SAFETY TRAINING GUIDE

FOR

TRAINED SERVICEPERSONS

A Guide for Non-Certified Pesticide Handlers

OHIO DEPARTMENT OF AGRICULTURE

PESTICIDE REGULATION SECTION

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Protect Yourself from Pesticides – Guide for Pesticide Handlers

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Calibration of Hand Sprayers for Herbicide Application, OSU Extension Bulletin F20
Sewer Line Root Control, University of California

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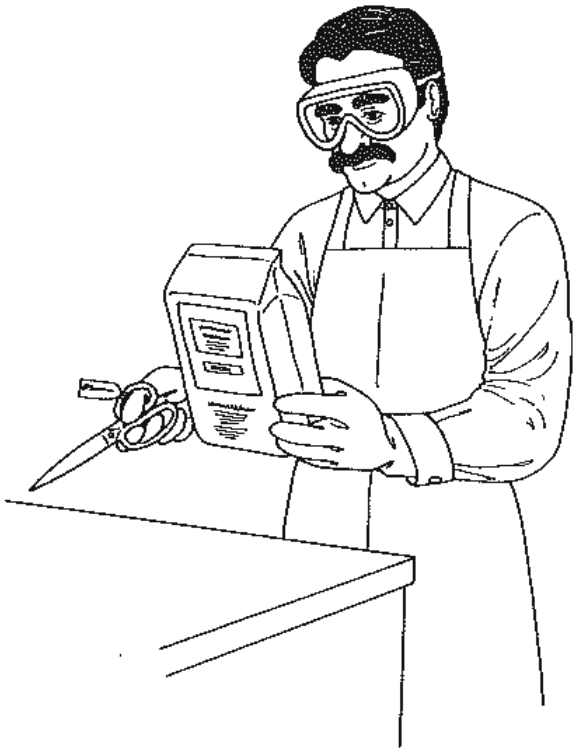
Introduction

Pesticides are chemicals that control pests. They include—

- Insecticides for insects.
- Herbicides for weeds.
- Fungicides for plant diseases.
- Pesticides for other pests, such as rodents and birds.

Pesticides vary in the ways they control a pest. They can kill the pest, inhibit its growth, affect pest reproduction, or serve as a barrier to the pest.

Unfortunately, pesticides can also hurt people, pets, other animals, and the environment if they are not used carefully and according to label directions.



By law, your employer must provide you with label directions and equipment necessary to make a safe application. But your employer cannot do the whole job. You need to learn as much as you can about pesticides and how to protect yourself and others. The Ohio Pesticide Law requires that trained servicepersons receive some basic training in the safe use of pesticides *before* their first occupational exposure to these compounds.

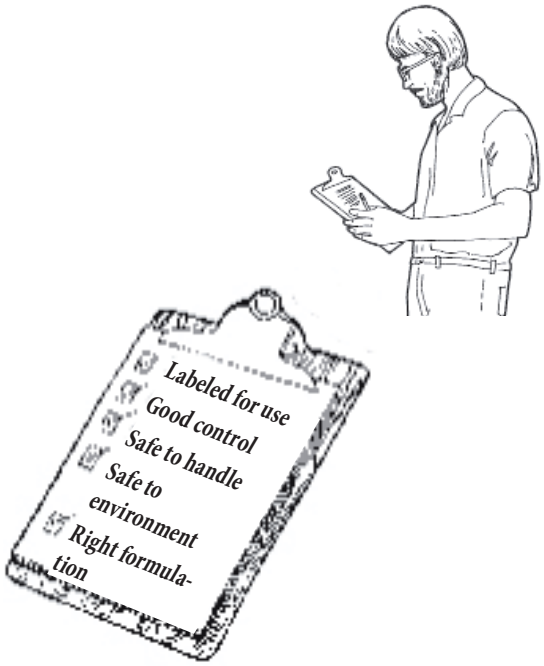
Some of you call yourselves technicians or pesticide handlers. Others refer to you as applicators. In the Ohio Pesticide Law, and therefore in this manual, a non-licensed commercial or private user of pesticides is called a serviceperson and this person must be trained.

You must be a Trained Serviceperson if you commercially:

- Apply pesticides.
- Assist with pesticide applications.
- Clean, repair, or maintain pesticide application equipment —such as boom sprayers, backpack sprayers, or hoppers —that may contain pesticide residues.
- Mix, load, or transfer pesticides into application equipment.
- Dispose of pesticides or materials with pesticides in them, such as containers.
- Act as a flagger.

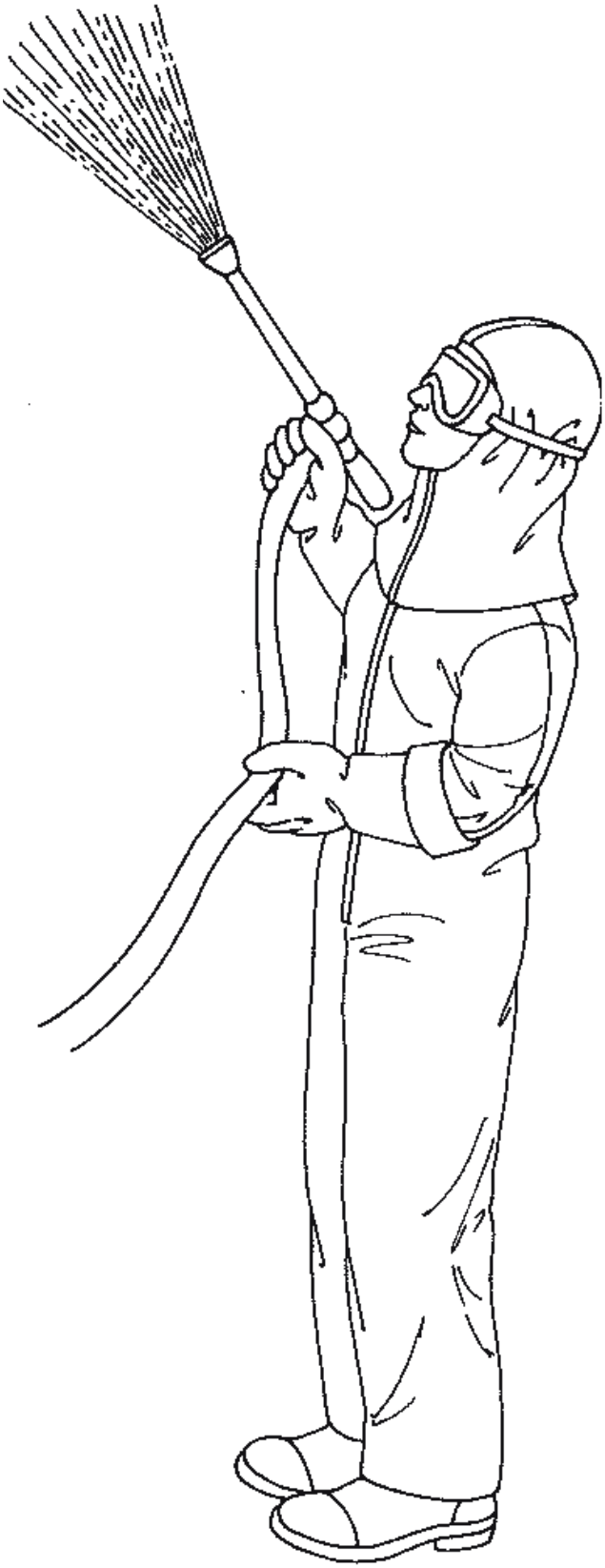
During any of these activities, you could come in contact with a pesticide and become sick or injure yourself, others, or the environment.

In addition, pesticide application differs from other jobs in that you are applying toxicants where people live, work, play, or travel. The public expects individuals who use pesticides to be knowledgeable about them.



Therefore, it is important for you to receive training in how to:

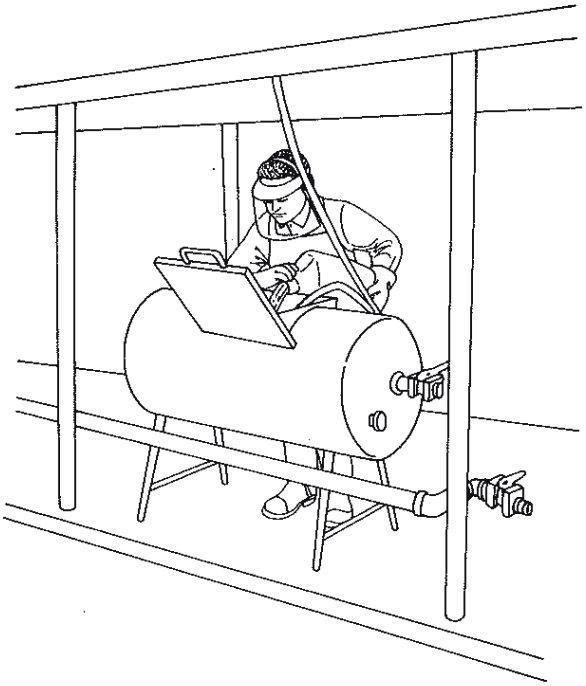
- Deal with the health hazards associated with pesticide exposure.
- Recognize signs and symptoms of pesticide exposure.
- Respond to emergencies involving pesticides (first aid, spill cleanup).
- Wear, use, and maintain personal protective equipment (for example, goggles, respirators, and gloves).
- Read and understand information on a pesticide label.
- Safely transport, mix, load, store, apply, and dispose of pesticides.
- Safely operate mixing, loading, application, and pesticide-transfer equipment.
- Comply with Federal and State Laws which regulate the safe use of pesticides.



Agricultural Handlers

Training for agricultural pesticide handlers is already required under the USEPA Worker Protection Standard. The Worker Protection Standard (WPS) covers handlers who work in farms, forests, greenhouses, or nurseries.

The WPS criteria for training handlers are similar to the requirements under the Ohio Pesticide Law for training servicepersons. Therefore, any agricultural pesticide handler already trained under the WPS does not have to also undergo the Ohio Pesticide Law serviceperson training, *except* for one area. Agricultural handlers, in addition to the WPS handler training, must also receive some basic training about the Federal and State laws that regulate the use of pesticides. The content of this additional law and regulation training is outlined in the Criteria for Trained Servicepersons which follows on the next page. Unit 16 of this manual can serve as the resource for this extra training required of agricultural handlers.



