

TECHNICAL NOTES

USDA-Natural Resources Conservation Service
Boise, Idaho

TN - Agronomy No. 33

October 2006

PESTICIDE AND PESTICIDE CONTAINER HANDLING AND DISPOSAL

(Summarized from Daniels, C.H., "Pesticide Safety, Toxicity, Worker Protection", PNW Insect Management Handbook and PNW Weed Management Handbook, 2006)

Introduction

Un-rinsed or contaminated "empty" pesticide containers, unless they are accepted by a pesticide distributor or manufacturer for refilling, are considered **hazardous waste**. Hazardous waste is more difficult and more expensive to dispose of. Therefore, to avoid added costs and potential harm to the environment, it is desirable to clean the containers. Clean, dry containers are considered solid waste and can be disposed of in a state-permitted solid waste site. Clean, dry containers may also be recycled.

Before agricultural pesticide containers can be accepted for disposal or recycling, they must be thoroughly rinsed of all residues immediately after use. Only dry, properly rinsed containers are accepted at collection sites. Properly rinsing and handling empty pesticide containers is very important because it:

- Protects humans by removing hazardous materials
- Prevents sources of environmental contamination
- Saves money by putting all product into the spray tank

Un-rinsed pesticide containers can still hold enough material to harm people and the environment.

How to Properly Clean Pesticide Containers

THINK SAFETY! The person cleaning the containers should:

- Read and understand all safety and environmental precautions on the product label
- Wear eye protection such as goggles or a face shield
- Wear chemical-resistant gloves that will prevent the pesticide from contacting the skin
- Wear a chemical-resistant apron, gloves and footwear or chemical-resistant covers over shoes or boots.

The best way to dispose of rinsate (rinse water used to remove pesticide residue from a container) is to add it to the spray mixture and apply it according to the label directions. Rinsate can also be collected to use later in a spray mix or for disposal. Do not mix different pesticide rinsates. Label each storage container clearly. Do not dump rinsate on the ground or into storm drains.

Triple/Multiple Rinsing

Plastic and Metal Containers (Jugs)

Empty the container's contents into spray tank, turning the container so that any product trapped in the handle can flow out. Once flow is down to a drip, drain the container an additional 30 seconds. Immediately begin rinsing so the product cannot dry or stick to the inside surface. Fill the empty container one-quarter full of clean water, replace cap and shake for 30 seconds. Drain rinse water into spray tank as described above and repeat this process two more times. Carefully rinse cap over spray tank opening, and make sure there is no remaining pesticide on the inside or outside of container. Allow the containers to dry. Store cleaned jugs and caps out of the rain until they can be recycled or disposed of as regular solid waste.

Drums

Empty drum as much as possible and fill one-quarter full with water. Replace and tighten bungs. Tip the drum on its side and roll back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the drum on its end and tip back and forth several times to rinse the corners. Turn the drum over on its other end and repeat this procedure. Carefully empty the rinsate into the spray tank. Repeat this procedure until the rinse water runs clear. Carefully rinse cap over spray tank opening, and make sure there is no remaining pesticide on the inside or outside of drum. Puncture the base of the drum with a drill so that it cannot be reused. Store drums where they will be protected from rain until they can be recycled or disposed of properly.

Cleaning Paper or Plastic Sacks and Fiber Containers

Empty the contents completely into the application equipment. You may need to cut open the container to clean out all the material in the seams. Never rip the container; use scissors or a knife but not a personal pocketknife. Do not let material blow around. Wear appropriate personal protective equipment including, if necessary, breathing protection. If possible, rinse the container. Some containers have plastic or foil liners that will allow you to rinse them. Use the rinsate in the spray mixture or collect it for disposal. Once the containers are cleaned, dispose of them as regular solid waste. Do not burn the containers. Burning can release poisonous fumes, and it is illegal.

Disposal and Recycling of Containers

Proper disposal or recycling of pesticide containers helps to protect the environment and therefore helps improve the image of agrichemical users in the eyes of the general public. Recycling also saves money for the pesticide user and for local landfills, and it helps protect the environment.

Disposal Procedures

Landfills accept only containers that have been cleaned. Some landfills inspect containers and/or require written verification of their cleanliness. The Idaho State Department of Agriculture has a free program to collect and recycle clean plastic pesticide containers, referred to as CROP. The containers must be triple rinsed. The CROP truck can come to your site or a central location and chip HDPE #2 plastic. The chipper equipment can handle containers up to and including 5 gallons whole. Thirty-gallon and 55 gallon containers must be cut up by the participant prior to chipping. If the five gallon containers are thick-walled they must also be cut up by the participant prior to chipping. For additional information and schedules, contact the ISDA at 208-338-8500

or refer to their website:

<http://www.agri.state.id.us/Categories/Pesticides/container/indexcontainermain.php>.

