

Iowa Department of Public Health
Hazardous Substances Emergency Events
Surveillance System

Pesticide Facts

Chester J. Culver
Governor
Patty Judge
Lt. Governor

Thomas Newton, MPP, REHS
Director
Iowa Department of Public Health

This fact sheet contains information on emergency pesticide releases that have occurred in Iowa. This information was collected as part of a combined study between the federal Agency for Toxic Substances and Disease Registry and the Iowa Department of Public Health. The Hazardous Substances Emergency Events Surveillance (HSEES) System collects data on emergency hazardous substances releases. The system's purpose is to describe the public health consequences associated with the release of hazardous substances and to reduce injury and death resulting from those releases. A clear understanding of how and why pesticide releases occur and how to avoid them can assist in better training and can also improve the safety of employees, emergency responders, and the general public.

Each year, 55 million pounds of pesticides are transported, handled, and applied by farmers and commercial applicators in Iowa. Pesticide spills can range from a few ounces leaking from a container to hundreds of gallons from a ruptured storage tank. From 1993 through 1997, HSEES recorded information on 407 pesticide releases. Of those, 207 (51%) occurred during transportation (for example, on a roadway, pipeline or railroad) and 200 (49%) were fixed facility events. During this five-year period, 26 pesticide releases resulted in 53 victims. Fifty victims were injured during releases that took place at fixed facilities while three were injured during pesticide transportation.

The following events are examples of reported accidents involving pesticides:

A glass jar containing Diazinon was knocked off a basement shelf in a residence. The resident of the home thought there was a gas leak and called the gas company. When the resident and service person went to the basement to check on the odor, both people experienced irritation from the fumes and were taken to the hospital. The local hazardous material team was called, the room was ventilated, and the spill area washed with detergent.

In another incident, vandals set fire to an abandoned hardware store that contained Chloropicrin, Malathion, Lorsban and Lasso. Eighteen firefighters, 11 members of the general public, and one emergency medical technician sought medical treatment as a result of the fire. Symptoms included heat exhaustion, nausea, headache, respiratory irritation, and eye irritation. One firefighter was admitted to the intensive care unit. His injuries included smoke inhalation, organophosphate\carbamate exposure and heat exposure. A portion of the town also had to be evacuated.

What Are Pesticides?

Pesticides are chemicals that control pests. They include herbicides for weeds, insecticides for insects, fungicides for plant diseases and pesticides for other pests, such as birds and rodents.

How Can Pesticides Affect One's Health?

When exposed to pesticides, the following symptoms may occur: headache, sweating, weakness, dizziness, blurred vision, vomiting or nausea, diarrhea, darting eyes or pinpoint pupils, loss of muscle control, and chest pains. Some pesticides, especially fungicides and herbicides, may cause skin rashes and burns, and they can irritate the eyes and make them burn. When breathed in, fumigant pesticides can damage lungs and other body systems. When poisoning is severe, the result may be convulsions, falling into a coma, and/or ultimately death.

GUIDELINES FOR PROTECTION

Equipment

Make sure pesticide containers are closed tight and stored in an upright position.

Store pesticides in their original container with the label in plain sight.

Check all containers for leaks, breaks or weak spots.

Keep storage areas locked during non-work hours.

Check equipment frequently, and make sure it is in good working order before using.

When towing pesticides, check towing connections on trailers to make sure they are in good condition, are correctly adjusted, and firmly secured to the towing vehicle.

When transporting pesticides in a vehicle, place them in the back of a truck or trunk of a car. Tie the containers down or secure them in some other way so they will not tip over or roll around.

When filling an applicator, be thoroughly familiar with the equipment and the proper procedures to follow prior to any transfer.

When the application is finished, tools and equipment should be rinsed three times, dumping the rinse water into a bucket. The contents of the bucket then should be poured back into the pesticide container and re-applied according to product directions.

Worker Safety

Before buying or applying a pesticide, **read the entire label carefully**. The label contains information on the toxicity of the product, the proper protective clothing and equipment to be worn, first aid procedures, environmental hazards, and storage and disposal directions.

Follow use instructions precisely, including mixing and dilution directions.

Never eat, drink, or smoke while applying pesticides or before cleaning up.

If mixing or diluting is required, work outdoors with good light and ventilation.

Regardless of the toxicity, when applying any type of pesticide, wear a hat, gloves, long-sleeved shirt, long pants, socks and shoes.

When mixing, loading or using highly to moderately toxic pesticides, wear goggles or a face shield, rubber gloves, a rubber or vinyl apron and rubber boots.

Never mix or apply pesticides on a windy day.

After applying, remove and wash all clothing. Thoroughly wash hands, face and body.

If clothes are contaminated with a highly toxic pesticide, remove them immediately, put them in a plastic bag, and dispose of them with used pesticide containers.

First Aid

By wearing proper personal protective equipment when working with pesticides, the user can significantly reduce exposure chances. However, proper protective equipment does not prevent accidents. The user should know what to do prior to any possible need for help.

Eye Contact:

Instantly flush the eyes with cool water. Continue without stopping for at least 15 minutes. Seek medical attention immediately.

Skin Contact:

Quickly remove contaminated clothing. Immediately rinse the skin area with water and wash with soap and water as soon as possible.

Breathing:

Get into fresh air immediately. Begin rescue breathing if breathing has stopped and start CPR if heart action has stopped.

Swallowing:

If a pesticide is swallowed, read the label to determine if vomiting should be induced. Never attempt to induce vomiting in an unconscious or convulsing victim.

In all cases of pesticide poisoning, quickly obtain medical advice and treatment. The pesticide label is the most important information to share with ambulance personnel, the hospital, or with a physician when someone has been poisoned.

Poison Control Centers Serving Iowa

Sioux City: 1-800-352-2222