Some employers already provide excellent training for their servicepersons. If your training program meets the Criteria for Trained Servicepersons (listed on the next page), and, if it is provided before your employee's first occupational exposure to pesticides, then you do not have to use this manual. This manual is provided as a training tool for those companies and agencies which would otherwise have difficulty in meeting this obligation.

CRITERIA FOR SERVICEPERSON TRAINING

Training for serviceperson must include at least the following information:

- ☐ Format and meaning of information on pesticide labels and in labeling, including safety information such as signal words and precautionary statements about human health hazards.
- ☐ Hazards of pesticides resulting from toxicity and exposure, including acute effects, chronic effects, delayed effects, and sensitization.
- ☐ Routes through which pesticides can enter the body.
- ☐ Signs and symptoms of common types of pesticide poisoning.
- ☐ Emergency first aid for pesticide injuries or poisonings.
- ☐ Routine and emergency decontamination procedures including eye flushing technique.
- ☐ Need for and appropriate use of personal protective equipment.
- ☐ Safety requirements for handling, transporting, storing, and disposing of pesticides, including general procedures for spill cleanup.
- ☐ Environmental concerns such as drift, runoff, and wildlife hazards.
- ☐ Explanation that trained servicepersons are regulated by USEPA and Ohio Department of Agriculture. Explanation of FIFRA and the Ohio Pesticide Law (OPL).
- ☐ Explanation of selected aspects of FIFRA and OPL, including:

  - Registration of pesticides
  - The Label is the Law
  - Restricted Use versus General Use products
  - Responsibility of trained serviceperson
  - Penalties for illegal use of pesticides or noncompliance with laws
  - OPL recordkeeping requirements
  - OPL off-site pesticide movement regulations
  - OPL property damage and human health problem reporting requirements
  - OPL safe equipment operating requirements
  - OPL direct supervision and serviceperson training requirements

An employer must be able to verify that the serviceperson training has been given and that it has conformed to the criteria established by ODA. The bottom part of this page may be used for this purpose. The trained serviceperson should fill out and sign the form. It can then be detached and held in the employee's personnel file for future reference.

Employee name _____
(please print)

- By signing this form, I attest that I have been given basic pesticide safety training.
- This training covered all criteria as outlined in the introduction to the Ohio Department of Agriculture publication, "Safety Training Guide for Trained Servicepersons".
- This training was given prior to my first occupational exposure to pesticides for this employer. (In the case of an existing employee, the training was given during the grace period established by the Ohio Department of Agriculture.)

Training Resource (check one or more)

____ ODA's "Safety Training Guide for Trained Servicepersons"

____ USEPA agricultural handler manual, "Protect Yourself from Pesticides - Guide for Pesticide Handlers"

____ Other materials developed by employer

Employee
Signature _____ Date _____

Supervisor
Signature _____ Date _____

Unit 1 Pesticide Exposure

Objectives

After this section, you should be able to:

- Name places where you are likely to find pesticide residues.
- Identify four ways that pesticides can enter the body.
- State how you are most likely to be injured by pesticides.
- Give five examples of when to wash so that you avoid getting pesticides in your mouth.

Opening Questions

Have you ever splashed pesticide on yourself? How did it happen?

Where do you take a break at work? Is it near an area where pesticides are mixed, loaded, used, or stored?

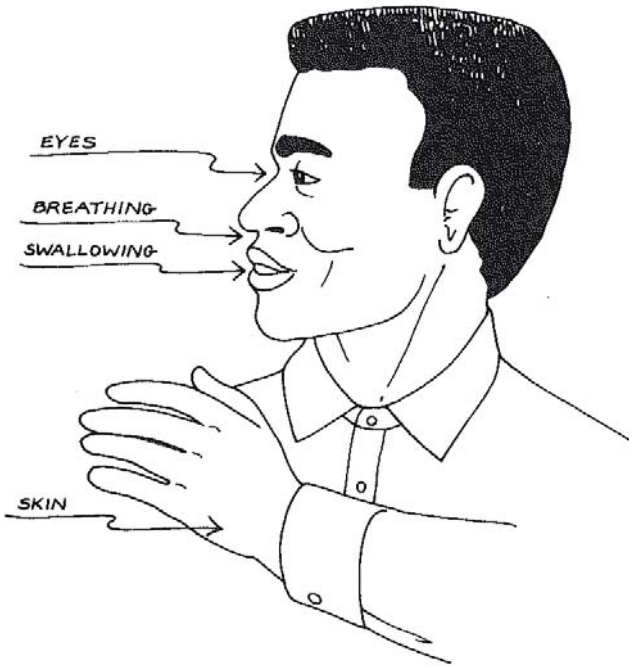
The best way to protect yourself is to keep pesticides from getting on or in your body.

Watch out for:

- Splashes and spills.
- Sprays and dusts from pesticide applications.
- Residues, which are pesticides that remain on plants, soil, other surfaces, or in the air after an application. Every pesticide application leaves a residue — sometimes for a short time, other times longer.

A pesticide can poison or injure you:

- If you swallow it.
- If it gets in your eyes.
- If you breathe it.
- If it gets on your skin.



If pesticides get on or in your body, they may make you sick. The largest amount of exposure is usually to the skin, especially the hands, forearms and face. Pesticides can enter the body even more easily through cuts and wounds in the skin.

Breathing in of pesticides is probably the second largest way to be exposed. This often causes minor symptoms (headache, nausea, etc.) of pesticide exposure.

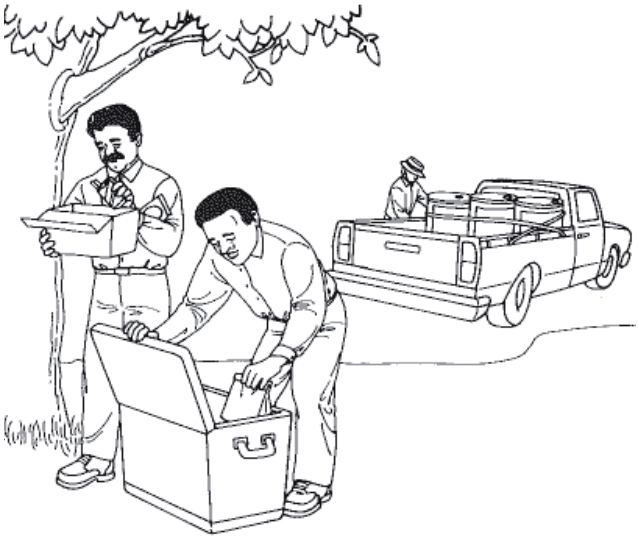
When you handle pesticides or work in areas where pesticides have been applied, wash your hands with soap and water every time you take a break. Leave the area where pesticides are located and wash your hands and face **before** you:

- Eat.
- Drink.
- Chew gum.
- Use tobacco.
- Put on makeup.

If you don't, you may wipe pesticides that are on your hands or face into your mouth and swallow them.

Because pesticides can enter your body through your eyes and skin, you should avoid wiping your eyes, face, and neck when you have been handling pesticides. It is also important to wash your hands **before** using the toilet.

Tobacco and food absorb pesticides, so don't carry them with you while you work. Leave them someplace where pesticides won't get on them.



Remember: Wash your hands and face **before** you —

- Eat.
- Drink.
- Chew gum.
- Use tobacco.
- Put on makeup.
- Use the toilet.

Suggested Review and Discussion

1. Where could pesticide residues be?
2. How can pesticides enter your body?
3. How are you as a trained serviceperson likely to be exposed to and harmed by pesticides?
4. How often should you wash your hands when working with pesticides?
5. Before what activities should you wash your hands after working with pesticides?
6. Name two items not to carry with you (in your pocket) when working with pesticides.

Unit 2 Signs and Symptoms of Poisoning

Objectives

After this section, you should be able to:

- Name different symptoms of pesticide poisoning.
- List four steps to follow in response to possible pesticide poisoning.

Opening Questions

Have you ever felt sick while working around pesticides? Which part of your body was affected? What did you do about it?

Some pesticides can make you sick very quickly if you are exposed to too much of them. Some may make you feel ill several hours after the exposure.

Too much exposure to some pesticides may make you feel tired and dizzy. Over-exposure to these pesticides can also cause stomach cramps, vomiting, diarrhea, headaches, or blurred vision. When you are sick from these pesticides, you may sweat too much, have pains in your chest or have trouble breathing. You may even pass out.

Some pesticides may give you skin rashes and burns and may irritate your eyes or make them burn. Some liquid pesticide formulations, such as EC's (emulsifiable concentrates), are especially likely to burn your eyes and skin.

Pesticides called fumigants are used as gases in soil, in greenhouses, and to treat stored commodities such as grains, foodstuffs, or even furniture or computer equipment for insects. These can be very dangerous if you breathe them or if they get into your body through your skin. They can damage your lungs and other body systems. People who have been poisoned by these pesticide gases may talk and act as if they are drunk.

When you are working with pesticides, if you feel dizzy or sick or have trouble breathing:

1. Stop what you are doing right away.

2. Start following the emergency first aid procedures list on the pesticide label to control the pesticide's harmful effects.

3. Call your boss if possible or a co-worker for help.

4. Have someone drive you to an emergency medical center if necessary.

Remember: These symptoms can be signs of pesticide poisoning:

- Tiredness or dizziness.
- Headaches or blurred vision.
- Sweating too much.
- Pains in your chest or trouble breathing.
- Throwing up.
- Stomach cramps or diarrhea.
- Skin rashes.
- Eye irritation.

