

# Safety Procedures for Chemical Applicators

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Pesticides are like sharp tools and should be handled with care. All pesticides—even the most hazardous—can be used with safety if recommended safety precautions are followed. Pesticides vary as to toxicity; nevertheless, all pesticides should be handled as poisons. Before using a pesticide, read and follow the precautions on the label for each material.

## Take these precautions

- Store all pesticides in a dry storage place that can be locked. Keep these chemicals out of the reach of children, uninformed adults, and livestock.
- If using organic phosphorus insecticides, it may be desirable to have a supply of 1/100 grain atropine for use in an emergency. Discuss this with your physician. *This drug should never be used before exposure to organic phosphorus insecticides*, for it may hide important warning symptoms. Use one or two tablets only after definite symptoms occur. Never take atropine without calling your physician at once. Any person who is ill enough to receive a single dose of atropine should remain under medical observation for 24 hours, because the atropine may produce only a temporary relief of symptoms in what may prove to be a serious case of poisoning.
- Do not eat, smoke, or chew while mixing or applying hazardous pesticides. When handling pesticides, avoid breathing the dust and keep the chemicals from contact with the skin. Wash off any spilled materials immediately.
- When spraying or dusting with hazardous material, wear protective clothing (preferably water-repellent), as the more toxic chemicals can be absorbed into the body through the skin.
- Wear a mask when mixing wettable powders or when applying dusts or the more volatile and toxic sprays. Respirators should be approved by the U. S. Department of Agriculture for the chemicals being used. Filters and pads should be changed at regular intervals.
- Mix pesticides according to directions and apply them at the recommended rates.
- Avoid spraying in periods of high temperature. This is when spray poisoning most often occurs.

- Bathe thoroughly each day after spraying and change to clean clothes.

- Apple-tree thinners and other laborers have been poisoned by working in orchards that had been sprayed during the previous 48 hours with parathion. Therefore, it is advisable to wait longer than 48 hours before beginning work in treated orchards. If possible, wait a week.

- Destroy all empty containers immediately. Bury spilled insecticides and wash contaminated area with soap and lots of water. The breakdown of insecticides can be speeded up by using a weak lye solution.

- Use caution in pasturing orchard cover crops treated with organic phosphorus insecticides. See your county Extension agent or field man for detailed information. Cattle should not be fed forage crops treated with dieldrin or endrin. Do not feed dairy cattle agricultural by-products that may have residues of chlorinated hydrocarbon pesticides. These materials should be fed to meat animals only with caution, to assure that the level of pesticide deposited in fat does not exceed allowable tolerances when marketed.

## Watch for these symptoms

The organic phosphorus pesticides easily enter the body through contact with the skin, as well as through the mouth and throat and through breathing. Repeated exposures to these compounds may, even without symptoms, increase susceptibility to poisoning. The initial symptoms of organic phosphorus poisoning are giddiness, headache, nausea, vomiting, excessive sweating, and tightness of the chest. These are followed by, or accompanied by, blurring of vision, diarrhea, excessive salivation, watering of the eyes, twitching of muscles (especially in the eyelids), and mental confusion. One of the most characteristic signs is constriction of the pupils, but this may be preceded by dilation. Late signs are fluid in the chest, convulsions, coma, loss of urinary or bowel control, and respiratory failure.

The symptoms of poisoning by the chlorinated hydrocarbon insecticides, such as dieldrin or endrin, are primarily due to the effect of the insecticides on the nervous system. These symptoms include hyper-excitability, tremors, and convulsions. General symptoms are malaise, headache, fatigue, and possibly lack of appetite and weight loss. (*over*)



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## What to do for poisoning

- In severe cases of organic phosphorus poisoning, breathing may stop. In such a situation, *artificial respiration is the most important first aid until breathing has resumed.*

- Get the patient to a hospital or physician as soon as possible. Give artificial respiration on the way if the patient turns blue or stops breathing. *Take along a label of the insecticide for the doctor's information.*

- Make the patient lie down and keep him warm.

- Never try to give anything by mouth to an unconscious patient.

- **INTERNAL:** If the insecticide has been swallowed and vomiting has not resulted, induce vomiting by giving a tablespoonful of salt dissolved in one-half glass of warm water.

- **SKIN:** Where the insecticide has come into contact with the skin, immediately remove all clothing and

bathe the patient with generous amounts of soap and water, rinsing thoroughly.

- **EYES:** If spray, especially insecticide concentrate, gets into the eyes, wash them immediately with flowing water.

- Supplies of the new antidote, 2-PAM, are now available in many medical centers. This drug is a valuable supplement to atropine in the treatment of organic phosphorus poisoning. However, it is still an experimental drug and its use should be reserved for moderate to severe cases of poisoning.

## In case of emergency

See your doctor at once. Your doctor may call the Physicians Consultation Center, Doernbecher Memorial Hospital for Children, University of Oregon Medical School, Portland, Oregon, 228-9181. This center maintains up-to-date files on all agricultural chemicals and other poisons. The service is available to professional persons only.

*Half of the accidents with pesticides involve children. Keep this in mind when using, storing, and disposing of chemicals and containers.*