

A Campus Safety Newsletter for Oklahoma's Higher Education Institutions Campus Edition

PESTICIDE SAFETY

What Are Pesticides?



Pesticides are chemicals of plant, animal or synthetic origin manufactured to kill or repel any pest. Disinfectants are also considered pesticides. Pesticides are divided into several groups based on the organisms they are designed to control. These groups are:

Insecticides – To protect from insect annoyances, damage, and destruction.

Fungicides – To protect from fungal organisms that cause diseases.

Herbicides – To control unwanted vegetation, either selectively or generally.

Rodenticides – To control rats, mice, and other rodent pests.

Miticides or Acaracides – To control mites and ticks.

Dangers of Pesticides

All pesticides are poisons. They are designed to kill or repel pests but may be harmful and/or fatal to other organisms, including humans if not handled properly. Most pesticide poisoning is caused by careless use, improper storage, or ignorance by the user.

Environmental contamination is also a threat from misuse of pesticides. Improper use or careless disposal of pesticides can result in soil and water contamination. To minimize the dangers of pesticides, use appropriate pesticides only when absolutely necessary and with the utmost caution and respect.

Selection of Pesticides



There are hundreds of pesticide products from which to choose. Pesticides range in hazard from those that are relative nontoxic to those that are highly toxic. You can quickly determine a pesticide's level of toxicity by looking at the product label for certain signal words that are set by law. The table below gives examples of signal words:

Signal Word	Toxicity	Approximate Amount Needed to Kill an Average Adult
DANGER	Highly Toxic	A taste to a teaspoon
WARNING	Moderately Toxic	A teaspoon to a tablespoon
CAUTION	Low toxicity or comparatively free of danger	An ounce to more than a pint

All pesticides are required to bear the statement KEEP OUT OF REACH OF CHILDREN. This means to store the pesticide where children cannot get to it, and to keep the product away from children while in use.

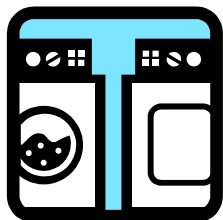
Select safer pesticides for use in or around the home and garden. Try to select products with the signal word CAUTION on the label. Products with the signal word DANGER should be applied only by professional or commercial applicators. Homeowners should never use a pesticide with the signal word "Danger" or "Danger Poison."

Before applying pesticides indoors or outdoors, remove children and their toys, along with any pets and their toys, from the area. Keep them away from the area that has been treated until the pesticide has dried and for at least the length of time recommended on the pesticide label.

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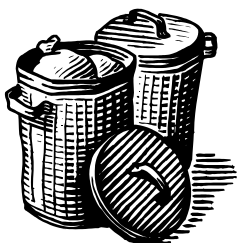
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Clothing Worn While Applying Pesticides



- Assume all clothing worn while handling or applying pesticides is contaminated!!
- Handle ALL contaminated clothing with gloves (disposable or cleanable)
- Wash clothing daily, separately from family clothing
- Pre-rinse or pre-soak
- Use HOT water
- Use heavy-duty liquid detergent, washing only a few items at a time
- Use highest water level and the longest wash time
- Line dry
- After washing — run machine through a complete cycle with detergent

Disposal of Pesticides



- Purchase only what you will need or a little less for one season. Some pesticides lose their effectiveness from one season to the next.
- Do not save or reuse empty pesticide containers. Triple-rinse empty pesticide containers immediately after they are emptied. Pour the rinse water into the sprayer for use on the target site. Place the empty containers in the sanitary trash collection.
- If your community has a household hazardous waste collection program, dispose of unwanted pesticides and empty containers at these scheduled events. If your community does not have such a program, it is legal for homeowners to dispose of unwanted containers in the sanitary waste collection.
- Do not pour pesticides or spray mixtures down any drain, toilet, sink, or storm drains.



Trained hazardous waste specialists know the best way to recycle or dispose each kind of chemical and product.

The City of Oklahoma City has a permanent household hazardous waste collection facility. You can view their webpage here:

http://www.okc.gov/query.html?services/hh_waste/index.html.

Norman, Oklahoma has a household hazardous waste collection each year in the spring. Check with your local community government to see if they offer this service to residents. Also, certain local vendors may be willing to accept used oil, antifreeze, used tires, auto batteries, or unwanted packing materials (plastic “peanuts”, etc.).

Focus on Herbicides

There are a wide variety of herbicides available that affect plants in different ways. One of the most common homeowner herbicides contains 2,4-D or other “phenoxy” chemicals that are plant growth regulators for broadleaf weeds. Another common herbicide inhibits amino acid synthesis in plants so it kills non-selectively (Round-up is one brand name).

Most herbicides are low to moderate in toxicity towards humans and animals, because most herbicides target chemical pathways in the body that animals do not possess (e.g., photosynthesis). A few agricultural herbicides are very toxic, so one should always check the safety precautions on the product label before using any pesticide. Although the most highly toxic herbicides are not available for home use, always check the label safety information carefully. Overexposure to any herbicide can cause a wide variety of health effects such as headache, weakness, thirst, excessive sweating, vomiting, and muscle twitches. They can also irritate eyes, skin and the lungs. Improper disposal may harm wildlife.

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Earth-Kind Pest Control

If you would like to learn more about control of pests without pesticides, see the Oklahoma State University "Earth Kind" series of publications:

Mechanical Pest Control (PDF, 4 pages)

<http://pods.dasnr.okstate.edu/docushare/dsweb/Get/Document-2291/F-6432web.pdf>

Biological Pest Control (PDF, 4 pages)

<http://pods.dasnr.okstate.edu/docushare/dsweb/Get/Document-2786/F-6434web.pdf>

Botanical Pest Control (PDF, 4 pages)

<http://pods.dasnr.okstate.edu/docushare/dsweb/Get/Document-2285/F-6433web.pdf>

Cultural Control Practices (PDF, 4 pages)

<http://pods.dasnr.okstate.edu/docushare/dsweb/Get/Document-2297/F-6431web.pdf>

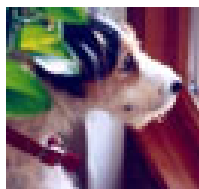
Beneficial Insects (PDF, 7 pages) – includes wonderful color photos

<http://pods.dasnr.okstate.edu/docushare/dsweb/Get/Document-2329/F-7307web.pdf>

Poison Control Centers



Any person in the United States can now call one number for poison control assistance, 24-hours a day. The Oklahoma Poison Control Center webpage is: <http://www.oklahomapoison.org/>. They have many resources available for download or free of charge.



For information on pet poison control, see the American Society for the Prevention of Cruelty to Animals (ASPCA) Poison Control webpage: http://www.aspca.org/site/PageServer?pagename=pro_apcc. Experts are available 24 hours a day, 365 days a year for pet poisoning consultation, but they may charge a fee.

REFERENCES, not otherwise noted

<http://pods.dasnr.okstate.edu/docushare/dsweb/Get/Document-2282/F-7450web.pdf> (PDF, 4 pages)
Safe Use of Pesticides in the home and garden, OSU Extension Center

http://www.epa.gov/OPPTpubs/Cit_Guide/citguide.pdf (PDF, 54 pages - extremely detailed and informative, easy to read, with a table of contents linked to the document).

<http://www.oklahomapoison.org/links/>
Oklahoma Poison Control Office informational links

<http://npic.orst.edu/pest.htm>
National Pesticide Information Center

Publication of the SSHER Center
655 Research Parkway, Suite 200
Oklahoma City, OK 73104
Pamela A. Boatright, Editor
Phone: 405/225-9458
E-Mail: pboatright@osrhe.edu