



No. 16: Handling Pesticide Spills

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This leaflet focuses on managing pesticide spills in professional applications. For information on spills involving household pesticide products, refer to Pesticide Information Leaflet Number 47.

PLANNING FOR SPILLS

Every pesticide applicator needs a strategy for dealing with pesticide spills; only by planning ahead can you be ready to react quickly and handle a spill properly. The time spent today on preparing a plan will be extremely valuable in an emergency when seconds count. A plan should cover the step by step process of what to do when there is a pesticide emergency at a specific site (storage area, transportation, or mixing/loading site). All employees who work with pesticides should be aware of the plan and trained for managing spills.

Included in the plan should be:

- emergency phone numbers in the order they should be contacted;
- procedures for container and equipment handling and repair;
- containment and disposal information;
- the order in which the steps should be carried out;

- an inventory list of chemicals;
- a map of the storage area and/or immediate surrounding land.
- a spill kit should also be easily accessible. In your plan, maintain a list of cleanup equipment (tarps, shovels, spill control pillows, etc.) in the kit so that you can replace it when needed.

The Pesticide Environmental Stewardship website, supported by the Center for Integrated Pest Management, provides a good step-by-step breakdown of how to respond to a pesticide emergency, as well as links to a comprehensive guide to preventing, planning for, and managing spills:

pesticidestewardship.org/spill/Pages/SpillCrisisManagement.aspx

While no plan can anticipate every pesticide emergency, doing the evaluations in this guide and following the risk-reduction recommendations will help you avoid spills when possible and manage spills appropriately if they occur.

Educating People to Help Themselves

PREVENTING SPILLS

Identify any practices in your operation that increase the risk or danger of pesticide spills. These practices can be divided into three activities: storage, mixing/handling, and transportation. Use the following checklist as a guide to determine if your operation has addressed all practices that could be improved. Safe operators will be able to answer "Yes" to all of the questions below. Safety tips follow the checklist to help you improve your practices, if necessary.

Pesticide storage checklist

YES NO

- | | | |
|--------------------------|--------------------------|--|
| <input type="checkbox"/> | <input type="checkbox"/> | If you store large quantities of <u>Extremely Hazardous Substances</u> (as identified by the Environmental Protection Agency), have you completed any planning requirements to which you may be subject by law (Community Right-to-Know)? |
| <input type="checkbox"/> | <input type="checkbox"/> | Have old, banned, or unlabeled pesticides been disposed of properly, with none remaining in storage? |
| <input type="checkbox"/> | <input type="checkbox"/> | Do you avoid storing excess pesticides by purchasing only what you need for a single season's use? |
| <input type="checkbox"/> | <input type="checkbox"/> | Is the storage area securely locked to keep out children or vandals? |
| <input type="checkbox"/> | <input type="checkbox"/> | Are pesticides stacked and stored properly? |
| <input type="checkbox"/> | <input type="checkbox"/> | Are pesticides protected from freezing, which could lead to container breakage as well as product damage or degradation? |

- | | | |
|--------------------------|--------------------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | Are pesticides, especially dry formulations or those in cardboard or paper containers, protected from dampness, rain water, and flooding? |
| <input type="checkbox"/> | <input type="checkbox"/> | Have you considered where a potential storage area spill would flow? |
| <input type="checkbox"/> | <input type="checkbox"/> | Are absorbent materials and watertight containers readily available in case of a spill? |

Storage safety tips

There are special requirements for storage of large quantities of Extremely Hazardous Substances, including some pesticides. Check with the Maryland Department of the Environment for reporting requirements associated with planning for pesticide storage under the law SARA title III, commonly known as **Community Right-to-Know**.

Avoid long-term storage of pesticides. Fewer stored pesticides kept for shorter lengths of time reduce the potential for spills and container degradation.

Find out if a state- or county-wide pesticide disposal day is planned. These provide a good opportunity to dispose of unusable pesticides.

Securely lock the storage area. Allowing access only to authorized persons decreased the risk of accidents.

Prepare a spill clean-up kit. Kits should consist of at least 25 pounds of kitty litter or other absorbent material, a shovel, watertight metal or plastic containers, and protective gear, including coveralls, rubber or neoprene boots and gloves, goggles, and a respirator.

Keep a list of emergency contact information with the order each should be contacted. For large spills, first contact your county emergency management office, then state agency for streams and fisheries if pesticide reaches water, and local emergency planning coordinator). Also include emergency numbers such as Poison Control (1-800-222-1222) and CHEMTREC (1-800-424-9300)

Mixing/handling checklist

YES NO

- Do you have a mixing pad that is properly diked to contain pesticide spills and/or residue from rinsing equipment?
- If you mix pesticides in the field, do you change your pesticide mixing location yearly?
- Are pesticides mixed more than 100 feet from vulnerable areas such as wells, streams, or livestock?
- Are mixing sites graded to slope away from water sources?
- When filling a tank with water, is back-siphoning prevented by either keeping an air gap between the hose and the tank or by installing an anti-backsiphon valve?
- Is the filling of spray tanks constantly supervised?
- If available, are your pesticides transferred in a "closed system" or bulk system?