Suggested Review and Discussion

1. Name the symptoms that may be signs of pesticide poisoning.

2. Name four things you should do if you have signs of pesticide poisoning.

3. What are emulsifiable concentrates (ECs) and how can they harm you?

4. Are pesticides in the form of gases harmful?

Unit 3 Emergency First Aid

Objectives

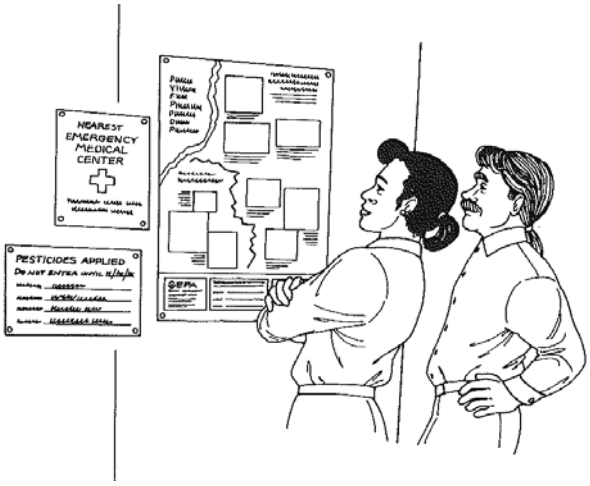
After this section, you should be able to:

- Locate emergency information at work: (1) the name, address, and telephone number of the nearest emergency medical center and (2) first aid directions.
- Explain why it is important to read the pesticide label **before** working with pesticides.
- Explain what to do if you-
  - ☐ Get pesticide on clothes or skin.
  - ☐ Get a pesticide in your eyes.
  - ☐ Breathe a pesticide.
  - ☐ Swallow a pesticide.
- Tell how to help a co-worker who shows signs of poisoning from breathing a pesticide.
- Tell what information to give the doctor when calling about someone who may be poisoned by a pesticide.
- Tell what to take to the doctor.

Opening Questions

Have you ever known coworkers who got pesticides on their clothes or on their skin? What did they do? Did you help them? How?

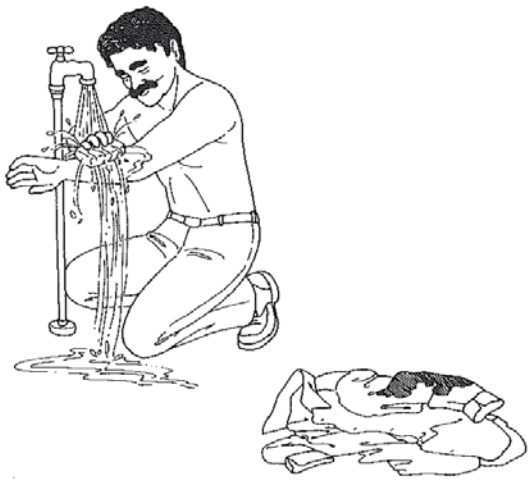
Do you know where to find the name, address, and telephone number of the nearest emergency medical center?



The name, address and telephone number of the nearest place to get emergency medical help should be posted at the place where you work. Be sure you know ahead of time where this emergency information is located so that you can get help for yourself or others quickly in an emergency.

All pesticide labels have an emergency first aid section. Read it or have someone explain it to you before you handle the pesticide. You should know the emergency first aid procedures **before** you need to use them. If you do the wrong thing in an emergency, it could make you even sicker.

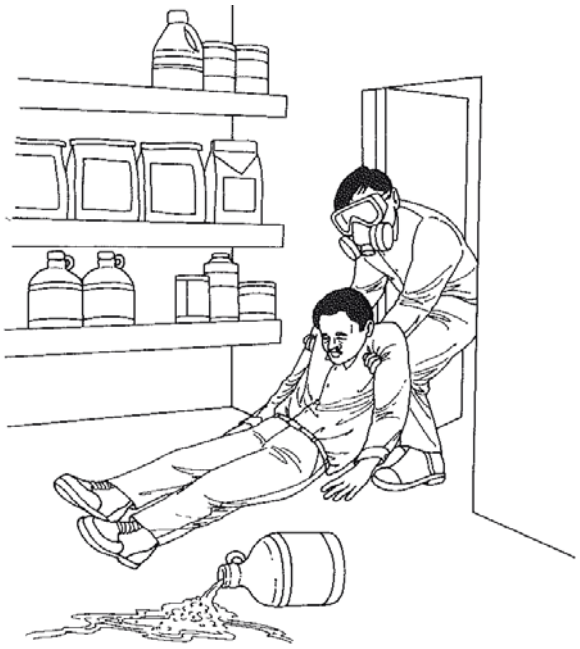
If pesticide gets on your clothes or skin, take your clothes off right away and wash your skin with **lots of soap and water.** The faster you act the less likely you are to get sick or be harmed. Towels and a clean change of clothing, in addition to soap and water, should be available near the pesticide handling site.



If pesticide gets in your eyes, rinse them right away with an eye flush kit or allow a gentle stream of clean water to flow across them. Hold your eyelids open and keep rinsing your eyes for about **15 minutes.**

If you breathe in a pesticide, get to fresh air immediately. If you are having difficulty breathing, call for help, then sit down and try to breathe normally. It is not a good idea to walk around if you are having difficulty breathing.

If you have to rescue someone who has breathed in pesticides and who may be unconscious, make sure that you do not expose yourself to the same danger. Wear the appropriate respiratory protection and move the victim to fresh air. Then remove the victim's respirator (if present), loosen the clothing, and give mouth-to-mouth resuscitation if the person is not breathing.

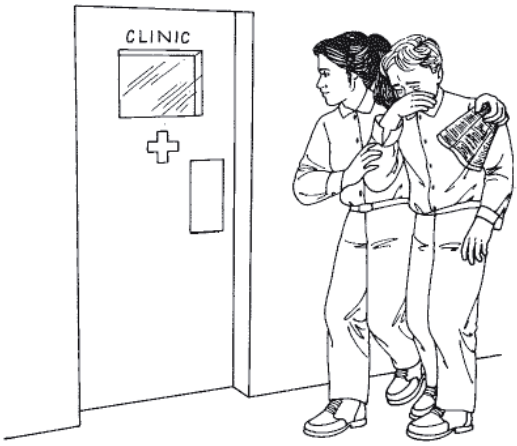


If you swallow some pesticide, it is essential to **follow the first aid directions** on the pesticide label. In particular, the label will tell you whether or not to make yourself throw up. The best way to induce vomiting is to put a finger to the back of your throat. Labels for some pesticides tell you **not** to induce vomiting. These pesticides are corrosive and will cause further damage if you try to vomit. If you are helping someone who has swallowed pesticides, never induce vomiting if the person is unconscious or having convulsions.

Get someone to take you to the doctor:

- If you swallow a pesticide or get it in your eyes.
- If you spill a concentrate or a lot of diluted pesticide on your skin.

- If you find it difficult to breathe.
- If your skin shows signs of burning.
- If you feel ill and think you may have pesticide poisoning.



Have someone call ahead to tell the doctor the brand name or common name and the EPA registration number of the pesticide and how you were exposed. The doctor needs these facts to decide how to help you. If possible, take a copy of the pesticide label with you.

Suggested Review and Discussion

1. Where should you find the name, address, and telephone number of the nearest emergency medical center?
2. Where can you find first aid information about a pesticide?
3. Why should you read the label before working with a pesticide?
4. Name four items that a serviceperson should have to help them get pesticides off their skin.
5. What should you do if a pesticide gets on your clothes or skin?
6. What should you do if a pesticide gets in your eyes?
7. What should you do if you breathe in a pesticide?
8. What emergency first aid treatment should you give a coworker who has breathed in a pesticide?
9. What should you do if you swallow a pesticide?
10. When should you not induce vomiting?
11. When should you have someone take you to a doctor?
12. What will the doctor need to know right away?
13. What should you take with you to the doctor?

Unit 4 Other Health Effects

Objectives

After this section, you should be able to:

- Name three symptoms of allergic reaction to a pesticide.
- Identify the possible long-term effects of pesticide poisoning.
- Recall the critical safety rule to follow when handling pesticides.

Opening Questions

Do you find that you are more sensitive to some pesticides than you are to others? If so, how does your body react when you are working with these pesticides? What can you do to prevent the reaction?

Do you know anything about scientific studies on animals and their exposure to pesticides?

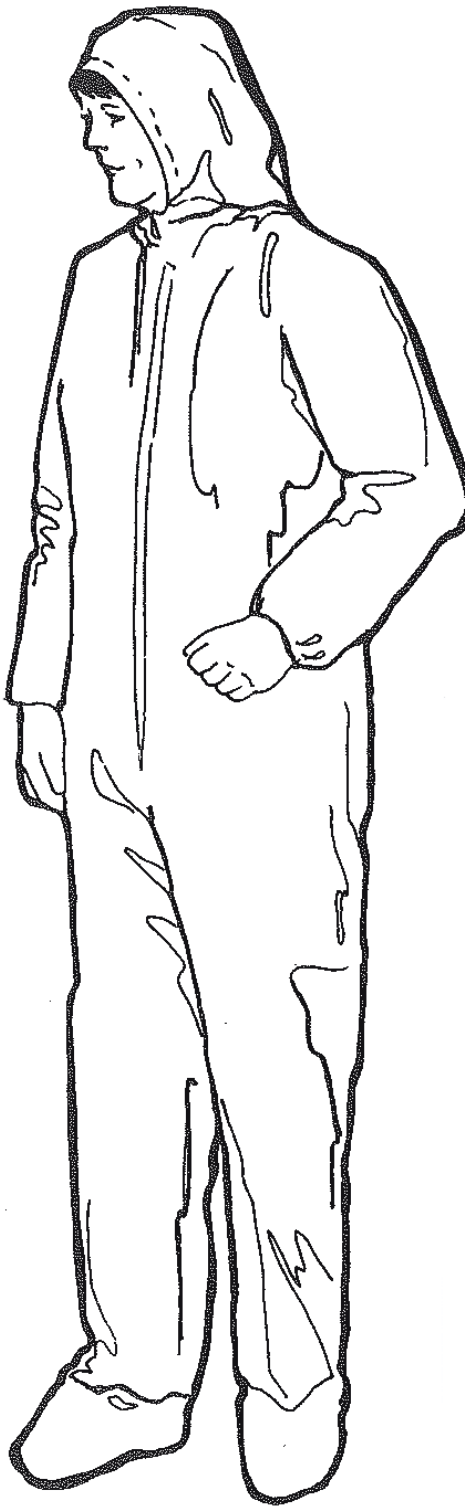
Have you heard anything about long-term effects of pesticide exposure on people?

