



Managing Pesticide Spills

Clyde L. Ogg, Extension Educator
Frank J. Bright, Extension Assistant
Greg J. Puckett, Extension Assistant
Jan R. Hygnstrom, Project Manager
Cheryl A. Alberts, Project Coordinator

This NebGuide describes the steps to follow after a pesticide spill to promote safe and effective management and to avoid human toxicity or environmental contamination.

No one expects to have a pesticide spill, but being prepared to manage one is part of practicing good pesticide safety. Protecting human health and the environment is essential. Pesticides are toxic to humans and other living organisms as well as to the pests they control. Exposure to pesticides, whether during the mixing and application process or during a spill, poses a risk to human health. Pesticide spills also can be a direct threat to the environment by leaching into groundwater, contaminating surface water, persisting in the soil, or harming nontarget plants and animals.

There are three common ways pesticide spills occur: during storage or transportation, when mixing the spray solution, or during application. Pesticide spills during storage or transportation can be due to damaged containers or a vehicle accident (see *Safe Transport, Storage, and Disposal of Pesticides* [EC2507] for more on safe transport of pesticides). Spills during the mixing process often can be attributed to human error, while spills during application often are caused by equipment malfunction. Pesticide spills can range from very minor, like a single leaking pesticide container, to a major spill, such as a tanker truck accident. No matter the cause or size of the spill, being prepared to manage it is important.

Spill Management

Proper training in handling pesticides is the number one way to prevent spills. It is important that all those

involved in the use of pesticides be trained on how to correctly transport, store, mix and apply, and dispose of pesticides, as well as how to properly respond to and manage a pesticide spill. See the Resources at the end of this NebGuide for more information on preventing pesticide spills.

If a spill occurs, protecting the environment and human health is the primary goal. Following guidelines like the Three C's, referring to the pesticide label, and contacting the appropriate agencies to report the spill will help achieve this goal.

The Three C's

The Three C's—Control, Contain, Clean Up—provide guidelines for managing a pesticide spill. The Three C's provide a way to quickly organize after a pesticide spill, whether it occurred during transport, storage, mixing and loading, or application. Also consider where the spill has occurred when preparing to manage it. Managing a pesticide spill on soil may be different than a spill that occurs on a concrete loading pad.

Control: Control is the first step of the Three C's because the goal is to stop the release of the pesticide. For example, if a five-gallon jug leaks liquid pesticide from a crack in the bottom, place the jug inside a larger container to catch the pesticide. If it is a larger container (e.g., 55-gallon drum), try to stop the leak by plugging it. If a hose or spray tip on application equipment is leaking, relieve the pressure and use a container to catch the solution.

Planning ahead will ensure that the necessary emergency materials are on hand to control a larger leak. Make sure to wear the proper protective clothing to prevent chemical exposure when controlling a pesticide spill.

Contain: When controlling the spill, it is also equally important to contain it to keep the pesticide from spreading. When a spill occurs in the field, the pesticide can be prevented from spreading by creating a dam using soil and a shovel. When the spill is on a hard surface, use an absorbent material like cat litter or an absorbent pillow designed to contain the spill. If the spill occurs with a dry pesticide formulation, prevent spreading by lightly misting with water (do not over-apply water or runoff may occur), or covering the spill with a plastic tarp. The important thing is not to let the spilled material get into any body of water, including storm sewers or drains.

Clean Up: After the spill has been contained, the absorbent material and pesticide need to be properly disposed, and the area cleaned. For spills on concrete or similar materials, the absorbent material should be swept up and placed in a fiber or steel drum lined with a heavy-duty plastic bag. The area can then be cleaned using a commercial cleaning product made for this purpose (e.g., ammonia and water, commercial tank cleaner and water, or as recommended on the product label). Use more absorbent material to soak up the cleaning solution and dispose of it in the heavy-duty plastic bag. When the spill occurs on soil, the only effective way to decontaminate the area is to remove the top 2–3 inches of soil. In either of these situations, the next step is to follow state guidelines for disposing of the pesticide waste material, now considered hazardous waste. Contact the Nebraska Department of Environmental Quality, 402–471–2186, for guidance on disposal of cleanup material following a spill. Since each spill will be different, the Nebraska Department of Environmental Quality will determine the proper steps for each situation.