Disposing of Unused Agricultural and Household Pesticides

ISDA conducts unusable pesticide disposal collection from agricultural producers, dealers, homeowners and applicators throughout the state. Prospective participants need only bring their unusable pesticides to the most convenient collection site listed on the “Pesticide Disposal Program Schedule.” This program provides the agricultural producer and homeowner a safe, convenient and environmentally friendly way to dispose of unusable pesticides. This program is free for the first 1,000 pounds of unusable pesticides per participant. For more information and current schedules, contact ISDA at 208-332-8500, or visit their website:

<http://www.agri.state.id.us/Categories/Pesticides/pdp/indexdisposalmain.php>.

In addition, many local communities provide household hazardous waste collection sites. Contact your city, county or solid waste collection provider to find out more information.

The Home*A*Syst program is a series of information sheets and worksheets that help individuals assess how practices around their homesteads can impact their drinking water. Information on the correct handling, storage and disposal of pesticides to protect private well drinking water is provided by the ISDA at:

<http://homeasyst.idahoag.us/Water/quiz2/quiz2Intro.php>.

Pesticide Regulation Authorities

The specific laws and regulations governing use, storage, disposal and transportation of pesticides depend on which activity and how much pesticide is involved.

For Regulations and More Information on Hazardous Waste for Businesses

Department of Environmental Quality

1410 North Hilton

Boise, ID 83706-1255

Tel: 208-373-0502

http://www.deq.state.id.us/waste/assist_business/haz_waste/index.cfm

For Regulations and More Information on Hazardous Waste for Households

Department of Environmental Quality

1410 North Hilton

Boise, ID 83706-1255

Tel: 208-373-0502

http://www.deq.idaho.gov/waste/assist_citizen_comm/hazardous_waste_guide_1999.pdf

For Regulations and More Information on Use and Storage

Idaho State Department of Agriculture

PO Box 790

Boise, ID 83701

Tel: 208-332-8500

<http://www.agri.idaho.gov/Categories/Pesticides/indexPesticides.php>

Disposition of Waste on Owner's Land

Idaho Code Title 31, Chapter 44, contains regulations that apply to solid waste disposal on private land. A summary of these regulations states, "Every owner of land who disposes of solid waste on his own land shall obtain a written permit from the Board of County Commissioners for such disposal." The state attorney general's office stated that this was interpreted to include pesticide containers.

Open Burning of Pesticide Containers

The open burning of rubber or plastic products that may emit "toxic contaminants or large volumes of smoke" is prohibited (Rule 1 – 1151.04). A listing of pesticides, in 40 CFR 165.7(C), that may emit toxic contaminants includes "...organic mercury, lead, cadmium or arsenic compounds..." This ruling has been interpreted to mean that no pesticide containers may be burned.

Pesticide Storage Container Regulations

No person shall handle, transport, display or distribute pesticides in such a manner as to endanger humans and their environment or to contaminate food, feed or any other product that may be transported, stored, displayed or distributed with such pesticides.

Storage of pesticide containers by professional applicators and pesticide dealers

1. Empty or partially full pesticide containers that contain Class 1 (highly toxic) pesticides (LD50 of 50 or below) and that require the skull and crossbones insignia and the words DANGER—POISON on the label, and Class 2 (moderately toxic) pesticides (LD50 of 50 to 500) that carry a WARNING statement on the label, and Class 3 (slightly toxic) pesticides (LD50 of 500 to 5,000) that carry a "Caution" statement on the label shall be stored in one of the following enclosures, which when unattended shall be locked to prevent unauthorized persons, livestock or animals from gaining entry:
 - a. Closed vehicle
 - b. Closed trailer
 - c. Building or room
 - d. Fenced area with a fence at least six feet high
 - e. Truck or trailer with solid side racks and secured tailgate at least six feet above ground level
2. Empty or partially full pesticide containers that contain Class 4 pesticides (LD50 over 5,000) shall be in secure storage out of reach of children in one of the above enclosures.
3. Warning notices visible from any direction shall be posted around all storage areas where partially full or empty containers that hold or have held pesticides, required to be labeled with the signal words WARNING or DANGER—POISON, are stored. Each warning notice shall be of such size as to be readable at a distance of 25 feet and be substantially as follows:

"DANGER
POISON STORAGE AREA
ALL UNAUTHORIZED PERSONS KEEP OUT"

The notice shall be repeated in an appropriate language other than English when it may be reasonably anticipated that persons who do not understand the English language will

come to the enclosure. The notice also shall contain the name and phone number of an individual to contact in case of an emergency. Any person applying pesticides shall be responsible for the proper disposal of such empty containers.