

West Virginia University

Institutional Biosafety Committee

Emergency Response and Reporting for recombinant or synthetic NA and Other Biohazardous Materials

Purpose: The purpose of this Institutional Biosafety Committee (IBC) policy is to provide information regarding how to respond to spills, accidents, and potential exposures with recombinant or synthetic nucleic acids (r/sNA) and other biohazardous materials. Additional information on how to report these incidents is included.

Spill Involving BSL1 Material/Agent

1. Use gloves.
2. Remove contaminated sharps from site using forceps or tongs.
3. Cover the spill with absorbent material (paper towels).
4. Pour 10% bleach on the absorbent material working from the edges towards the center.
5. Place absorbent material in biohazard bag for disposal.
6. Wipe area with water to remove residual bleach.
7. Remove PPE and wash hands thoroughly.
8. Inform your supervisor.

Spill Involving BSL2 Material/Agent Inside a Biosafety Cabinet

1. KEEP THE BIOSAFETY CABINET RUNNING.
2. Put on gloves, eye protection, lab coat.
3. Remove contaminated sharps from site using forceps or tongs.
4. Cover the spill with absorbent material (paper towels).
5. Pour appropriate disinfectant (10% bleach) on the absorbent material working from the edges towards the center.
6. Allow 20 minutes of contact time.
7. Place absorbent material in biohazard bag for disposal.
8. Wipe surface with water to remove residual bleach.
9. Remove PPE and wash hands thoroughly.
10. Inform your supervisor.

If it is a large spill which flows into the front or rear grills, pour 10% bleach into the drain pans and catch basins and allow 20 minutes of contact time. Remove the disinfectant and rinse with water to prevent corrosion. For assistance with this, contact the biosafety officer (3-7157)

Spill Involving BSL2 Material/Agent Outside of a Biosafety Cabinet

1. If spill involves highly concentrated or highly pathogenic agents, leave the room for 30 minutes to allow aerosols to settle.

2. Alert people in the area that a spill has occurred and keep them out of the area.
3. Put on gloves, eye protection, lab coat, more PPE may be necessary for high risk agents (N-95 respirator).
4. Remove contaminated sharps from site using forceps or tongs.
5. Cover the spill with absorbent material (paper towels).
6. Pour 10% bleach on the absorbent material working from the edges towards the center.
7. Allow 20 minutes of contact time.
8. Place absorbent material in biohazard bag for disposal.
9. Wipe surface with water to remove residual bleach.
10. Remove PPE and wash hands thoroughly.
11. Inform your supervisor and biosafety officer (3-7157).

Personnel Exposure

If a personnel exposure to r/sNA or biohazardous material occurs, emergency response is based on the hazard of the material, the amount of material spilled, the route of exposure and whether significant aerosols were generated. PI's are responsible for performing a risk assessment on their biohazardous materials prior to beginning research and informing the lab personnel of these risks. The biosafety officer will provide assistance when performing a risk assessment. This document provides a general protocol for exposure incidents. PI's should customize instructions based on the projects that are being performed in their labs.

Potential Risks associated with rDNA: Mutagenesis, oncogenesis, expression of transgenes, replication competent virus (viral vectors)

Potential Modes of Transmission:

- Skin puncture or injection
- Ingestion
- Contact with mucous membranes (eyes, nose, mouth)
- Contact with non-intact skin
- Bite from a recently infected animal
- Percutaneous contact with body fluids from a recently infected animal
- Aerosols
- Other

First Aid:

- *Skin Exposure:* immediately go to the sink and thoroughly wash the skin with soap and water for 10 minutes.
- *Skin Wound:* immediately go to the sink and run wound under water while squeezing to express blood. Then thoroughly wash the wound with soap and water for 10 minutes.
- *Splash to Eye(s), Nose or Mouth:* immediately flush the area with running water for at least 10 minutes.

After First Aid is applied:

- If possible, potentially contaminated personnel should go to another laboratory area so that hallways and other public areas do not become contaminated.
- Contaminated clothing is removed and placed in red biohazard bags for disinfecting.
- Showering may be appropriate, depending on the extent of the spill.
- Exposed personnel must follow appropriate response plans for exposure prophylaxis that include seeking medical attention as necessary and contacting Occupational Medicine (304-293-3693).
- The University personnel involved must immediately report the incident to the Principal Investigator and the biosafety officer (BSO) (304-293-7157, aaelliott@mail.wvu.edu). The Principal Investigator is ultimately responsible for reporting the incident to the biosafety officer should the personnel involved be unable to do so in a timely manner.
- The PI is responsible for filling out an incident report form found on the EHS website: <http://ehs.wvu.edu/>

Reporting Requirements

All incidents (spills, exposures) involving biohazardous materials must be reported using a biohazard incident report form found on the EHS biosafety website.

If the incident involves r/sNA material which falls under *NIH Guidelines*, the biosafety officer will work with the PI to collectively complete the NIH OBA Template for Reporting Incidents Involving Recombinant DNA at <http://www.osp.od.nih.gov/office-biotechnology-activities/biosafety/institutional-biosafety-committees/incident-reporting>

If the incident involved the following, then the report must be sent to the NIH/OBA immediately:

- Overt personnel exposure at Biosafety Level 2 (BSL-2) and/or Animal Biosafety Level 2 (ABSL-2).
- Overt or potential exposure in the Biosafety Level 3 (BSL-3) and/or Animal Biosafety Level 3 (ABSL-3) laboratories outside of a biosafety cabinet.

For all other incidents, reports must be sent to NIH/OBA within 30 days. A few examples include:

- Needlestick or splash to mucous membranes with r/sNA
- Centrifuge failure while working at BSL2 or BSL3.
- Large spill (>10ml) of a potentially infectious material outside the biosafety cabinet.
- Escape or improper disposal of a transgenic animal or plant.
- Animal bite from an infected animal (including animals with recently introduced r/sNA molecules).

In conjunction with the IBC Chair, the BSO will submit the final incident report to the respective federal agency on behalf of the university. The final incident report will be reviewed by the IBC and corrective actions recommended and instituted as necessary.