

JOB SAFETY ANALYSIS

Safety Information for the University of California, Berkeley

ENVIRONMENT, HEALTH AND SAFETY

HANDLING A POTENTIAL EXPLOSIVE CHEMICAL (PEC)

TASK	HAZARDS	CONTROLS
<p>NOTE: Touching, picking, or moving a potentially explosive chemical (PEC) container can be hazardous to a responder. A small container (up to one gallon) of a PEC can be touched, picked up and/or moved after assessment and conclusion that it poses no imminent danger to the person handling the item.</p>		
<p>1. Assess the state/condition of the suspect PEC away from its location by interviewing the "owner" or a person at the site with a good knowledge about the material and its history. Ask about the original amount and the current amount of the suspect PEC.</p>	<p>Explosion during assessment that may adversely affect the area around the material and any persons nearby.</p>	<p>Prevent entry into or near the location of the suspect material. Ensure that the storage location of the material is closed and/or locked, and meet with the knowledgeable person in another room or location.</p> <p>Install a barrier in front of the PEC storage or put a "Do Not Enter" tape across the door of the storage location. Post warning signs that the material inside is a suspect PEC.</p>
<p>2. Determine what other materials or substances are in the immediate area of the suspect PEC.</p>	<p>Risk of exposure to the other chemical(s) that may be present, or product(s) of reaction with the suspect PEC if it explodes</p>	<p>Avoid entry into location of suspect material. Ensure that the storage location of the material is closed/locked, and meet with the knowledgeable person in another room or location.</p> <p>If safe, you may cautiously look inside the room where the PEC is located using a pair of binoculars, if necessary, to determine the layout of the site and to identify the chemicals and other hazards present near the PEC.</p>

	3. Approach the PEC for a closer inspection.	Severe or minor injury from explosion of PEC due to inadequate assessment from a remote site	Assess the situation exhaustively, interview the person who “owns” or has custody of the PEC, and consult with other experts, specifically with someone who is an expert on PECs or that particular PEC. If in doubt, obtain approval from owner department and turn over the incident and its resolution to an experienced and willing outside contractor.
	4. If handling of PEC is necessary, select and don appropriate PPE for the operation.	Inadequate protection leading to exposure to chemicals	Select the PPE based on Tasks 1 and 2 and double-check adequacy of PPE by consulting experts.
		Slipping and falling during donning of PPE	Suit up in an area free of physical hazards and debris. Don foot and leg protection while seated, or with the assistance of a “buddy.”
	5. Select equipment and supplies appropriate for the operation.	Inadequate equipment and supplies can lead to physical injury and/or chemical exposure	Assess the situation exhaustively and discuss plan of action with knowledgeable persons. Perform a mock-up response if necessary.
	6. Stabilize the PEC to render it safe to be handled and transported to a more secure location where it can be prepared for normal disposal as an unwanted chemical.	Physical injury due to explosion and/or chemical exposure leading to adverse short and long-term health effects	Discuss plan of action with PEC “owner” and experts; perform a pilot stabilization, if appropriate, before entering the PEC room.
		Exposure to spills of nearby chemicals	Wear appropriate chemically-impervious PEC by repeating Task 4 and corresponding controls.
		Physical injury from sharps in the vicinity of the PEC	Pick up sharps with tongs or similar equipment and put them in a hardside container or appropriate sharps container.
	7. Decontaminate area if chemicals were spilled.	Exposure to chemicals	Repeat Task 4 and the corresponding controls.
Injury from sharps in the area		If possible, pick up sharps with tongs and collect them in an appropriate sharps container.	
8. Transfer custody of stabilized PEC and any hazardous waste generated to responsible person at the site.	Absence of such a person or lack of secure place for the materials at the site	Follow the JSA for transport of hazardous materials/waste to the Hazardous Waste Facility.	

Other Information: Contributors: Created: JSA Library Number:	Required Training: <ol style="list-style-type: none"> 1. Familiarization with potentially explosive chemicals (PECs) in laboratories 2. Proper use of appropriate personal protective equipment (PPE) 3. Familiarity with protocols in stabilizing and transporting PECs 	Required Personal Protective Equipment (PPE) <ol style="list-style-type: none"> 1. Safety glasses/goggles and face shield 2. Extra heavy-duty chemically-resistant gloves 3. Clear heavy-duty plastic, stand-alone work shield 4. Chemically-resistant outer clothing (coveralls) 5. Full or half-face respirator with appropriate cartridges
	<p>Job Safety Analysis (in development)</p> <p>Emergency Response Team: EH&S Specialist Ave Tolentino; EH&S Principal Technician Aaron Wilber</p> <p>April 2003</p> <p>EHS-ER-28</p> <p>For more information about this JSA, contact the <i>Office of Environment, Health and Safety</i> at UC Berkeley, 317 University Hall #1150, Berkeley, CA 94720-1150 (510) 642-3073 ● http://www.ehs.berkeley.edu</p> <p><i>The development of Job Safety Analyses is a Balanced Scorecard initiative of the AVC-BAS Safety Committee, sponsored by the Associate Vice Chancellor-Business and Administrative Services (AVC-BAS) and the AVC-BAS Leadership Team ● http://bas.berkeley.edu/balancedscorecard</i></p>	