Some people are allergic to certain pesticides. They may get a severe skin rash when the pesticide touches their skin. Or they may sneeze and have a runny nose and itchy eyes when they are near the pesticide. If a pesticide affects you this way, try wearing some extra protection (gloves, respirator, etc.). If these symptoms continue, you may have to stay away from that particular pesticide.

Allergic reactions may not occur on your first or second exposure to a particular pesticide. However, your body may become sensitized to that pesticide, and if you are exposed to that pesticide again, you may experience an allergic reaction.

Some harmful effects from pesticides do not show up for a long time. Studies on laboratory animals show that some pesticides may cause cancer, permanent harm to body systems, miscarriages, or birth defects.

Scientists cannot always know about the long-term effects of pesticides on human beings, so don't take any chances. When you handle pesticides, or when you work in areas where pesticides have been applied, do everything you can to keep them from getting on or in your body.



Suggested Review and Discussion

1. What are the symptoms of an allergic reaction to pesticides?

2. What are possible long-term effects of pesticide contamination as shown in studies of animals?

3. How can you protect yourself from long-term effects of pesticides?

Unit 5 Personal Protective Equipment (PPE)

Objectives

After this section, you should be able to:

- ♦ Explain the purpose of personal protective equipment (PPE).
- ♦ State what the law requires you to do with PPE.
- ♦ Name seven types of PPE.
- ♦ Tell what to do before putting on PPE.
  - ☐ Explain what to do if PPE is damaged or worn.
  - ☐ Identify the kinds of protective clothing often required in addition to PPE.
- ♦ Give nine rules for wearing PPE.

Opening Questions

What kind of PPE do you usually wear? How do you take care of your PPE?

Personal protective equipment (PPE) helps to keep pesticides from getting on or in your body. Your employer should provide you with all the PPE listed on the pesticide label for the job that you will be doing. You are required by law to wear it and use it correctly. PPE may include:

- ♦ Gloves.
- ♦ Boots or shoe covers.
- ♦ Coveralls.
- ♦ Hoods or wide-brimmed hats.
- ♦ Aprons.
- ♦ Protective eyewear: goggles, face shields, or safety glasses with side and brow guards.
- ♦ Respirators. You should use different types of respirators for different pesticide formulations. See Unit 6 for details.

In addition, many pesticide labels require the use of protective clothing, which may be long-sleeved shirts and long pants with shoes and socks.

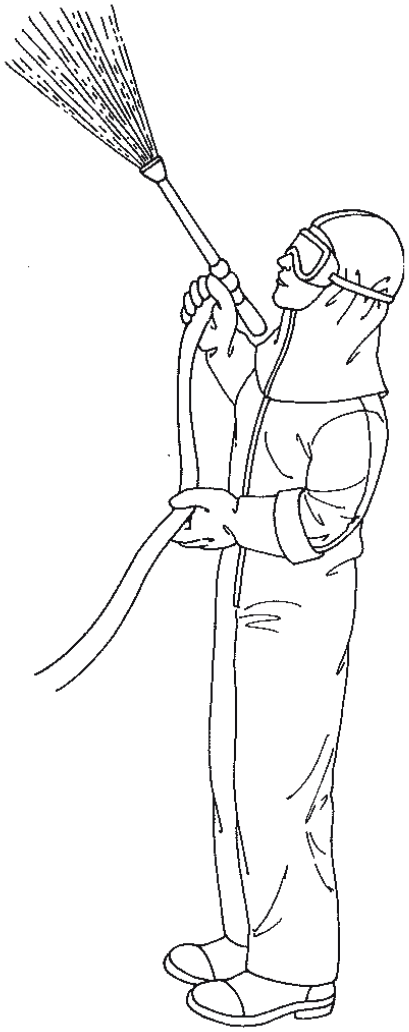
PPE can be made from many different materials. If the pesticide label does not specify which material to use, choose PPE that is chemical resistant. Chemical resistant PPE can be made out of barrier laminate, PVC, or rubber (nitrile, butyl, natural rubber, or neoprene). These materials are also waterproof. They are good choices for gloves, footwear, aprons, and hats.

Do not wear cotton gloves when you are handling pesticides unless the pesticide label specifically says to use them. Never use leather gloves when handling pesticides because leather absorbs pesticides and cannot be washed clean.

PPE must be clean and ready to use. Before and during use, look for tears, holes, or other defects or signs of excessive wear, such as differences in color. If you find a problem with a piece of equipment, ask your employer to replace it.

Here are nine easy rules for wearing PPE correctly:

- Keep your pant legs over the top of your boots so pesticide won't run down into your boots.
- Wear chemical-resistant gloves that reach at least halfway to your elbow.
- If you are applying pesticides on the ground, wear your sleeves over the outside of your gloves so that pesticides will not run down into the gloves.



- If you are spraying above your shoulder, wear your sleeves inside your gloves. Also, choose gloves with cuffs.

- If you are spraying both above and below your shoulder, you can use duct tape to attach the tops of your gloves to your sleeves so that pesticides cannot run into your gloves or into your sleeves.

- Wear loose-fitting clothes for comfort and protection. Also wear a coverall over your regular work clothes to give your body good protection against most pesticides.

- Use a chemical-resistant apron to keep splashes and spills from soaking your coverall while you are mixing and loading pesticides or cleaning equipment.

- Button your collar at the neck to keep pesticides from getting inside your clothes.

- If your hood is separate from your coverall, keep the hood's bottom edges outside the coverall to protect yourself from pesticide runoff.

While you are working, pay attention to your PPE. If your gloves, apron, or boots get holes in them, stop work right away and replace them. If the pesticides get through the damaged equipment to your skin, wash first, then put on clean equipment.

Suggested Review and Discussion

1. What is the purpose of PPE?

2. How will you know what PPE to wear?

3. What does the law require you to do with PPE?

4. What kinds of PPE do trained servicepersons wear?

5. What kinds of protective clothing may also be required?

6. What should you do before putting on PPE and also while you are working?

7. What should you do if you see that the PPE is damaged or torn?

8. What are nine rules for wearing PPE?

9. What should you do if pesticides get through your PPE onto your work clothes?

UNIT 6 RESPIRATORS

Objectives

After this section, you should be able to:

- ♦ Identify the different types of respirators.
- ♦ Explain how a respirator should fit and what to do if you have a beard.
- ♦ Give the general rule for replacing filters, cartridges, and canisters if there are no manufacturer's instructions.
- ♦ List the specific guidelines for when it is necessary to replace filters, cartridges, and canisters on respirators that:
  - ☐ Filter out dusts and mists
  - ☐ Remove vapors and gases.

Opening Questions

Do you use respirators at work? If so, which types do you use?

How many different types of respirators are used at your workplace?

Respirators protect you from breathing pesticide-contaminated air. You should use different respirators for different pesticide formulations.

The product label will say whether you must use a respirator and, if so, what kind of filter, cartridge, or canister to use. When a respirator is required, the product label will also give the MSHA/NIOSH approval code prefix for the respirator. MSHA stands for the Mine Safety and Health Administration, and NIOSH for National Institute for Occupational Safety and Health. These Federal agencies evaluate and approve respirators.

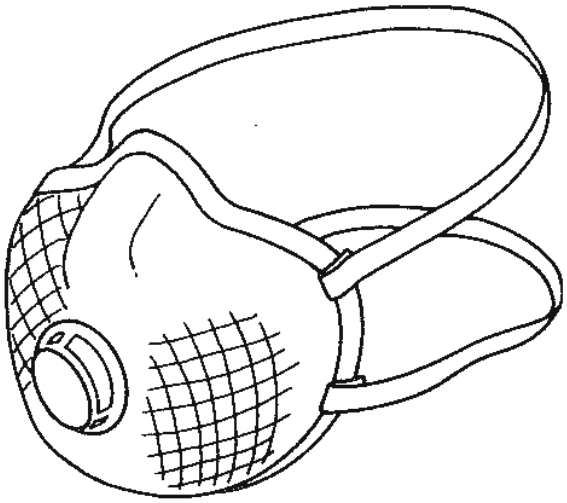
Before you put on a respirator, double-check to make sure that the MSHA/NIOSH approval number on the respirator matches the number given on the product label.

The illustrations on these pages show different types of respirators.

Styles include—

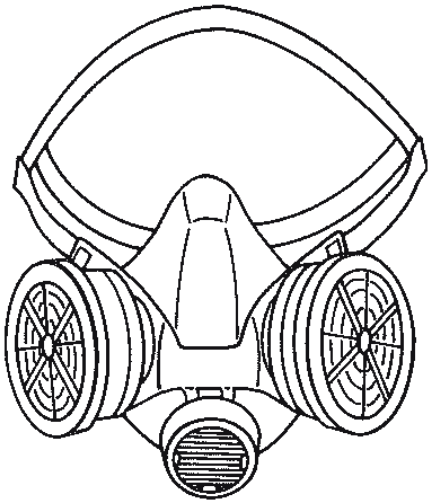
- Dust/mist filtering respirators.
- Chemical cartridge respirators.
- Canister respirators.
- Supplied-air respirators.
- The self-contained breathing apparatus (SCBA).

Dust/Mist filtering respirators offer protection from small particles in the air. They cover the nose and mouth to filter out dusts, mists, powders, and particles. These respirators have MSHA/NIOSH approval prefix TC-21C.

