 minutes.

To the EYES: Flush the eye with water for at least 15 minutes at an eyewash or faucet. Remove contact lenses while flushing the eyes.

#### Medical Treatment

If transport assistance is needed or injury requires emergency treatment, contact the Department of Public Safety (DPS) at 911 from a University phone or 609 258 3333 from a cell phone.

Weekday, daytime hours: Seek treatment at University Health Services. Ask a co-worker to call ahead (609 258 5035).

After hours, evenings, and weekends: For exposures to biosafety level 2 agents, including recombinant DNA material, contact DPS and request transport to the Emergency Department at the University Medical Center of Princeton. For exposures to biosafety level 1 materials, follow up with UHS on the next business day.

#### Follow-up

#### **Report exposures and/or suspected illnesses associated with biohazards and any recombinant DNA within 8 hours to the BSO.**

The BSO investigates the report and notifies the IBC Chair.

- For events that do not involve recombinant DNA material, the BSO conducts an investigation and prepares a report for the Principal Investigator.
- If the IBC Chair and BSO determine that the incident involves (non-exempt) recombinant DNA, an incident summary will be sent to the NIH Office of Biotechnology Activities within 24 hours. The Dean for Research will also receive a copy of the incident summary.
- The BSO will prepare a detailed incident report for review by the IBC Chair, with a copy to the Research Integrity and Assurance IBC Administrator.

- d. After review by the IBC Chair, the report will be sent by the BSO to NIH OBA within 30 days of notification of the incident.

**B. Spills and/or release to the environment of recombinant DNA or biosafety level 2 material**

Significant spill or release of biosafety level 2 or any recombinant DNA materials outside of containment equipment; theft, loss or release of biosafety level 2 or any recombinant DNA materials to the environment, including escape of a transgenic animal.

Immediate Response

See attachment 1 for guidance on response to spills.

Follow-up

Notify the BSO within 24 hours via email or phone if not already contacted for assistance with spill-clean up.

- a. If the event involved (non exempt) recombinant DNA, the BSO will prepare a report for review by the IBC Chair and RIA IBC administrator. The report will be sent to the NIH OBA within 30 days of initial notification to the BSO.
- b. For events that do not involve recombinant DNA, the BSO will compile a report for the Principal Investigator.

**C. Use of Recombinant DNA without Approval from the IBC**

Research with recombinant DNA as described in [Sections III-A, B, C and D](#) of the *NIH Guidelines* must be approved by the IBC prior to initiation. Failure to obtain IBC approval prior to initiation of this type of research must be reported to the BSO within 24 hours.

BSO will prepare a detailed report for review by the IBC Chair and RIA IBC administrator. The report will be sent to the NIH OBA within 30 days.

\*Biosafety Officer:

jw6@princeton.edu

Phone: 609-258-5294

(After hours, the BSO can be contacted through the Department of Public Safety.)

**4. References**

NIH Guidelines for Research Involving Recombinant DNA Molecules (NIH Guidelines), October 2011.

**5. Version History**

	Version Number	Revision Date	Revisions
Add	1.0	Oct 1, 2012	Initiation

## **Attachment 1**

### **Response to Spills of Biohazardous Materials and Recombinant DNA**

#### **Preparing for Spills**

Most spills involving biosafety level 2 organisms and viruses and recombinant DNA material can be handled by researchers. Supplies to clean a spill appropriately must be available in any lab that works with or stores biohazardous materials.

#### **Recommended Supplies**

An **appropriate disinfectant** which works against the agents of concern; for clean-up of larger spills, alcohol is not recommended due to flammability concerns.

**Personal protective equipment (PPE)** including a lab coat or gown, and gloves. A face shield and shoe covers may be required.

Other supplies include: sharps containers for collection of broken glass, absorbent material such as bench liners or paper towels, tongs to pick up broken glass and autoclave bags

#### **Small spills:**

Wipe up spill with a disinfectant-soaked paper towel and clean the surface with a suitable disinfectant.

#### **Large Spills**

##### **Spills outside of a containment device**

The spill is not inside of a Biological Safety Cabinet (BSC), centrifuge, or other lab equipment.

