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## Handling Pesticides Properly

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## Handling Pesticides Properly

*Jim Wilson, Extension pesticide education coordinator*

Time spent reviewing your pesticide handling methods and planning ahead for potential pesticide spills can be invaluable when an emergency arises. How and where you handle pesticides and the supplies you have on hand may insure your own safety and greatly reduce the risk of pesticide contamination.

### PESTICIDE MIXING

Do not mix or transfer pesticide near a well or water source. When possible, mix in the field at various locations; small quantities of pesticide spilled over a period of time in one area may accumulate and potentially cause a contamination. If filling from a water system, either leave an air gap between the hose and the tank or use a backflow prevention device. Do not put the filler hose into the pesticide mixture. If the water system allows draining, the above measures will prevent the pesticide from siphoning out of the tank.

Consider using a portable water supply tank; this will enable mixing in the field and, potentially, shorter pesticide tank refill times.

Whatever system you use, do not leave a pesticide tank unattended when filling.

If you are purchasing new pesticide handling equipment, consider either a closed handling or direct injection system, or both. These may minimize pesticide exposure and reduce the potential for major spills.

Pesticides may also be available either as dry formulations or in pre-measured packets. Using dry formulations may reduce dermal (skin) exposure. In addition, spills of dry products may be less problematic when it comes to containment and cleanup. However, take care to protect against inhaling the dust that may be found in some products.

### EQUIPMENT INSPECTION AND REPAIR

Set up a mental inspection list of sprayer equipment. The frequency of inspections depends upon individual

preference and equipment demands. A quick daily inspection is recommended. Check sprayer equipment hoses, fittings, valves, and tanks for leaks or signs of failure.

Keep a supply of “critical” parts (parts that commonly fail) on hand and readily available in the event a leak develops.

**Remember: To reduce your exposure to pesticide residues, always wear proper protective clothing when repairing sprayer equipment.**

### RINSING APPLICATION EQUIPMENT AND PESTICIDE CONTAINERS

Rinse pesticide residues from application equipment before both storage and extensive repair. Rinse equipment at different locations in the field (over a labeled site).

When handling pesticide containers of liquid products, triple or pressure rinse at the mixing site before disposal or recycling. Do this as soon as possible after emptying the container. Add rinse water (rinsate) to the sprayer tank and either spray it out over a labeled site or use it to mix the next load.

### HANDLING PESTICIDE SPILLS

Evaluate pesticide storage and transportation methods. To help contain leaks or spills, store pesticides in a locked storage area with an impervious floor (such as concrete). Locate this area away from other activity, and use it only for pesticide storage. Locking the storage area will reduce both the risk to children and the potential for the theft or misuse of the products.

Keep a current inventory of pesticides in storage, and use the oldest products first. Keeping an inventory will not only help keep products from going out of condition, it may also be invaluable during emergency situations such as managing a fire or cleaning up after a natural disaster.

For the cleanup of pesticide spills in storage areas, keep absorbent materials such as cat litter or sawdust on hand. When transporting pesticides, have a shovel available; the shovel can be used to form a dike to contain spills and keep them from running into drainage areas. Have plastic sheeting and heavy bags on hand to hold pesticide and contaminated materials during cleanup.

**Remember: Before stopping or containing any spill, always put on the proper protective clothing.**

Consider putting together a “spill response kit,” and keep it handy. This kit should contain such items as the following:

- duct or electrician’s tape
- washer-headed screws
- caulking or sealant
- absorbent materials
- extra hoses
- hose clamps
- plastic tarps or bags
- shovel

Have several empty drums or other containers available in case a sprayer tank needs to be drained.

When a spill occurs, follow this procedure:

- 1) First, put on appropriate protective clothing.
- 2) Stop or sufficiently slow the leak (to allow it to be contained).
- 3) Use absorbant material to soak up the spill, or dike with dirt to stop spill from moving away from the spill area.
- 4) As soon as possible after the spill is contained, contact at least one of the following:

**South Dakota Division of Emergency Management  
(605) 773-3231**

**SD Department of Agriculture  
(605) 733-4432**

**SD Dept. of Environment and Natural Resources  
(605) 773-3296**

The above procedure will not only meet spill reporting requirements, these agencies will also provide technical assistance in cleaning up the spill. If there is a question as to whether the spill is large enough to report, report it anyway—it is better to report a spill than ignore it and find that it should have been reported.

