## College of Agriculture Laboratory Spill Response Drill

**Responsible faculty will document a spill response drill in each laboratory at least once every academic year. The purpose of the drill is to improve your spill response procedures.**

**Drill Instructions:** Before beginning, select a specific chemical substance that will be the subject of your drill. If desired, a spill may be simulated with a small amount of water, sand, or other harmless substance. **Do not intentionally spill a hazardous chemical during the drill.** Involve as many laboratory personnel as possible. During the drill, observe the *Drill Guidelines for Simulated Laboratory Spills*, as described below. Practice procedures for minor and major spills. When the drill has been completed, answer the assessment questions below and keep a departmental copy on file. The drill is meant to be an assessment and learning experience; please identify goals for improvement and take action to achieve those goals.

Room number _____ Date of drill _____

Chemical simulated in spill _____

1. Identify any barriers that interfere with alerting people who would be affected by the spill.

2. Describe any problems that prevent Safety Data Sheets (SDS) from being used effectively.

3. Specify any difficulties in selecting and using spill control materials (absorbents, etc.).

4. Identify any problems related to emergency phone numbers, eyewash stations, emergency showers, and first-aid kits.

5. Discuss any obstacles to ventilating the area of the spill.

6. List any difficulties in selecting and using appropriate personal protective equipment.

7. Describe any problems with equipment shut-off procedures.

8. List any goals for improvement.

Personnel attending drill:

_____ _____

_____ _____

_____ _____

_____ _____

_____ _____

Signature of faculty member responsible for lab:

_____

## Drill Guidelines for Simulated Laboratory Spills

**General:** Chemical spills should only be cleaned up by knowledgeable and experienced personnel. Safety Data Sheets (SDS) should be readily available to persons in each lab or work area. Spill kits with instructions, absorbents, reactants, and protective equipment should be available to clean up minor spills.

**A minor chemical spill is one that the employee is capable of handling safely without the assistance of safety or emergency personnel. All other chemical spills are considered major.**

During the drill, lab personnel should practice procedures for minor and major spills.

**Minor Chemical Spill Procedures:**

1. *Actual spill procedure:* Identify the chemical.
    a. ***Procedure for drill:*** In advance, select a chemical that will be the subject of your drill. During the drill, discuss how the chemical could be identified if an actual spill had occurred (e.g., by labeling, appearance, obvious odor in the room, etc.). If desired, a spill may be simulated with a small amount of water, sand, or other harmless substance. **Do NOT intentionally spill a hazardous chemical during the drill.**
2. *Actual spill procedure:* Alert people in immediate area of the spill.
    a. ***Procedure for drill:*** Notify everyone in the lab that the drill is taking place. For the chemical that is the subject of the drill, discuss whether it would be necessary to notify people in other locations and what notification procedures would be used. It is not necessary to actually notify outside persons during the drill.
3. *Actual spill procedure:* Put on appropriate personal protective equipment for the chemical as required by the SDS.
    a. ***Procedure for drill:*** Consult the SDS. Everyone participating in the drill should put on appropriate gloves and other personal protective equipment as described in the SDS.
4. *Actual spill procedure:* If the material is flammable, shut off electric equipment, pilots, furnace, and air conditioner if it can be done without walking in the material and if it will not cause a spark.
    a. ***Procedure for drill:*** During the drill, identify equipment that should be shut off and discuss the proper shutoff procedures. If it can be done safely, you may shut off equipment during the drill. Re-lighting pilots can be hazardous, so it is best to simply discuss pilot shutoff procedures, rather than actually shutting them off during the drill.
5. *Actual spill procedure:* Refer to the SDS for ventilation instructions.
    a. ***Procedure for drill:*** Discuss requirements in the MSDS such as opening doors and windows, using fans, etc. If it can be done safely, you should carry out these instructions during the drill to determine if there will be any problems.
6. *Actual spill procedure:* Isolate the spill by using absorbent material (e.g., make a dam around the spill). Neutralize the spill, or collect the spilled substance using absorbent

materials. Place used absorbent materials inside an approved container (containers may be obtained from Public Safety).

   a. ***Procedure for drill:*** During the drill, contain and collect the simulated spill with nonhazardous absorbent material. Discuss whether any neutralizing agent would have been required if the spill had been real. Also, discuss how you would dispose of the material from an actual spill. Since the spill is simulated (e.g., water or sand) and a nonhazardous absorbent is being used, the material can be discarded in the trash after the drill. If all available absorbents contain neutralizing agents or other potentially hazardous substances, do not actually use them in the simulation—simply locate them and discuss how you would apply them to a spill.

7. *Actual spill procedure:* Call Public Safety for labeling and disposal information. Phone 785-532-5856.
   a. ***Procedure for drill:*** During the drill, make sure Public Safety's phone number is available in the lab. It is not necessary to actually call Public Safety during the drill.
8. *Actual spill procedure:* As soon as possible, provide information to each departmental office within the facility if the spill has a potential to affect persons outside the room where the spill occurred. Provide enough information so that building occupants can be told what has happened and whether they need to take any action to protect themselves.
   a. ***Procedure for drill:*** During the drill, discuss which offices you would call and where to find their phone numbers. It is not necessary to actually call these offices during the drill.

**Major Chemical Spill Procedures:**

1. *Actual spill procedure:* Identify the chemical.
    a. ***The drill procedure was already addressed for minor spills.***
2. *Actual spill procedure:* Call 911 and attend to injured or contaminated persons and remove them from exposure if you can do so safely.
    a. ***Procedure for drill:*** Consult the SDS. Discuss the injuries and symptoms that might be expected with this chemical. Identify precautions that should be taken by anyone who enters the lab to assist injured personnel. Discuss first aid procedures for inhalation, ingestion, eye and skin exposure. Identify the location and procedures for using eyewash stations, emergency showers, and first aid kits. Make sure emergency phone numbers are posted. During the drill do NOT activate emergency showers unless Facilities has agreed to be present to shut them off.
3. *Actual spill procedure:* Alert people to evacuate the building/area.
    a. ***Procedure for drill:*** Discuss whether a major spill of the chemical in question would require evacuation of the lab, floor, and/or building. Discuss the notification procedures you would use. Identify the exiting/evacuation routes that are available. It is not necessary to actually evacuate during the drill.
4. *Actual spill procedure:* If the material is flammable, shut off electric equipment, pilots, furnace, and air conditioner if it can be done without walking in the material and if it will not cause a spark.
    a. ***The drill procedure was already addressed for minor spills.*** Discuss whether any additional precautions are required for large spills of flammable liquids (e.g., contacting Facilities to request that power to the building be shut down).
5. *Actual spill procedure:* Have a person knowledgeable of the incident assist emergency personnel.
    a. ***Procedure for drill:*** Discuss how lab personnel can assist emergency responders by providing SDS's, chemical labels, information about what occurred, the location of any injured persons, the location of spill control materials, other hazards in the lab, etc.
6. *Actual spill procedure:* As soon as possible, provide information to each departmental office within the facility if the spill has a potential to affect persons outside the room where the spill occurred. Provide enough information so that building occupants can be told what has happened and whether they need to take any action to protect themselves.
    a. ***The drill procedure was already addressed for minor spills.*** Discuss the importance of notifying other offices in the building for large spills of solvents, toxics, and other hazardous substances.
7. *Actual spill procedure:* Notify the KSU Environmental Health and Safety Department to determine if the spill must be reported to government agencies (785-532-5856).
    a. ***Procedure for drill:*** Make sure everyone understands that government regulations require the reporting of certain large spills.