

Earthquake Preparation for Laboratories

The following questionnaire/checklist is designed to help Department Chairs, Principal Investigators, Lab Supervisors, and Lab Personnel perform a self-assessment for their areas of responsibility. Use this list of questions to help identify situations that may pose a problem in case of an earthquake.

A. PREPARATION

1. If an earthquake occurs, what do you do and where do you go?
 - o Locate safe and danger spots in your area. Decide if you would go under a desk or table, in a safe corner, or out of the lab against a corridor wall.
 - o Consider flying glass hazards from windows and glass and falling hazards from light fixtures, books, pictures, and equipment when selecting safe spots.
 - o Above all, remember to “Drop, Cover and Hold On.” Cover and protect your head from injury if you can do nothing else.

2. Do you need to evacuate the building?
 - o Generally, it is not necessary to leave a building after an earthquake.
 - o Vacate the building only if 1) You are instructed to do so, or 2) You feel it is unsafe to remain inside the building.
 - o Know the evacuation routes from your building before you need to use them.
 - o Do not leave the building until the tremors have stopped.
 - o For information on evacuation areas for your building, see the map at <http://prepare.fullerton.edu/evacuationprocedure>

3. Do we meet in a specific spot?
 - o If your laboratory personnel have a pre-determined an emergency assembly point, know where it is.
 - o Determine an alternate assembly point in case your first emergency assembly point happens to be downwind of a chemical or gas release or otherwise unusable.

4. Are gas cylinders well secured in an upright position?
 - o Two cylinder straps or chains per cylinder will securely fasten it to the lab wall.
 - o When not in use, remove pressure regulators and put cylinder caps on cylinders.

5. Are chemicals stored properly? All chemicals and chemical waste must be:
 - o Recapped and returned to their storage cabinets immediately after use.
 - o In chemical storage cabinets that are closed and latched.
 - o In chemical storage cabinets that are secured to prevent tipping or movement.
 - o On chemical storage shelves equipped with lips or restraints to keep chemicals and glassware in place.
 - o Stored in secondary containment trays or tubs.
 - o Stored so that non-compatible chemicals are stored separately.

6. Are fume hood sashes closed as far as possible to contain spills while still maintaining adequate ventilation rates?

7. Are heavy equipment and furniture that might block exit routes secured? All exits and aisle ways must be free and clear of obstructions at all times.

8. Do you have equipment and/or processes that could be damaged or pose a fire or health hazard if power was suddenly lost? If so, you will need to provide backup or emergency power to maintain critical systems.
9. Are safety system (i.e., fire extinguishers, safety showers, eye washes) accessible and in proper operating condition? Everyone should know where they are and how to use them.
10. Do you have spill containment equipment available? If not, ask Environmental Health and Safety Office at 657-278-7233 for help.

11. Do you have a long-term plan in case you could not get back into your lab for at least a week?
 - o Know what cell lines/experiments/data are your first priorities.
 - o Make provisions for taking care of lab animals or making sure that you have enough liquid nitrogen for the freezers. (Remember that normal distribution systems may be disrupted, so have a back up plan.)
 - o Have backup copies of important data (both disk and hard copies).

B. DURING A MAJOR EARTHQUAKE

The most important thing to remember during an earthquake is to protect yourself from injury. Drop, Cover and Hold On.

1. Seek shelter under a desk or table if you can.
2. If no shelter is available, move away from potentially harmful things (breaking glass, chemicals), make yourself as small as possible and cover your head.
3. Remain in this sheltered position until the shaking stops.

C. ACTIONS IMMEDIATELY AFTER A MAJOR EARTHQUAKE

If you need to leave the laboratory or building, the steps you take now may make a big difference to the long term results from the earthquake.

1. Assess your situation. Take direction from senior staff when possible.
2. Be prepared to seek shelter again. Aftershocks can be more or less powerful than the original earthquake.
3. Decide if evacuation from the building is the proper course of action. (See A.2. above)
4. This is a check list of important steps to take before leaving the building. Remember, you would only take these steps if it is safe to do so.
 - o Turn off gas burners.
 - o Check quickly for fires, fire hazards, or spilled chemicals.
 - o Check for injured or physically limited people who might have trouble evacuating the building. Help those only to your ability.
 - o Close the lab door as you leave.
 - o Report crucial items, hazards, or location of injured persons to the appropriate official at the emergency assembly area.

For more information on Emergency Preparedness at CSUF, go to <http://prepare.fullerton.edu>

(Adapted from Stanford University's guide to department disaster planning and copied the University of Washington's formatting in a checklist. THANK YOU to both!)

<http://www.stanford.edu/dept/EHS/prod/training/intro/hsintro.pdf>

<http://www.ehs.washington.edu/fsoemerprep/labearthquake.shtml>