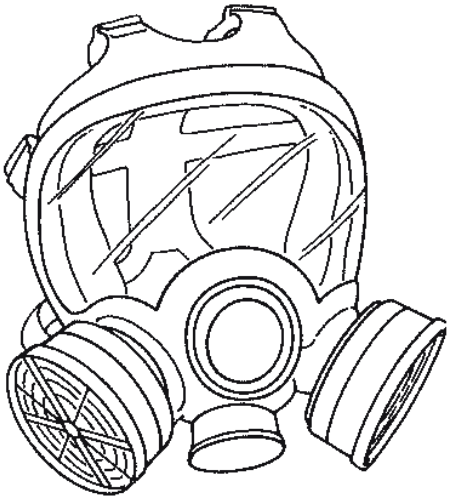


Dust/Mist Respirator

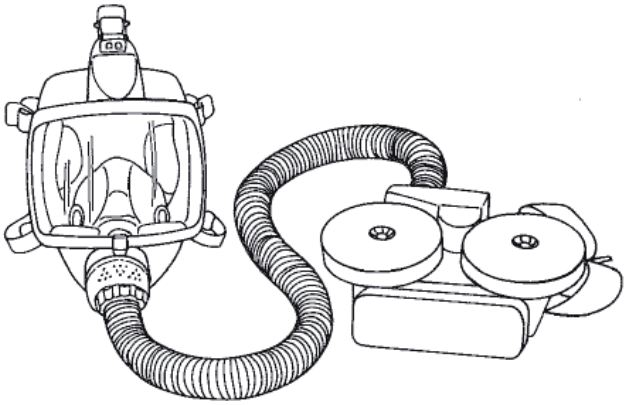
Chemical cartridge respirators use cartridges that contain chemicals to remove dusts and mists and to absorb harmful vapors or gases. Chemical cartridge respirators for use with pesticides have MSHA/NIOSH approval number prefix TC-23C. This type of respirator can have either a half-face or a full-face mask. Powered air-purifying respirators (PAPRs) may reduce respiratory stress and heat stress.



Half-Face Respirator

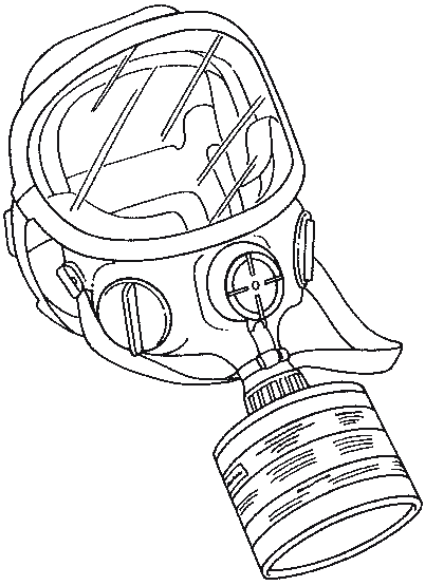


Full-Face Respirator



Powered air-purifying Respirator

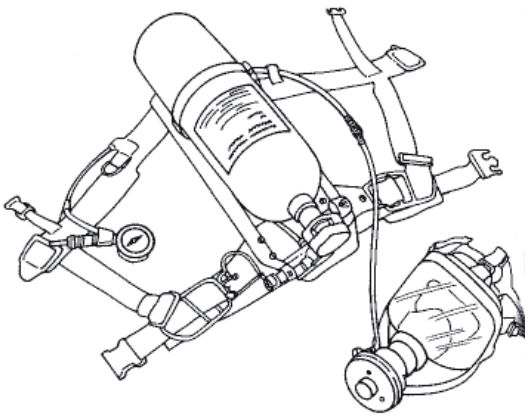
Canister respirators for use with pesticides have MSHA/NIOSH approval number prefix TC-14G. The canisters contain materials to remove dusts and mists and to absorb harmful vapors or gases. These respirators are designed to remove specific contaminants from the air. The lifespan of canister respirators is short, usually from 12 to 60 minutes, depending on size.



Canister Respirator

Supplied-air respirators use long hoses to supply air to a full-face mask. Some (but not all) supplied-air respirators have a blower or compressor. The MSHA/ NIOSH approval number prefix for this type of respirator is TC-19C.

The **self-contained breathing apparatus** (SCBA) uses an oxygen tank and provides complete respiratory protection against toxic gases and oxygen deficiency. The MSHA/ NIOSH approval number prefix for the SCBA is TC-13F.



SCBA Apparatus

If you have to wear a respirator, have someone show you how to use it first.

To work correctly, most respirators must fit your face tightly around the edges.

Every time you put a respirator on, check to be sure it forms a complete seal around your face so that air cannot leak in or out at the edges of the respirator.

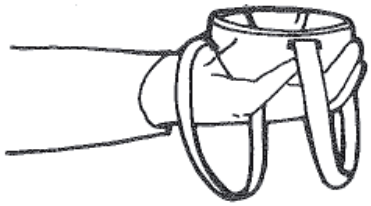
Most respirator styles won't protect you if you have a beard or other facial hair that loosens the seal. If you have facial hair, you can protect yourself only by using hood or helmet style respirators that are specifically designed to supply you with fresh air, for example, a powered air-supplying respirator.

If you are wearing a respirator that filters out dusts and mists, **change the filter or respirator** when you find it hard to breathe through the respirator, or if your filter gets torn or damaged or very wet.

If you are wearing a respirator that removes vapors or gases, **change the cartridge or canister immediately** if you taste or smell pesticide, or you feel the pesticide burning or stinging your nose or throat.

Follow the manufacturer's instructions on when to replace filters, cartridges, and canisters even if you don't notice a problem. If there are no instructions, then filters, cartridges, and canisters should be replaced at the end of each day's work period.

Your employer should help you determine how often these parts need to be changed and should provide replacement parts for you.



Suggested Review and Discussion

1. Name the different types of respirators.

2. How must a respirator fit to be effective?

3. If you have a beard or other facial hair, what problem can occur when fitting the respirator? How can you solve the problem?

4. What general rule should you follow about replacing filters, cartridges, and canisters?

5. When should you change the filter on a respirator that protects you from mists and dusts?

6. When should you change the cartridge or canister in a respirator that removes vapors and gases?

Unit 7 Pesticide Labels

Objectives

After this section, you should be able to:

- Name two important sources of information about pesticides
- Explain the meaning of the signal words *Caution, Warning, and Danger.*
- Tell the meaning of the skull and crossbones symbol.
- Name the major sections of the pesticide label and tell what kinds of information are in each section.

Opening Questions

How often do you read pesticide labels? Why do you read them?

Have you ever had difficulty finding information on a pesticide label? What were you looking for? How did you finally get the information?

Are some pesticide labels harder to understand than others?

There are two important places to get information about the pesticides you will be handling — from the pesticide label and from your employer.

Your employer should make sure you have all the information you need from the pesticide label. Even so, it is a good idea to study the label yourself

The pesticide label has a number of major sections that you should be familiar with.

Brand Name, Ingredients, and Type of Pesticides

Look on the front of the label for the brand name of the pesticide. It is usually in large bold print. Directly below the brand name is the list of chemicals or active ingredients, the percentage of each active ingredient, and the inert ingredients. *Active ingredient* is the term for the ingredients that kill or control the pest. *Inert ingredients* don't work against the pest; they usually improve the product by making it spray out easily, stay on the plant, etc.

Pesticide products with very similar brand names may contain different active ingredients or different percentages of the active ingredients. It is important to read the label of a new product thoroughly even if the brand name is familiar to you.

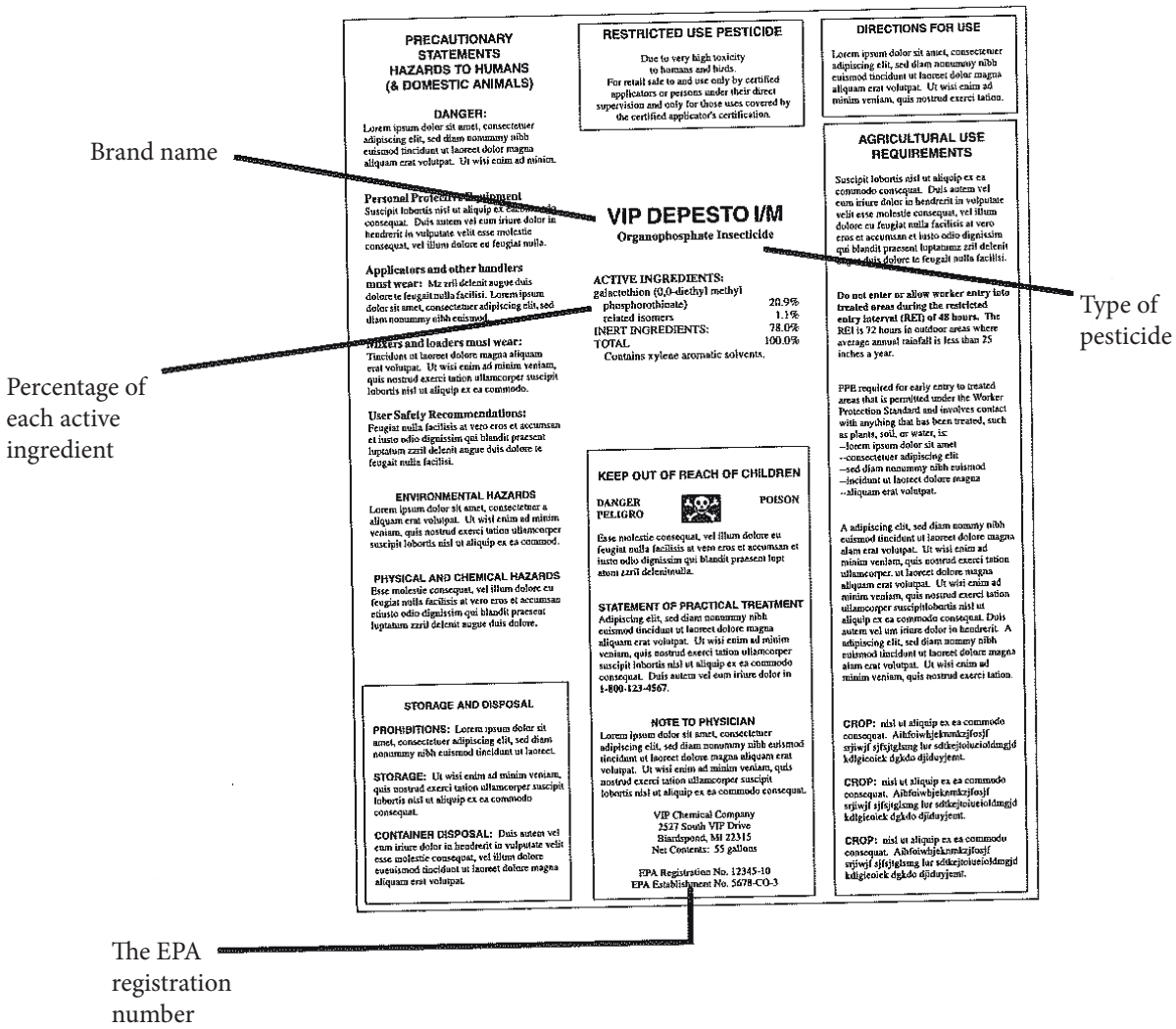
Also, on the front of the label is the type of pesticide — insecticide, herbicide, fungicide, or other kind of control agent.