If the spill is not within a pesticide containment area (mixing/loading pad), contaminated soil generally will need to be removed and, depending upon the quantity, stored for testing and later disposal.

For small spills, shoveling the contaminated material into heavy plastic bags may be sufficient. For large spills, a loader or backhoe may be needed for moving contaminated dirt. Know where such equipment is readily available. The sooner a spill is cleaned up, the less soil may need to be removed.

Current regulations often allow one to dispose of contaminated material by spreading it on a labeled site at no more than a labeled rate. Check with the South Dakota Department of Agriculture for specific requirements.

### **PESTICIDE HANDLING AND DISCHARGE RESPONSE PLAN**

All certified pesticide applicators are required to have a written plan, appropriate for their individual operation(s), outlining proper pesticide-handling and spill-response procedures. The plans are to be kept current and available for inspection by the South Dakota Department of Agriculture.

Review the plan at least annually, and provide new employees with training on the details of the plan within three days after beginning pesticide-handling tasks.

Include the following information in the plan:

- a) Methods and procedures for properly handling pesticides, pesticide containers, and application equipment
- b) Methods and procedures for the inspection and repair of the equipment used for pesticide handling, application, and storage
- c) Methods and procedures for rinsing/washing pesticide containers and storage, application, and transportation equipment
- d) Methods and procedures to be used to contain, recover, handle, and dispose of pesticide spills that have occurred either outside or inside a pesticide containment area (if required)
- e) Emergency phone numbers to be contacted if a pesticide spill occurs

While no standardized form is required, an example Pesticide Handling and Discharge Plan that may be adapted to fit your operation is found below. In addition, sample plans are available from your local County Extension Office or the South Dakota Department of Agriculture.

# Example - Pesticide Handling and Emergency Discharge Response Plan - Example

\_\_\_\_\_  
Name

1. Pesticide handling and mixing procedures will include:

- |  |   |
|--|---|
| <input type="checkbox"/> mixing in field – different locations | <input type="checkbox"/> constant supervision of filling tanks    |
| <input type="checkbox"/> not mixing near water source          | <input type="checkbox"/> using air gap/backflow prevention device |
| <input type="checkbox"/> using dry formulations                | <input type="checkbox"/> using portable water tank                |
| <input type="checkbox"/> using closed handling system          | <input type="checkbox"/> using direct injection system            |

Other handling/mixing procedures: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

2. Inspection of equipment and repair will include:

Inspecting  daily  weekly  biweekly  other \_\_\_\_\_

Inspections will include:

- |   |                                 |  |  |                                      |
|---|---------------------------------|--|--|--------------------------------------|
| <input type="checkbox"/> hoses                                | <input type="checkbox"/> valves | <input type="checkbox"/> screens/strainers | <input type="checkbox"/> fittings        | <input type="checkbox"/> sight gauge |
| <input type="checkbox"/> cracks in tank or containment        | <input type="checkbox"/> pump   | <input type="checkbox"/> boom              | <input type="checkbox"/> regulator/gauge |                                      |
| <input type="checkbox"/> other inspection/repair items: _____ |                                 |  |  |                                      |

\_\_\_\_\_  
\_\_\_\_\_

Critical parts on hand (hoses, valves, etc.): \_\_\_\_\_  
\_\_\_\_\_

Who will inspect/repair: \_\_\_\_\_

3. Procedures for rinsing equipment and containers include:

- |  |   |
|--|---|
| <input type="checkbox"/> rinse equipment before storage  | <input type="checkbox"/> rinse equipment before repair                |
| <input type="checkbox"/> rinse in field – vary locations | <input type="checkbox"/> triple/pressure rinse containers immediately |
| <input type="checkbox"/> apply rinsate to field          | <input type="checkbox"/> use protective clothing when rinsing         |

Other rinsing procedures: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

4. Supplies for handling a spill include:

Adequate supply of protective clothing is stored (where): \_\_\_\_\_

Emergency supplies on hand:

- |  |   |   |
|--|---|---|
| <input type="checkbox"/> shovel                | <input type="checkbox"/> caulking/sealant   | <input type="checkbox"/> tape (duct, electrician) |
| <input type="checkbox"/> hoses/hose clamps     | <input type="checkbox"/> absorbent material | <input type="checkbox"/> heavy plastic bags       |
| <input type="checkbox"/> tarp/plastic sheeting | <input type="checkbox"/> empty drums        | <input type="checkbox"/> washer-headed screws     |

Other supplies on hand: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

