

# JOB SAFETY ANALYSIS

Safety Information for the University of California, Berkeley

## BIOHAZARD RELEASE CLEAN UP *(Applicable to Risk Groups 2 and 3 and blood borne pathogens)*

\* Exposure to biohazards released in laboratories and facilities can lead to adverse health effects. Exposure can be prevented among persons who clean up biohazard spills by using proper protective clothing and equipment, and by following prescribed/established protocols. This JSA is also applicable to cleanup of human blood and other bodily fluids.

TASK	HAZARDS	CONTROLS
<p>1. Assess the situation to determine the biohazard that was released, the amount and concentration of the active ingredient(s).</p>	<p>Exposure to the biohazard and to other physical and chemical hazards in the vicinity of the release</p>	<p>Meet with site contact person, preferably one familiar with the site, the biohazard released, its amount, its concentration, and its health effects. Meeting location should be away from the incident site. Also, inquire if chemicals may have been released and other possible hazards (chemical, biological and/or physical) that may be present near the release site.</p> <p>Keep room ventilation operating for at least half an hour before entering the release site, particularly for Risk Groups 2 and 3.</p>
	<p>Absence of a person who is familiar with the identity of the biohazard released, amount and concentration and other hazards present.</p>	<p>Treat the spill like the release of a Risk Group 3 organism and observe the protocols and precautions appropriate for that class of organisms; plan an entry to exercise caution for possible chemicals released, chemicals in containers and other physical hazards in close proximity of the release site.</p>
<p>2. Select and don the appropriate PPE after planning response procedure and entry to the area of release.</p>	<p>Inadequate protection of chosen PPE</p>	<p>Do not go near the release site or room until response protocol has been agreed upon and protective clothing, equipment and supplies are determined and double checked for adequacy with an expert.</p> <p>Double-check gloves and protective clothing to ensure they are devoid of failures such as pin holes and tears.</p> <p>Wear safety glasses with side shields or goggles that fit to prevent them slipping or falling off and, if warranted, wear a face shield to avoid splashes on the face.</p> <p>Wear boots that are in good condition and fit properly.</p>
	<p>Slipping and falling</p>	<p>Respond with a "buddy" who can assist in donning of PPE or, if responding alone, hold on to a sturdy object or furniture when donning protective clothing. Sitting while donning foot protection should prevent falling.</p>

	3. Prepare disinfectant or 10% solution of bleach in water and absorbent (paper towel will do).	Skin exposure to concentrated bleach and possible inhalation.	Use an accurate measuring device to measure bleach and water to ensure accurate concentration of solution.  Prepare solution in a well ventilated location and cover containers of concentrated bleach and diluted solutions when not in use.
		Release of concentrated and/or diluted solution of bleach and exposure to active ingredient.	Wear the prescribed PPE when preparing the bleach solution needed for the response.  Absorb spill immediately and double bag used absorbent to avoid and minimize exposure.  Prepare enough supply of absorbent and place area where disinfectant solution is being prepared and near the cleanup site.
	4. Don prescribed personal protection and bring in enough neutralizer, absorbent and waste containers when entering spill area.	Exposure to the biohazard released and to a chemical(s) that may have been released with the biohazard	Wear adequate protection and make sure ventilation is operating.  If a chemical(s) was also released, depart the area, get to a clean and safe location and plan response to include the chemical released.  Absorb spill immediately and double bag used absorbent to avoid and minimize exposure.
		Tripping over physical hazards or injury due to physical hazards in the way.	If not familiar, approach cleanup area with caution and if possible, clear cleanup area of physical hazards present.  Make sure that cleanup area has adequate lighting.
	5. Identify the perimeter of the cleanup area and equipment and other containers that are contaminated.	Impaired vision due to PPE	PPE should not impair vision if properly fitted.  Take time in identifying contaminated surfaces and equipment.
		Impaired vision due to inadequate lighting of cleanup area.	Ensure enough light is provided to the spill area to see small quantities such as droplets on surfaces near and above the spill area.
	6. Apply bleach solution or recommended disinfectant according to appropriate guidelines.	Increase of the area of contamination due to splattering of the applied disinfectant solution.	Before application of bleach solution or disinfectant, carefully cover the cleanup area with a wide paper towel moistened with disinfectant.
		Inhalation and/or contact exposure to the biohazard.	Wear adequate protective clothing, eye protection and foot protection. Check adequacy of PPE with an expert such as the Campus Biosafety Officer.

	7. Search for other contaminated locations.	Contact with biohazard released and other chemicals	Approach spill area cautiously. Clean and decontaminate containers and equipment nearby that may hinder clean-up and then set them away from the spill area.  Search and clean other contaminated areas, furniture and equipment.
		Electrical hazards	Disconnect or de-energize equipment prior to handling.  Avoid contact with heat sources.
		Other physical hazards	Use tongs to pick up broken glass and other small items contaminated with the biohazard and collect in appropriate container.  Properly dispose of used absorbents in a red biohazard bag. Bring the bag to the autoclave room and drop it in the container of items to be autoclaved.
	8. Collect and contain the generated waste.	Body injury due to lifting, twisting, and bending	Use proper lifting techniques when handling waste container.  Do not handle containers that weigh more than you can carry or handle.
		Cuts	Use tongs to pick up broken glass and other small items contaminated with the biohazard and collect in appropriate container.  Properly dispose of used absorbents in a red biohazard bag. Bring the bag to the autoclave room and drop it in the container of items to be autoclaved.
		Slipping and/or falling while handling generated waste	Be sure footing is secure while moving equipment and supplies.
	9. Final cleanup	Discovery of new sites of biohazard	Begin the process of disinfecting and cleanup starting with Task 6.  Use appropriate and adequate PPE. The same PPE may be used but be aware that cartridges have saturation points and need to be changed.
		Slips and falls	Practice caution when handling waste. Be sure footing is secure and keep away from physical hazards that impair movement.  Respond with a "buddy" who can assist in the handling of heavy or bulky waste containers.

<b>Other Information:</b> <b>Contributors:</b> <b>Created:</b> <b>JSA Library Number:</b>	10. Transport biohazard waste generated to an autoclave room if located in another building.	Inadequate controls	Follow JSA for hazardous materials transport and perform controls that are appropriate as found in previous steps above.
	<b>Required Training:</b> <ol style="list-style-type: none"> <li>1. Biohazard risk groups</li> <li>2. Review research protocols</li> </ol>	<b>Required Personal Protective Equipment (PPE)</b> <ol style="list-style-type: none"> <li>1. Eyewear</li> <li>2. Closed toe footwear (boots)</li> <li>3. Boot covers</li> <li>4. Nitrile gloves</li> </ol>	
	Emergency Response: EH&S Specialist Ave Tolentino; EH&S Specialist Libby Ignacio April 2003 EHS-ER-43		