

CHAPTER 9

EMERGENCY OR INCIDENT RESPONSE

LEARNING OBJECTIVES

After studying this chapter, you should be able to:

- Discuss how pesticide releases from spills and fires can endanger humans and the environment.
- Explain how to execute an emergency response plan.
- State how to dispose of contaminated materials resulting from a spill cleanup.
- Discuss how to implement cleanup procedures to lessen the environmental impact from a spill.
- List the items to include for emergency response equipment (e.g., spill cleanup kit, first aid kit, and personal protective equipment).



Although pesticide accidents and emergencies are rare, they do occur. Pesticides spilled on the ground or burning in a fire can contaminate water, soil, and air; damage plants; injure livestock, wildlife, or pets; and endanger the health of the applicator

and emergency responders. Pesticide spills and fires may lead to financial loss due to cleanup, liability claims, and fines assessed by government agencies. Do all that you can to prevent accidents, but be prepared in case of emergency.

EMERGENCY RESPONSE PLANNING

Like a pesticide site security plan, a carefully thought-out emergency response plan (i.e., a contingency plan) can help to prevent an emergency situation from becoming a catastrophe. An emergency response plan helps protect employees and the community, minimizes environmental damage, and reduces liability if an accident happens.

Emergencies can take many forms: tornado or high winds, flood, fire, or a highway accident. How you and emergency personnel respond determines whether the problem is quickly and safely resolved.

Follow these guidelines when developing an emergency response plan:

Do you know what to do in a pesticide emergency?



Purdue Pesticide Programs

Be prepared for emergency situations.

- Designate an emergency coordinator as the “go-to” person. This person must have authority to make important decisions during an emergency, including coordinating with local first responders, such as fire, police, and paramedics. The emergency coordinator is the person who will make the necessary calls and fill out reports to government agencies.
- Post in the office, shop, and truck a list of names and telephone numbers of response agencies that may require notification.
- Prepare a/an:
 - Fill-in form or an outline of critical information to convey to emergency personnel. Keep it with your calling list. Be sure to include the following:
 - The exact name, quantity, and classification of pesticides involved.
 - The extent of injuries.
 - Whether pesticides have entered surface water.
 - Facility map that shows a layout of all chemical storage buildings and bulk storage tanks; access roads; main shutoffs for electricity, water, and gas; perimeter fencing or gates; fuel storage tanks; the location of fire alarms, fire extinguishers and other firefighting equipment, and protective clothing; and drainage ditches, wells, and surface flow of water.
 - Area map that shows your facility in relation to the surrounding area. Provide emergency response agencies with an updated copy of the facility map and area map whenever changes are made (see Figure 9. 1).

Emergency Response Agency Contacts

- Persons/agencies required to be notified by local, state, and federal requirements.
- Local emergency planning committees.
- Police and fire units.
- Paramedics and area hospitals.
- Appropriate chemical manufacturers and dealers.
- Containment and hazardous waste cleanup contractors.
- Your attorney, to protect your rights and the rights of others.

- Name of the person reporting the incident.
- Precise location of the incident.
- General description of what happened.

- Keep:
 - A product inventory of chemicals stored at the facility. Let your emergency response plan reflect peak seasonal storage of pesticides, fertilizers, and fuel.
 - Copies of pesticide labels and Safety Data Sheets (SDSs) away from the storage area.
- Maintain in good working order the emergency equipment and supplies needed to respond to fires and spills.
- Train all employees how to execute the response plan each year.

Do you know where your emergency equipment is?

