

Pesticide Safety¹

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Law and Regulations

Be sure to check current state and federal regulations concerning the proper use, storage, and disposal of pesticides before applying these chemicals. Pesticides that are classified as restricted use must be applied by a certified applicator or someone working under their direct supervision.

Certification-Pesticide Applicators

The Florida Pesticide Law, administered by the Florida Department of Agriculture and Consumer Services (FDACS), requires persons who use or supervise the use of pesticides classified as restricted use to be certified and licensed by the Department. Certification requirements are met by successfully completing the appropriate certification examinations to assure that the individual knows how to properly use pesticides and knows how to handle pesticides safely to protect the user, other people, and the environment. FDACS issues a pesticide applicator license to persons who have met the certification requirements.

Applicators may be certified and licensed as private applicators, public applicators, or commercial applicators.

Private Applicator

A private applicator is any person who uses or supervises the use of restricted use pesticides for the purpose of raising some type of agricultural commodity on land owned or rented by the applicator or the applicator's employer. A private applicator is a farmer, rancher, or grower.

Public Applicator

A public applicator is any person who uses or supervises the use of restricted use pesticides as an employee of state or other governmental agency.

Commercial Applicator

A commercial applicator is any person who uses or supervises the use of restricted use pesticides for any purpose on any property other than as provided by definitions of private applicator or public applicator. Persons who apply pesticides for hire on the property of other persons are commercial applicators.

For detailed information on the certification and licensing of pesticide applicators, contact your local UF/IFAS Extension agent.

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The use of trade names in this publication is solely for the purpose of providing specific information. It is not a guarantee or warranty of the products named, and does not signify that they are approved to the exclusion of others of suitable composition. Use pesticides safely. Read and follow directions on the manufacturer's label.

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Toxicity of Chemicals Used in Pest Control

The danger involved in handling pesticides does not depend exclusively on how toxic the pesticide is. The danger or hazard related to a pesticide is a function of the amount and type of exposure one has to the pesticide as well as its toxicity. Some pesticides are very hazardous from der-mal (skin) exposure as well as oral (ingestion) exposure. A pesticide may be highly toxic, but present little hazard to the applicator if he/she limits their exposure by using protective clothing and equipment and following other precautions.

Signal words are used to indicate how acutely toxic the product is to humans. The signal word is not based on the active ingredient alone, but on the contents of the formulated product. It reflects the hazard of any active ingredients, carriers, solvents, or inert ingredients. The signal word indicates the risk of acute effects from the four routes of exposure to a pesticide product (oral, dermal, inhalation, and eye) and is based on the one that is greatest. The signal word does not indicate the risk of delayed effects or allergic effects.

DANGER—This word signals that the pesticide is highly toxic. The product is likely to cause acute illness from oral, dermal, or inhalation exposure, or to cause severe eye or skin irritation.

WARNING—This word signals that the product is moderately likely to cause acute illness from exposure or that the product is likely to cause moderate skin or eye irritation.

CAUTION—This word signals that the product is slightly toxic or relatively nontoxic. The product has only slight potential to cause acute illness from oral, dermal, or inhalation exposure. The skin or eye irritation it would cause, if any, is likely to be slight.

Personal Protective Equipment

Personal Protective Equipment (PPE) statements on pesticide labels tell you the minimum personal protective equipment you must wear when using the pesticide. Sometimes the statements will require different personal protective equipment for different pesticide handling activities. For example, an apron may be required only during mixing and loading or equipment cleaning. Sometimes, statements will allow reduced personal protective equipment when you use safety systems, such as closed systems or enclosed cabs.

If hands or other body parts become contaminated or exposed, wash immediately with clean water and a liquid detergent. If clothing becomes contaminated, remove it immediately. Wash contaminated clothing separately from other clothing. After working with or applying pesticides, bathe and put on clean clothing.

Pesticide Labeling

Pesticide product labeling is the main method of communication between a pesticide manufacturer and pesticide users. Pesticide labeling gives you instructions on how to use the product safely and correctly. Pesticide users are required by law to comply with all the instructions and directions for use in pesticide labeling. Always have the label readily available when applying a pesticide. Use pesticides only for those crops specified on the label. Read and follow the label.

Pesticide Transport

Anchor all pesticide containers securely to prevent them from rolling or sliding when transporting them. Make sure that all caps, plugs, and other openings are tightly closed. Handle containers carefully to avoid rips or punctures. Do not transport pesticides in the passenger section of a vehicle.

Pesticide Disposal

The best solution to the problem of what to do with excess pesticides is to avoid having them.

- Buy only the amount needed for the application or crop season.
- Carefully calculate how much diluted pesticide is needed for the job and mix only that amount.
- Use all the mixed pesticide in accordance with the labeling.

If you have excess pesticide, the best option is to apply the pesticide on a site listed in the directions for use section on the label.

Excess pesticides that cannot be used must be disposed of as wastes. Contact local authorities for disposal options in your area.

Disposal of Containers

Empty paper or plastic pesticide containers must either be shaken clean if they held dry pesticide formulations, or triple or pressure rinsed if they held liquid pesticide

formulations. Use one of the following disposal options for the empty, clean containers.

Sanitary Landfill

Empty bags and rinsed containers may be taken to sanitary landfills for burial if the landfill operator accepts pesticide containers and local regulations allow landfill burial.