The EPA registration number for the product is on the front of the label as well.

Signal Words and Symbols

The signal words — *Caution, Warning, or Danger* — tell you how likely the pesticide is to make you sick. Be sure to look at the signal word, which is in large type on every pesticide label.

Sample label



The word *Caution* is used for pesticides that are the least poisonous. These pesticides can still harm you if you are not careful.

A pesticide with the word *Warning* is more poisonous or irritating than those with a *Caution* label. It doesn't take much of this pesticide to make you sick or to irritate your skin or eyes.

The word *Danger* means that the pesticide is very poisonous or irritating. Even a small amount (often less than a teaspoon) can cause serious harm. The labels of the products that can severely burn your skin or eyes carry the signal word **Danger** alone.

Along with the signal word *Danger,* some labels have a *skull and crossbones* and the word *Poison* printed in red ink. These pesticides are highly poisonous. They can make you very sick — or even kill you —if you are not careful.

Statement of Practical Treatment and Precautionary Statements

Under the Statement of Practical Treatment, read what you should do if you swallow or inhale the product, or get it on your skin or in your eyes. This is the first aid section.

On some labels a Note to Physician gives information on symptoms and treatment of poisoning. If you need medical treatment, it is important to bring a copy of the pesticide label with you so the doctor can treat you properly.

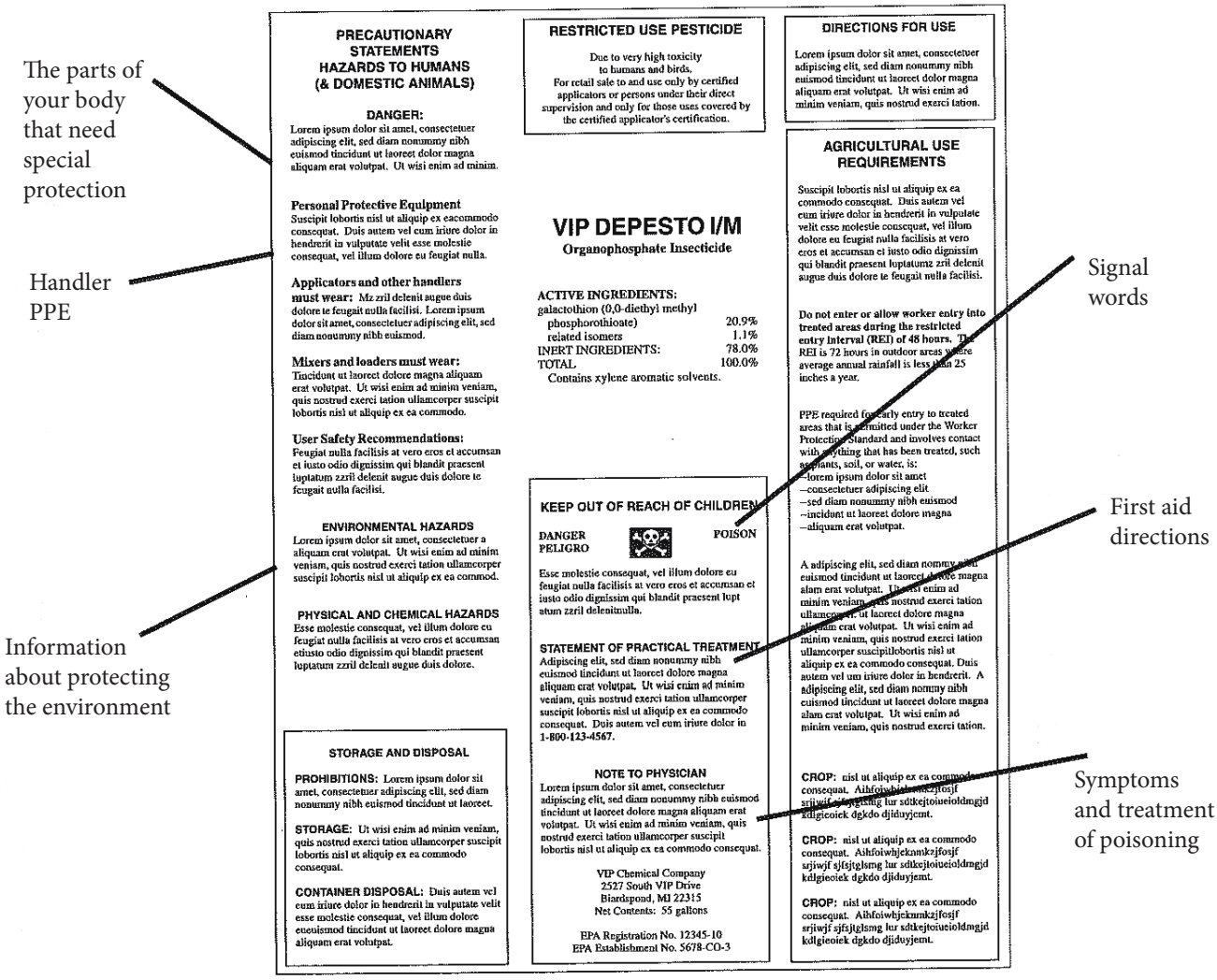
An emergency phone number to call in case of spills and exposure accidents is also listed.

Look under the Precautionary Statements to determine which parts of your body need special protection. Some labels tell you that the pesticide will burn your eyes or skin if it gets on them. Other labels tell you not to breathe the pesticide or not to get it on your skin.

Along with these warnings, the label must tell you if you need to wear PPE when you handle the pesticide.

Under the Environmental Hazards section, you can find out whether you must take extra care to protect certain wildlife or to keep the pesticide out of groundwater or surface water.

Sample label



Directions for Use

The Directions for Use section lists information on storage, disposal, mixing, loading, and application.

The sites (homes, warehouses, restaurants, crops, animals, etc.) to which a pesticide can be applied is listed in this part of the label. The allowed method of application (crack and crevice, broadcast, spot, ULV, etc.) and the rate of application will also be listed in this part of the label.

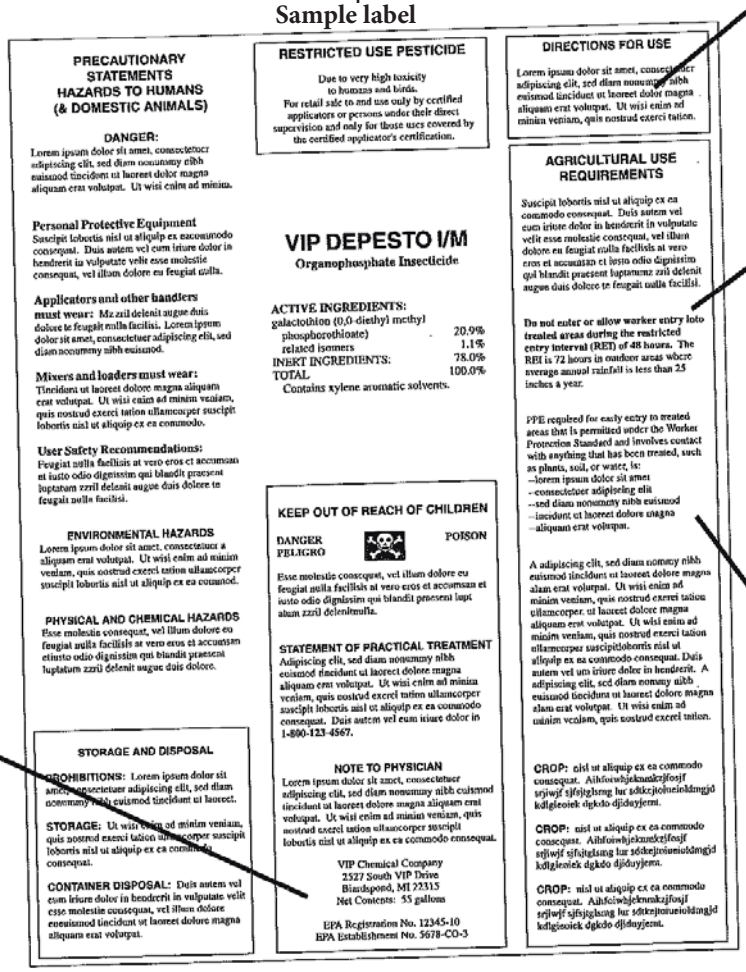
Reentry intervals will often be stated. *Keep children and pets off surfaces until spray has dried* is a common type of reentry restriction. For agricultural products, the reentry interval is called a restricted-entry interval (REI), and is intended for protection of agriculture workers.

Some product labels will have and Agricultural Use Requirements section which lists specific requirements when these pesticides are used on farms, forests, greenhouses or nurseries. These requirements are part of the USEPA Worker Protection Standard for protection of agricultural workers. Other types of servicepersons and workers are not covered by this standard, but may have similar protections.

Name and Address of Manufacturer

You can obtain further information about the pesticide that you are using from the manufacturer of the pesticide. The name and address of the manufacturer is listed on the pesticide label.

Sample label



PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS
(& DOMESTIC ANIMALS)

DANGER:
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Personal Protective Equipment
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Applicators and other handlers must wear: Mz.zril delenit augue duis dolore te feugait nulla facilisi. Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod.

Mixers and loaders must wear:
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User Safety Recommendations:
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ENVIRONMENTAL HAZARDS
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PHYSICAL AND CHEMICAL HAZARDS
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STORAGE AND DISPOSAL
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STORAGE: Ut wisi enim ad minim veniam, quis nostrud exerci tation ullamcorper suscipit lobortis nisl ut aliquip ex ea commodo consequat.
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RESTRICTED USE PESTICIDE
Due to very high toxicity to humans and birds.
For retail sale to and use only by certified applicators or persons under their direct supervision and only for those uses covered by the certified applicator's certification.