In addition to cleaning the area where the spill occurred, be sure to clean any equipment used in the clean-up process. Be sure that hands, clothing, and any other exposed skin are washed as soon as possible with soap and water. If only water is available, be sure to rinse repeatedly and then wash with soap and water as soon as possible.

Remember the PPE

In the chaos of an emergency, it can be easy to forget personal safety. Personal protective equipment (PPE) is

necessary when dealing with a pesticide spill. Wearing chemical-resistant gloves, a long-sleeved shirt, long pants, shoes plus socks, and a chemical-resistant apron or coveralls (if concentrated pesticide is involved) is a must. Even if there is an injury, PPE should be put on before attending to the victim to prevent exposure to toxic chemicals.

Spill Kit

A spill kit is essential when working with pesticides because it contains all the items needed when a spill occurs. With all the items in one place, response to a pesticide spill can occur quickly. The following items should be included in a plastic container labeled “Spill Kit” (Figure 1).

- Emergency telephone numbers (see next page)
- Copies of all labels and Safety Data Sheets (SDS) for pesticides in storage, under transport, or being applied
- Chemical-resistant gloves, footwear, apron/coveralls
- Long-sleeved shirt
- Protective eyewear
- Respirator (if working in a confined space or required by the product label)
- Absorbent material (e.g., cat litter, sawdust, spill pillow)
- Shovel, broom, dustpan
- Heavy-duty detergent for cleaning (e.g., commercial cleaner, ammonia, detergent as recommended by pesticide product manufacturer)
- Decontamination kit (used to clean hard surfaces; can include sponges, paper towels, scrub brush, and cleaning solution appropriate for the chemicals being used)
- Fire extinguisher rated for chemical fires
- Other items specified on labels of the products in use
- Heavy-duty plastic bags for disposing of hazardous waste



Figure 1. Example of a spill kit.

Read the Label

Product labels and SDS contain emergency information and procedures that may be specific to each product. Read labels carefully and make sure they are easily accessible for quick reference in an emergency.

Resources

Nebraska Pesticide Applicator Certification Core Manual, 2015.
Pesticide Environmental Stewardship, *Pesticide Spills*, <http://pesticidestewardship.org>.
Safe Transport, Storage, and Disposal of Pesticides, EC2507,
<http://extensionpubs.unl.edu/publication/9000016363802/safe-transport-storage-and-disposal-of-pesticides/>

When and How to Report a Pesticide Spill

Evaluating which spill situations require reporting is the first step in proper response. The following statement helps assess when to report a spill: “Report a spill if there is any potential harm to human health or the environment . . . a spill is not reportable when it does not result in pesticide lost to the environment . . . such as when it occurs on a concrete floor or in an enclosed area.”

Follow these steps when a spill occurs:

1. Call First Responders/EMT for human injuries, and medical or fire emergencies (**911**), OR The Poison Center for aid in human poisoning cases, **800-222-1222**.
2. Control the spill.
3. Contain the spill.
4. Call CHEMTREC (Pesticide Accident Hotline) or the local fire department for help involving spills, leaks, fires; be prepared to report the actual amount of concentrated chemical/fertilizer spilled, **800-424-9300**.
5. Call the Nebraska State Patrol to report chemical spills or releases and motor vehicle accidents on state/public roadways, **800-525-5555**; OR the Nebraska Department of Environmental Quality to report all other spills, **402-471-2186**, and receive guidance.
6. Clean up the spill according to recommendations from appropriate agencies, and contact them when a spill occurs. Refer to the following numbers in nonemergency situations.

Nonemergency Telephone Numbers

- National Pesticide Information Center for questions about pesticides and safety, **800-858-7378**.
- Chemical Referral Center (weekdays only) for referrals to manufacturers on health and safety related to chemicals, **800-262-8200**.
- Individual chemical manufacturer numbers on the pesticide label.

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