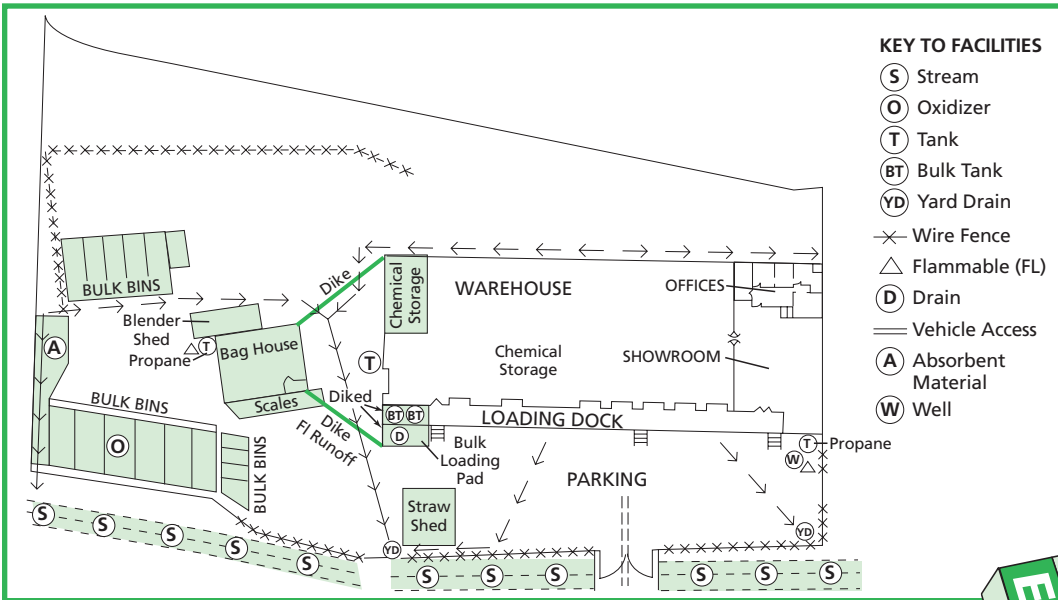
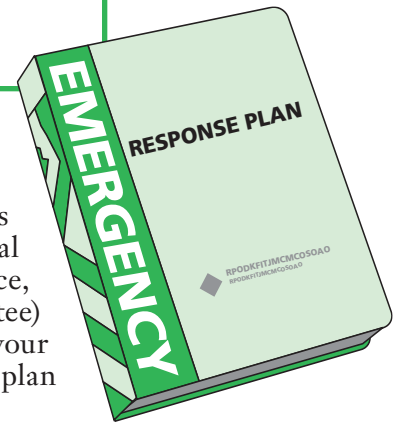


Figure 9.1
Include a facility map as part of the emergency response plan.

The backbone of any emergency response plan is a description of the sequence of actions to take in a crisis. Prepare step-by-step procedures on how to respond to various emergencies: fires, spills, ammonia leaks, tornadoes, hurricanes, and transportation accidents, among others. Specify in writing every activity from sounding the alarm

to interacting with local emergency response agencies. Once internal emergency procedures have been established, ask your local response agencies (e.g. fire, police, and emergency planning committee) if they have anything to add to your plan. Offer them a copy of your plan for their files.



Develop a written emergency response plan.

FIRES

Pesticide products vary significantly in their flammability. However, any pesticide product involved in a fire is dangerous to responders working at the scene because of smoke and fumes. Even after the fire has been extinguished, pesticide residue in the debris, soil, and runoff may be dangerous.

Precautions to Reduce Fire Hazards

Chapter 8 (Transportation, Storage, and Security) discussed where to locate a pesticide storage facility and the proper design and components of a secure facility. Follow these guidelines to help you prepare for—and respond to—a fire in the storage area:

- Store combustible pesticides away from heating sources.
- Install a fire-detection system.
- Train employees to use a fire extinguisher.

Prompt action is essential when a fire occurs. Coordinate all details on managing a fire with local emergency response officials. Take the following actions:



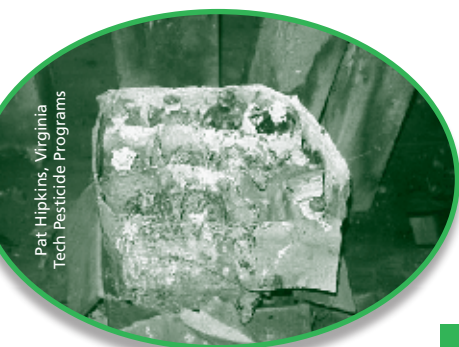
Install fire detection systems such as this sprinkler system with a sensor.



Post signs that indicate pesticides are stored in the facility.



A National Fire Protection Association (NFPA) warning on a storage box for fumigants. The strikeover on the letter W in the white diamond alerts firefighters not to use water to put out a fire.

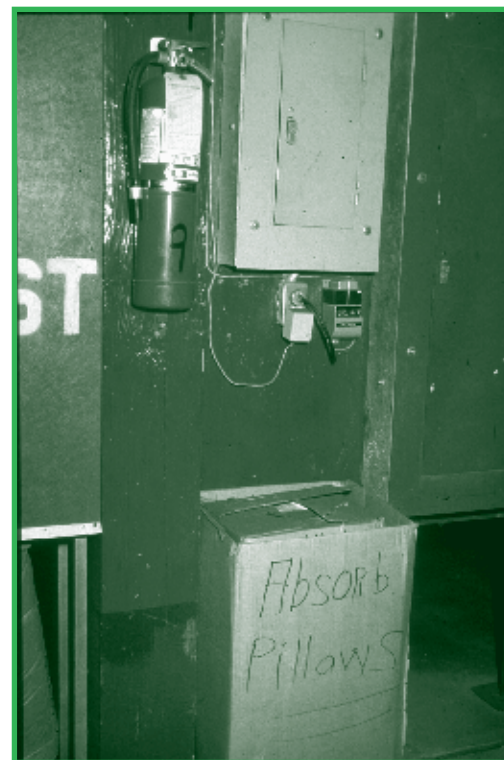


Cleanup and salvage operations after a fire must be done under expert supervision after everything has cooled.