- Is your equipment free of cracks in hoses, tanks, and containers, and generally well-maintained?

Mixing/handling safety tips

Mixing in the field can be a good option in some cases. Mixing on-site eliminates the transportation of large quantities of mixed pesticide along county roads.

Avoid "hot spots" of overloaded soil. To avoid buildup of residues, do not mix in the same location every year.

Mix pesticides in a safe place. Never mix pesticides near a wellhead, stream, or other potential water contamination source. Do not mix pesticides near livestock areas.

Transportation checklist

YES NO

- When picking up pesticides from your dealer, do you bring rope or cords to securely tie down the containers?
- Do you block and brace containers in the vehicle?
- Are your pesticides kept separated from the driver, such as in the trunk or the bed of a pick-up?
- Do you carry clean-up equipment in case of a spill?
- When transporting a load of pesticides, do you drive with special care and avoid bad roads, steep embankments, and roads along rivers or streams?
- Do you maintain vehicles and sprayers in good condition?

Transportation safety tips

Make sure pesticide containers are properly secured during transport. Tie down, block, and brace containers, and secure any equipment that may move.

Carry clean-up equipment in the vehicle.

Drive with extreme caution. Maintain vehicles and equipment, take the best roads, and avoid streams, rivers, and steep places.

SPILL MANAGEMENT

If a spill does occur, follow your plan. Below are some general procedures to help to control, contain, and clean up the spill.

Control

Identify the source of the spill and try to stop it to prevent further spillage. For example, if a small container is leaking, place it in a larger waterproof container. If a hose has broken, turn off the pump.

Isolate the area. Rope it off or place barriers around it. Keep people and animals at least 30 feet away from the spill. Avoid coming into contact with any pesticide or its fumes.

Call for help if the spill is large or if it is likely to contaminate a water source. The Chemical Transportation Emergency Center (CHEMTREC) at **1-800-424-9300** is staffed 24 hours a day by trained personnel who may be able to advise about handling large spills. The Maryland Department of the Environment (MDE) Emergency Response Division should be contacted at **866-633-4686**, as should the National Response Center (NRC) at **1-800-424-8802**.

Containment

Wear the level of protective gear required on the pesticide label for use while handling the pesticide. At a minimum, wear a long-sleeved shirt, long pants, and rubber or neoprene boots and gloves while cleaning up a spill. You may also need a respirator and goggles or other special equipment, depending on the product, the amount spilled, and whether the spill occurred outdoors or within an enclosed area.

Stop the spread of the pesticide spill. Place containment booms around the spill or build a dam of soil. It is important to prevent the pesticide from entering any body of water, including storm sewers or sanitary sewers. For liquid pesticides, dig a sump and pump out the liquid that flows into the hole.

Absorb liquid spills. Spread absorbent material such as kitty litter, vermiculite, or a commercial spill containment product over the remainder of the spill.

Cover dry spills with a plastic tarp. Dry pesticides generally will not spread very far except during windy and/or rainy weather.

NEVER hose down a spill! This only spreads the pesticide.

Clean up

Continue to add absorbent material until all the liquid is soaked up. Shovel the contaminated material into a leak-proof container.

Decontaminate the area.

On concrete or wood surfaces:

Common household bleach is an effective chemical for decontaminating certain pesticides. Lye or lime may be effective for others. Read the pesticide

label for specific decontamination directions.

On soil:

For minor spills, apply activated charcoal to contaminated soil. For large spills, the only effective way to decontaminate soil saturated with pesticide is to remove the soil until no visible stain or odor is observed.

Whether these soil clean-up methods are necessary depends on which pesticide was spilled and how much was spilled. Check with authorities for guidance. In Maryland, you may need to contact either or both the Maryland Department of Agriculture (MDA) and the Maryland Department of the Environment (MDE).

Disposal

Contaminated soil and absorbent materials must be disposed of properly. Check with MDE to determine how to safely dispose of these materials.

If possible, the spilled pesticide should be applied to a labeled site at or below the labeled rate. For example, absorbent material used to clean up a spilled pesticide could be spread on a labeled site. Some commercial products available for soaking up spills are designed to dissolve when water is added. The mixture can be added back into the spray tank and applied to a labeled site.

Reporting the spill

If the spill might contaminate water or affect public health, you must report it as soon as practicable. Call MDE Emergency Response Division at **866-633-4686** to report and/or receive assistance.

Also report any spills to the Maryland Department of Agriculture (MDA) at 410-841-5710.

Report spills that could affect waterways to the National Response Center (NRC) at 1-800-424-8802.

SOURCES

Buffington, B. 1991. *Pesticide Spills – Are You Ready or Not?* Iowa State University Extension Service.

U.S. Environmental Protection Agency. Pesticides: Health and Safety. Report a Chemical Spill. <http://www.epa.gov/opp00001/health/spills.htm>

U.S. Environmental Protection Agency. Emergency Management. Spill Prevention, Control, and Countermeasure (SPCC) Rule. <http://www.epa.gov/oem/content/spcc/>

U.S. Environmental Protection Agency. Emergency Management. Emergency Planning and Community Right-to-Know Act (EPCRA). <http://www.epa.gov/oem/content/epcra/index.htm>