VIP DEPESTO I/M
Organophosphate Insecticide

ACTIVE INGREDIENTS:
galactothion (0,0-diethyl methyl phosphorothioate) 20.9%
related isomers 1.1%
INERT INGREDIENTS: 78.0%
TOTAL 100.0%
Contains xylene aromatic solvents.

KEEP OUT OF REACH OF CHILDREN
DANGER PELIGRO POISON
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STATEMENT OF PRACTICAL TREATMENT
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NOTE TO PHYSICIAN
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VIP Chemical Company
2527 South VIP Drive
Blandspond, MI 22315
Net Contents: 55 gallons

EPA Registration No. 12345-10
EPA Establishment No. 5678-CO-3

DIRECTIONS FOR USE
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AGRICULTURAL USE REQUIREMENTS
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Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 48 hours. The REI is 72 hours in outdoor areas where average annual rainfall is less than 25 inches a year.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and involves contact with anything that has been treated, such as plants, soil, or water, is:
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Information on storage, disposal, mixing, loading, and application

The restricted-entry interval (REI)

PPE for early-entry workers

Information about the manufacturer

Suggested Review and Discussion

1. What information is printed below the brand name of the pesticide?

2. What do the signal words, Caution, Warning, and Danger Mean? What does the word Poison together with the skull and crossbones symbol mean?

3. What kind of information can you find in the Statement of Practical Treatment?

4. What can you find in the Precautionary Statements section?

5. What kind of information is in the Note to Physician?

6. What is in the Environmental Hazards section?

7. What can you find in the Direction for Use section?

8. What is in the Agriculture Use Requirements section?

9. Give and example of a reentry restriction.

10. If you need information from the pesticide manufacturer, what help does the label provide?

Unit 8 Transporting Pesticides

Objectives

After this section, you should be able to state the safety rules to observe when transporting pesticides in a car or truck.

Opening Questions

Do you ever transport pesticides? How? How often?

If you move pesticides from place to place in a car or truck:

- Before you leave, ask your employer what to do if you have a spill. Carry spill cleanup materials with you (See Unit 11 Cleaning Up Pesticide Spills).
- Make sure the pesticides are in the back of the truck or in the trunk of the car—not inside with you.
- Do not allow people, pets, or livestock to ride in the same compartment with the pesticides. Don't put food, feed, or clothes near the pesticides.
- Tie the pesticide containers down or secure them in other ways to make sure that they do not fall over or roll around.

Suggested Review and Discussion

1. What are important safety rules to remember when you carry pesticides in a car or truck?

Unit 9 Storing Pesticides

Objectives

After this section, you should be able to:

- Name at least three important safety rules to follow when storing pesticides.
- Say why the storage area should be locked.

Opening Questions

Where are the storage areas at your workplace? Do you ever work there? If so, what do you do?

If you work in a storage area for pesticides or pesticide containers-

- Make sure the containers are closed tightly and are stored upright, so they cannot tip over and spill.
- Check all containers for leaks, breaks, or weak spots. Tell your boss right away if you see a problem.
- Clean up spills and leaks right away (See Unit 12 - Cleaning Up Pesticide Spills).
- Lock the storage area to make sure that people and animals cannot get into the storage area when no one is working there.

Suggested Review and Discussion

1. If you work in a storage area for pesticides, what safety rules do you need to observe?
2. Why should the storage area be locked?

Unit 10 Mixing and Loading Pesticides

Objectives

After this section, you should be able to:

- Say why it is especially important to observe safety rules when mixing and loading pesticides.
- State the key safety practices that relate to using PPE, opening containers, pouring pesticides, mixing pesticides, and protecting water resources.

Opening Questions

How often do you mix pesticides or load pesticides into application equipment? Why is this job dangerous?

You may sometimes have to mix and load pesticides — a job that requires special care. Because pesticides that have not yet been mixed are often in a concentrated (stronger) form, they can be especially dangerous to you.

When mixing and loading, follow the label directions and these safety practices:

- Give yourself extra protection. Wear chemical-resistant gloves and an apron over your other PPE. You probably need to wear protective eyewear, too. The pesticide label will often require extra PPE to be worn during mixing/loading operations.
- Read the label directions to find out how much pesticide you need, and then measure it carefully.

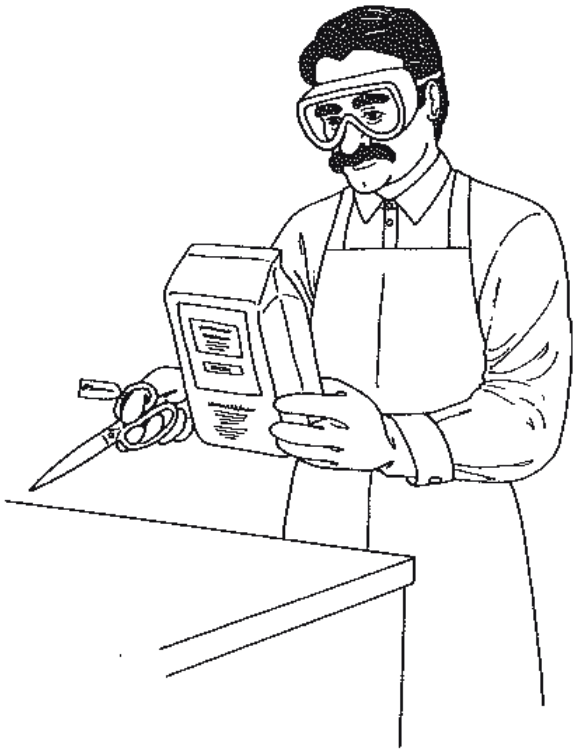
Using too much or too little can cause problems for the applicator, the use site, and the environment.

- Use the label information to determine how much pesticide you will need based on (1) the size and type of area you will be treating, (2) the size of the application equipment you will be using, and (3) the type of pest you want to control.

- Put the pesticide container on a flat surface and open it carefully. Use a sharp knife or scissors to open paper and cardboard containers. If you rip them open, dust can fly out and get on your skin and into your eyes, mouth, and lungs—and the pesticide will not pour out as evenly. Label the knife or scissors For Pesticide Use Only. Wash the knife or scissors with soap and hot water before using them again.

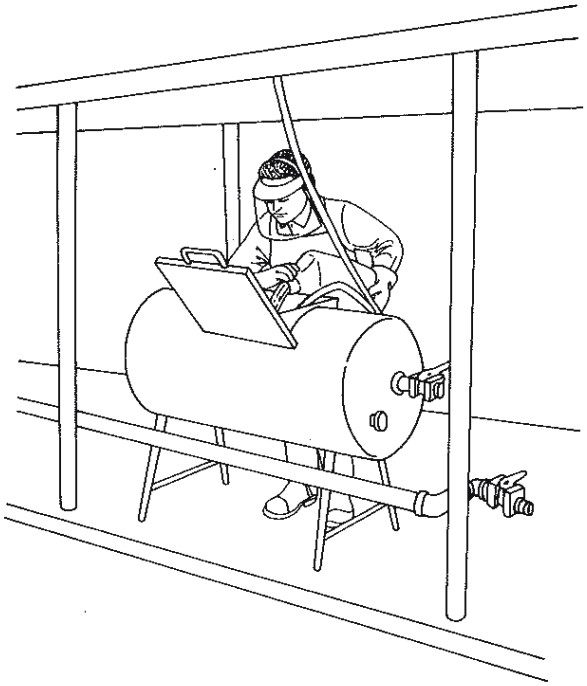
- Pour carefully to avoid splashes. Be sure your face and eyes are well above the container while you are pouring. Get someone to help you pour if the container is too big or too heavy for you to lift easily.

- When you add water to the mix tank or the spray tank, don't let the pesticide mix run backwards through the hose and into the water source. Keep the hose above the level of the liquid in the tank, or use special equipment (a check valve) to prevent backflow.



- Never mix, load, or clean equipment near ponds, streams, wells, or ditches because rinse water containing pesticide could overflow and run off into these water sources.

- Do NOT leave the mix or spray tank unattended while filling.



Suggested Review and Discussion

1. Why is it especially important to observe safety rules when mixing and loading pesticides?

2. What are the safe procedures to follow when opening pesticide containers?

3. What can you do to avoid splashes when pouring?

4. What kinds of PPE should you wear when mixing and loading pesticides?

5. Why do you need to follow the label directions when measuring?

6. Why is it important to keep the hose above the level of the liquid in the tank?

7. Why should you avoid mixing, loading, or cleaning equipment near ponds, streams, wells, or ditches?

UNIT 11 APPLYING PESTICIDES

Objectives

After this section, you should be able to:

- Describe at least five safe practices to follow **before** applying pesticides.
- Name at least five safe practices to follow **while** applying pesticides.
- Explain what to do **after** applying pesticides.

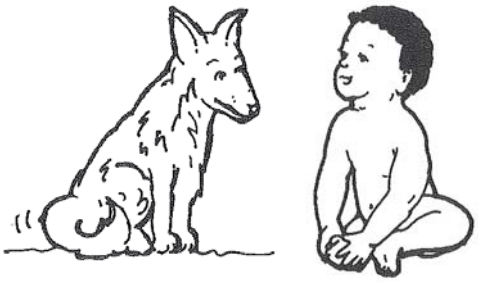
Opening Questions

Do you apply pesticides as a regular part of your job? How do you prepare for the task? What equipment do you usually use?

Your job may require you to apply pesticides. Be sure to protect yourself, others, and the environment. Make sure you follow the application instructions on the pesticide label.

Before you start, put on all the PPE you need. Wear at least the PPE listed on the pesticide label. Then carefully check out the application equipment. Make sure there are no leaks. If you need to fix the application equipment, turn it off first to keep pesticide from getting on you. Remember to keep your PPE on while you are fixing the equipment.