Clean up all spills immediately.

- Make sure employees evacuating the premises go to a designated rendezvous point where everyone can be accounted for.
- Notify the fire department.
- Provide emergency response teams with SDSs, labels, the emergency plan, and a site map.
- Follow the instructions given by the onsite incident commander.
- Establish a security perimeter to discourage onlookers.
- Contain contaminated runoff water and leaking pesticide onsite by building berms.
- Consult with emergency responders to decide whether to allow the fire to burn out.
- Call your insurance agent.
- Make all regulatory phone calls required by state and federal agencies.



Have a fire extinguisher approved for chemical fires readily available.

PESTICIDE SPILLS

A spill is an accidental release of any amount of pesticide, small or large. Spills on public highways, such as when a tank on a truck overturns, usually have major consequences. Failure to respond quickly and appropriately to such mishaps could seriously endanger public health and environmental quality.

In the event of any pesticide spill, remember the three C's: CONTROL the spill, CONTAIN it, and CLEAN it up.

The Three Cs

- C**ontrol
- C**ontain
- C**lean up the spill

Control the Spill

Act immediately to control the spilled product. Always put on the appropriate personal protective equipment (PPE) before responding to a spill. Place small, leaking containers into larger ones. If a larger container (such as a drum) is leaking, try to plug the leak. Then, transfer the contents to another container. To stop leaks from

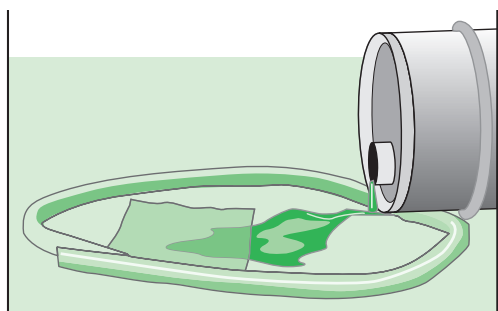


Wear appropriate PPE when cleaning up a spill.

pressurized systems (such as sprayers), turn off the pump. Never leave the site unattended.

Contain the Spill

Do all you can to keep the spill from spreading or getting worse. Prevent the material from entering surface water. Using a shovel, you can quickly berm off an area to keep the spilled pesticide out of drains and waterways. A spill that is contained on the surface is much easier to clean than one that has entered a body of water.



Take action to prevent spills from spreading. In this case, an absorbent spill tube is used to contain the spill.

If the spilled pesticide does contaminate a stream, pond, or other waterway, immediately contact the state, tribe, or territory regulatory agencies responsible for streams and fisheries and for pesticides. Do not delay notifying the authorities. They need time to alert downstream users who draw surface water for drinking, prevent accidental poisoning of livestock, evacuate people using the water for recreational purposes (such as swimming and fishing), and avoid contamination of irrigated crops. Call the manufacturer's emergency number on the SDS to find out what steps you or the emergency response coordinator should take to lessen the dangers of water contamination.

Call 911 to report the spill and be ready to respond to the authorities arriving at the scene. Be sure to have the product label and SDS available for emergency responders. After the spill has been contained, follow your emergency plan. In some cases, the applicator will call the emergency responder, who will then call the proper authorities.

Clean up the Spill

The last step at the spill site is to clean up the spilled product. Sweep up any absorbent materials and other contaminated items and place them in a drum. If the spill occurred on concrete or asphalt, you will have to neutralize the surface. Follow the instructions on the SDS or contact the manufacturer, whose number is listed on the data sheet.

The state, tribe, or territory regulatory agency involved with pesticide spills will tell you what to do when the spill occurs on soil. For example, they may require that the top 2 to 3 inches of

For emergency response information call:

CHEMTREC
1-800-424-9300

National Fire Protection Association

A hazardous rating system used to assist emergency response personnel is the NFPA Hazard Identification System. This system uses a diamond-shaped warning symbol. The top, left and right boxes refer to flammability, health, and instability hazards, respectively, and each contains a number from 0 to 4. The bottom box is used for special hazards; the most common of these is a warning against the use of water. See the diagram below.