Close off spill area to traffic, and notify coworkers.

1. If the spill may involve an aerosol, instruct all occupants to leave the room for 30 minutes to allow aerosols to settle. Aerosols can form if material is dropped. Place a sign on the door warning staff not to enter the room due to a spill.
2. Remove contaminated lab coat or clothing and wash exposed skin.
3. Put on clean gloves and lab coat.
4. Prepare enough volume of a 1:10 dilution of chlorine bleach or other approved disinfectant to saturate the contaminated area.
5. Contain the spill with paper towels or other absorbent material such as bench liners.
6. Flood the spill area with disinfectant. Leave on for 10 minutes.
7. Push the absorbent material at the edge of the spill into the spill's center. Add more paper towels as needed.
8. If glass is present, use tongs or forceps and a dustpan to remove pieces and place into a sharps container.
9. Discard the paper towels into a regulated medical waste container.
10. Using clean paper towels and a disinfectant, wipe all surfaces that may have come in contact with the spilled material.
11. Discard gloves into regulated medical waste container.
12. Wash hands thoroughly.
13. Autoclave an overtly contaminated lab coat prior to placing into laboratory laundry bag.
14. Notify Principal Investigator or Supervisor and the BSO.

##### **Spills inside of a Biological Safety Cabinet (BSC)**

1. Leave BSC on.
2. Follow steps 2 through 10 above. Do not use 70% ethanol as it evaporates too quickly to allow adequate surface contact time.
3. If the cabinet has a catch basin beneath the work surface and the spill resulted in liquids flowing into this area, more extensive decontamination is required.
  - Ensure the drain valve under the cabinet is closed.
  - Pour disinfectant onto the work surface and through the front and rear grilles into the drain pan. Allow 20-30 minutes contact time.
  - Absorb spilled fluid-disinfectant from work surface with paper towels & discard in biohazard bag.

- Prepare to empty drain pan. Place fresh disinfectant solution in a collection vessel. Attach flexible tubing to the drain valve. The tube should be of sufficient length to allow the open end to be submerged in the collection vessel to minimize aerosol generation.
- Open the drain valve and empty the drain pan into the collection vessel containing disinfectant. Flush the drain pan with water and remove the flexible tubing. Manage contaminated materials as if they are infectious.
- Remove protective clothing used during cleanup and place in a biohazard bag for autoclaving.
- Wash hands after gloves are removed.
- Notify Principal Investigator or supervisor. Consult with EHS Biosafety (258-5294) to determine if vapor/gas decontamination of the cabinet and filters is necessary.
- Run BSC at least 10 minutes after cleanup, before resuming activity in the cabinet.

### **Spills in a centrifuge**

Spills or breakage of containers inside of an operating centrifuge pose a serious potential for exposure due to the creation of aerosols. If a primary container has broken in a centrifuge without a closed rotor or bucket, immediately suspend use, notify lab staff and PI and request assistance from the Biosafety Officer.

For suspected or confirmed spills/breakage in any centrifuge, wait at least 30 minutes after the centrifuge has stopped operating to initiate clean-up.

1. Put on lab coat, gloves and a face shield prior to opening centrifuge. Open carefully to assess the damage.
2. If the spill is contained within a closed cup, bucket or rotor, spray the exterior with disinfectant and allow at least 10 minutes of contact time. Remove the carrier to the nearest biosafety cabinet (BSC). If a biosafety cabinet is not available, close the centrifuge, post a sign to indicate it cannot be used. Notify the PI and Biosafety Office for assistance.
3. If a BSC is available, gather supplies needed, such as a sharps container for broken glass and bins filled with disinfectant and place into the BSC. Use forceps to remove broken glass and place directly into sharps container. Carefully remove any unbroken tubes and place into a bin filled with disinfectant for 20 minutes. Wipe carrier/bucket with disinfectant.
4. After disinfection, carrier, bucket or rotor should be washed with a mild soap and water.
5. Spray the interior of the centrifuge chamber with a disinfectant, let sit for 20 minutes and then wipe down.
6. Remove protective clothing and wash hands.