Open Burning

Open burning of rinsed containers and empty bags is allowed in open fields if:

- you are the property owner, the owner's authorized employee or caretaker, or a commercial pesticide applicator hired by the owner or caretaker
- the product label allows burning of the empty container
- local (county) regulations allow burning of empty containers

The following factors must be considered when burning containers:

- burn only one day's accumulation of containers (500 lb. maximum)
- the open burning must not produce smoke, soot, odors, visible emissions, heat, or flame to such a degree as to create a nuisance
- the open burning must be 200 feet or more away from any farm workers or occupied buildings and 100 feet or more away from any public road
- containers may be burned between 9 a.m. and one hour before sunset
- the person responsible for burning must be in attendance at an upwind location until all flame and smoke have dissipated
- the open burning is enclosed in a noncombustible container or ground excavation covered by a metal grill

Recycling

Properly rinsed plastic containers may be recycled. Offering plastic containers for recycling removes the containers from the user's property, preventing them from becoming a potential liability. Plastic pesticide containers offered for recycling must be taken to facilities that have been established to collect pesticide containers. Contact your local county solid waste management agency or the county extension office for information on pesticide container recycling in your area.

Pesticide Spills

A spill is an accidental release of a pesticide. The spill may be minor, involving only a dribble from a container, or it may be major, involving large amounts of pesticide or pesticide-containing materials such as wash water, soil, and absorbents. The faster you can contain, absorb, and dispose of a spill, the less chance there is that it will cause harm. Clean up most spills immediately. Even minor dribbles or spills should be cleaned up before the end of the work day to keep unprotected persons or animals from being exposed.

The first step in dealing with the spill is to protect yourself. Put on appropriate personal protective equipment before contacting the liquid or breathing the fumes. Check the label for necessary equipment. Next, stop the source of the spill. If a container is leaking, put it into a larger chemical resistant container. If the spray tank is overflowing, stop the inflow.

Isolate the spill site by keeping children and other unprotected people well back. Someone should be at the spill site at all times until the spill is cleaned up.

Confine the spill by keeping it from spreading or getting worse. Use containment snakes, soil or kitty litter to surround the spill to keep it from getting worse. For larger spills, use a shovel or other tools to make a dike of soil, sod or absorbent material. Keep the spill out of any body of water or any pathway that leads to water. Block it or redirect it.

Absorb liquid spills with absorbent materials such as sand, kitty litter, sawdust, etc. Prevent dry, dusty material from becoming airborne by covering with plastic or sweeping compound or lightly misting with water.

Clean up the spill by sweeping up absorbent material containing the pesticide and place it into a heavy-duty plastic drum or bag. Keep adding absorbent until the spilled liquid is soaked up and removed. Spills of dry materials should be swept up for reuse if possible.

Decontaminate the spill site as well as you can. Do not hose down the site with water. If it is on a sealed surface, use water and a detergent to remove residues. Do not allow any wash solution to run off the site being cleaned. Place fresh absorbent material over the wash solution and sweep up and place in drum or bag for disposal as excess pesticide.

If a spill occurs on a public road, call the police for traffic control, call CHEMTREC for information on "how to

handle it,” and call the Florida Department of Agriculture and Consumer Services Pesticide Compliance Program (850-617-7850). You may need to report spills in excess of certain amounts of active ingredient to the State Warning Point (850-413-9911).

Pesticide Storage

Sometimes existing building or areas within existing buildings are used for pesticide storage. However, if large amounts of pesticides will be stored, it is best to build or dedicate a building exclusively to pesticide storage. Choose a storage site where water damage is unlikely to occur. Make sure water sources won't be contaminated by runoff from the storage site. The building or room should be dry, well-ventilated and well-lighted. The storage facility should be securely locked to keep out unauthorized people. Post signs on doors and windows to alert people that pesticides are stored there. Post “No Smoking” signs. Storage areas should have an immediate supply of clean water for decontamination of people. If running water is not practical, provide a sealable container with clean water.

Store pesticides in the original container with the label in sight and legible. If the label is destroyed or damaged, request replacement labels from the pesticide dealer immediately. Keep containers tightly closed. Inspect containers regularly for tears, splits, breaks, leaks, rust, or corrosion. If a container is damaged, put on protective clothing and take immediate action. Use completely all contents on labeled site, transfer to another container that held the same pesticide, or put into another container that can be tightly closed and put the label on the new container.

Do not store pesticides with food, animal feed, seeds, and farm animals. Do not store personal protective equipment (PPE) with pesticides. Store volatile pesticides separately from other types of pesticides. Keep containers away from windows, sunlight or any source of heat.

Control the temperature to prevent freezing or overheating. Some pesticides are affected by temperature extremes. Check the label for storage temperatures.

Keep an up-to-date inventory of pesticides kept in the storage area. Mark each container with the date of purchase and use older materials first. Do not store unnecessarily large quantities of pesticides for long periods of time. Purchase only as much as you will need for a season or year at most. If you store large quantities of pesticides, inform your local fire department, hospital, public health officials and police of the location of your pesticide storage building before a

fire emergency occurs. Inform the fire department of the types of pesticides regularly stored there and give them a floor plan of the facility and work with them to develop an emergency response plan.

Temporary Storage

When storing pesticides at a temporary location, apply the same practices as for long term storage. Remove from storage only the amount needed for a single day's application, and only for the period immediately preceding use. Return any unused product to the storage facility at the end of each work day.

Protect Ground and Surface Water

- Prevent contamination of mix/load sites. Do not allow tanks to drain at mix/load sites. Clean up pesticide spills immediately.
- Protect the water source (well, canal or pond) when mixing and loading pesticides. If the water source is not protected by a concrete pad, berm or other method to prevent runoff into the source, fill the spray tank as far as possible from the water source.
- Use a longer hose or fill the tank in the field using an alternate water source, such as a nurse tank.
- Maintain a minimum air gap of 1 to 2 inches between the end of the hose and the highest water level in the spray tank to prevent back siphoning from the tank to the water supply. Use a backflow prevention device (check-valve) on the fill hose.
- Be careful to avoid overfilling spray tank. Never leave spray tank unattended when filling.
- Close tank opening to prevent spills when transporting the sprayer to the field.