Health Hazard - Blue Section

- 4 Severe hazard
- 3 Serious hazard
- 2 Moderate hazard
- 1 Slight hazard
- 0 Minimal hazard

Flammability Hazard - Red Section

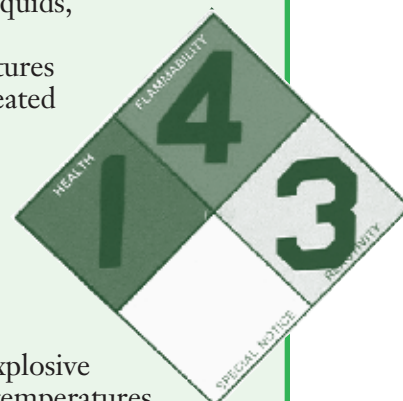
- 4 Flammable gases, volatile liquids, pyrophoric materials
- 3 Ignites at ambient temperatures
- 2 Ignites when moderately heated
- 1 Must be preheated to burn
- 0 Will not burn

Special Hazard - White Section

- OX Oxidizer
- ~~W~~ Avoid use of water

Instability - Red Section

- 4 Capable of detonation or explosive decomposition at ambient temperatures
- 3 Capable of detonation or explosive decomposition with strong initiating source
- 2 Violent chemical change possible at elevated temperature and pressure
- 1 Normally stable, but becomes unstable if heated
- 0 Normally stable





Use an absorbent material to help clean up a spill.

soil be excavated, removed, and replaced with clean soil.

Keep records of your activities and conversations with regulatory authorities, emergency responders, news media, and the public when dealing with a pesticide spill. Photographs help document any related damage as well as steps you have taken to clean up the spilled product.



Keep emergency supplies and a shovel on hand.

Prevent Spills

A key to reducing the likelihood of any spill is to properly maintain your application equipment and transport vehicles. Leaks and drips from cracked hoses or loose hose clamps clearly indicate problems. Defensive driving techniques and refraining from cell-phone use while driving are two important habits that can prevent vehicle accidents that might result in a spill.

Keep a spill cleanup kit in each pesticide transport vehicle and at the site where pesticides are mixed, loaded, and stored. Store your spill kit items in a plastic container and keep them clean and in working order.

Include the following items in a spill response kit:

- Telephone numbers for emergency assistance.
- PPE designed for use with pesticides.
- Absorbent materials, such as spill pillows, absorbent clay, and cat litter.
- A shovel, broom, and dustpan.
- Heavy-duty detergent.

SUMMARY

Prepare for a pesticide emergency. Make sure the plan includes designating an emergency response coordinator, maintaining a list of emergency response agencies, preparing a map of the facility, and keeping a product inventory. Be sure all employees at the facility are familiar with the emergency response plan and know what to do in a crisis. Take

precautions to reduce the chance of pesticide fires. The best way to manage pesticide spills is to prevent them from happening. It is your responsibility as a pesticide applicator to do everything possible to avoid spills and adhere to a few basic guidelines when handling spills and leaks. Accidents happen. Be prepared so that they will not become catastrophes.

Review Questions

CHAPTER 9: EMERGENCY OR INCIDENT RESPONSE

Write the answers to the following questions, and then check your answers with those in Appendix A.

- 1. Which statement about emergency response planning is *true*?**
 - A. The main reason to have an emergency response plan is to reduce economic losses.
 - B. The first person to contact in an emergency is an attorney.
 - C. It is important to make a detailed report of what took place before, during, and after the incident.
- 2. What is the backbone of any emergency response plan?**
 - A. Outlining the sequence of actions to take in a crisis.
 - B. Knowing where labels and SDSs are kept.
 - C. Having a designated emergency responder.
- 3. In addition to an emergency response plan, which of the following will further reduce the risk of a pesticide fire?**
 - A. Store pesticides close to a heat source to prevent freezing.
 - B. Keep a fire-detection system in the storage area.
 - C. Post the storage area with a warning sign.
- 4. Which is a recommended action to take in the event of a pesticide fire?**
 - A. Construct berms to contain contaminated runoff water.
 - B. Enter the storage facility and remove as much pesticide as possible.
 - C. Try to extinguish the fire before calling 911.
- 5. Which is an appropriate action to take in the event of a pesticide spill?**
 - A. Take a “time out” to read your emergency response plan.
 - B. Call 911 only if the spill has a chance of entering surface water.
 - C. Put on the appropriate PPE before responding to the spill.