Never apply pesticides so they can get on people—either directly or through drift. When you are ready to start, check the area where you will be working. Make sure no people, pets, or livestock are in or near the area. Also, check for children's toys or other personal items where you plan to spray. If present, either you or the customer should clear them from the area before you begin your application.



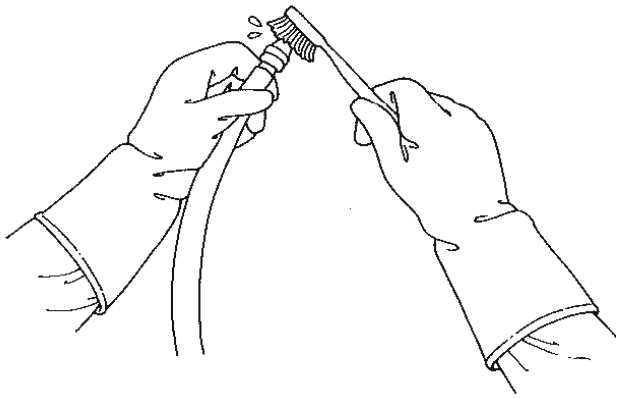
The pesticide label will list the sites to which the pesticide can be applied. A site can be a particular crop, animal, type of building, turf, landscape area, or location in a building. It is illegal to apply a pesticide to a site not listed on the label.

If you will be applying pesticides outdoors, check the weather conditions before you start. Don't apply pesticides when there is a wind blowing that could carry the pesticide out of the treated area. Even a light wind can blow pesticides away from the area where you want to apply them. Don't apply pesticides when rain is expected if the pesticide is one that could be washed off the treated surface.

Look to see if there are ponds, streams, or wells in or near the area to be treated. Take the time and care to keep pesticides out of surface water supplies. Never apply a pesticide so that it can drift or run into water supplies.

Check the Environmental Hazard Statement on the pesticide label. Take special care to avoid harming wildlife that may be in or near the area you plan to treat.

Stay alert while you are applying the pesticide. Look at the area you have just treated to be sure you are applying the pesticide evenly and the coverage looks right.



Watch for clogged nozzles or hoppers. **Do not use your mouth to blow out the nozzle.** If you need to clean a nozzle, use a nonmetal nozzle-cleaning tool. Sharp metal can ruin the nozzle.

When you finish the application, put your equipment away. Don't leave it in the treated area, and don't let it sit for a long time with pesticides on or in it. Your employer should tell you how to clean it. Follow his or her instructions and remember to keep your PPE on until the application equipment has been put away.

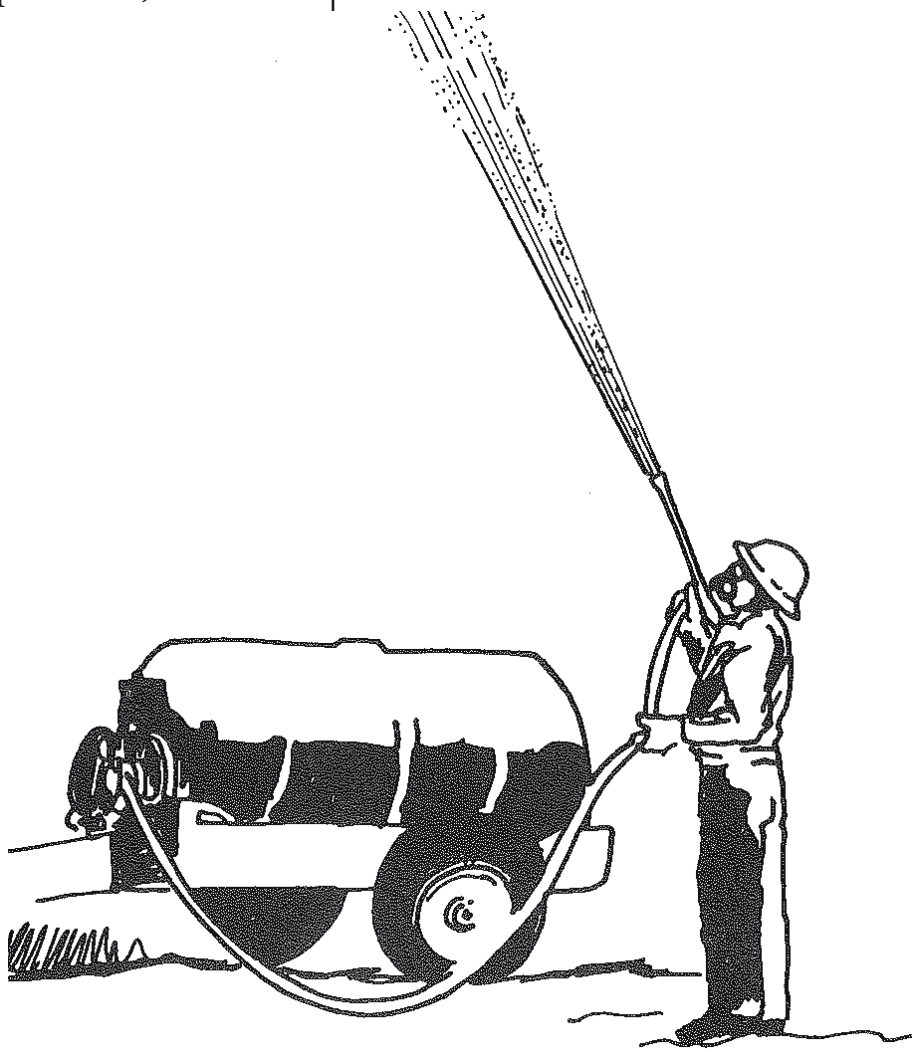
Rinse water from cleaning application equipment should not be dumped on the ground or down a drain. Collect the rinse water and use it to make your next tankful of spray mixture. Or, spray the rinse water out on a labeled site.

Suggested Review and Discussion

1. What are safe practices to follow before applying pesticides to any area?

2. While applying pesticides, what should you be careful about?

3. After applying pesticides, what should you do?



Unit 12 Cleaning Up Pesticide Spills

Objectives

After this section, you should be able to:

- List the basic safety principles to follow if a pesticide spill occurs.
- Name the three "Cs" of spill management and explain the actions to take under each category.

Opening Questions

Have you ever had to clean up a spill? What kind was it? What did you do?

Pesticide spills can occur during any pesticide handling task. Here are steps you should take if a spill occurs:

- Think first of protecting yourself, other people nearby, and the surrounding area — especially water sources.
- Never try to clean up a spill unless you have the right PPE and cleanup materials.
- If you don't know what to do, call for help and wait until it arrives.
- If it is a big spill, send someone for help if you can. Don't leave if no one else is there—someone must be there to warn others of the danger.
- If it is a big spill, your employer must be contacted as soon as possible so the proper actions can be taken and the proper authorities can be notified.

Practice the **three C's of spill management:**

Control the spill — make sure that the spill is stopped:

- Shut off the mixing or application equipment if it is leaking.
- Turn the container upright if it has fallen.
- If the container is broken or leaking, put it inside another container.

Contain the spill — stop the spill from spreading:

- Use a mound of dirt or other material to make a dike around the edge of the spill.
- Rope off the area so that other people cannot walk through it.

Clean up the spill:

- Do not use water. It will spread the spill and make it worse.
- Soak up liquid spills with special spill sponges or with soil, sawdust, clay, cat litter, or other absorbent materials.
- If the pesticide or absorbent material is likely to blow around, moisten it very slightly with water or cover it with a tarp.
- Sweep the spill and cleanup materials into plastic containers or special drums. Then ask your employer what to do with the waste.

Suggested Review and Discussion

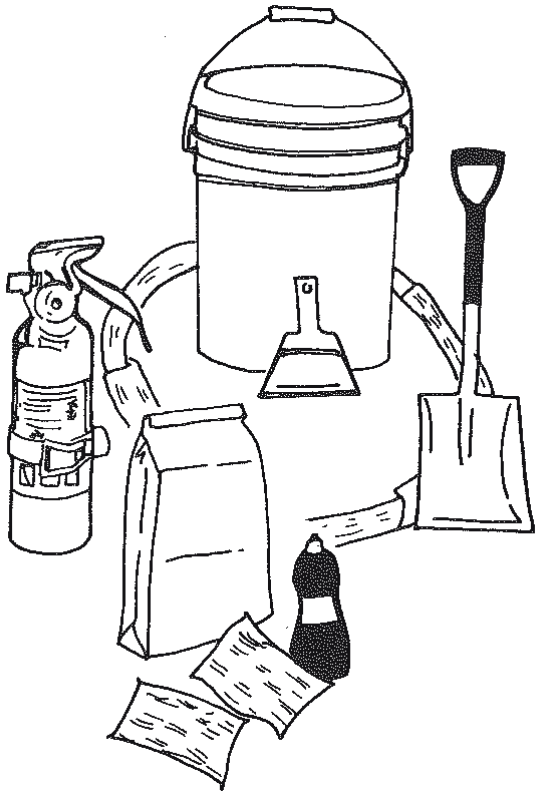
1. What are the basic safety principles to follow when dealing with a pesticide spill?
2. What are the three Cs of spill management?
3. Name three actions to take to control a spill.

4. How can you stop a spill from spreading?

5. How should you clean up a spill?

6. What should you do if the spilled pesticide or the cleanup material is likely to blow around?

7. What should you do with the spilled pesticides and contaminated cleanup materials?



Unit 13 Cleaning Pesticide Containers

Objectives

After this section, you should be able to—

- Describe the steps involved in rinsing containers.
- Explain what to do with containers that cannot be rinsed.
- State three don'ts for handling empty pesticide containers.

Opening Questions

Are you responsible for cleaning containers? What do you do with the cleaned empty containers?

Your employer will tell you what to do with empty pesticide containers. Many containers should be **triple rinsed** immediately after you empty them. Follow these steps:

- If you use water to mix the pesticide in a mixing tank, use clean water to rinse the empty container as soon as you have finished mixing.
- First, fill the empty container with clean water until it is ¼ full.
- Put the cap on, or tightly close the opening. Carefully shake or roll the container so that the water rinses the inside completely.
- Pour the rinse water from the container into the mixing tank. Repeat the rinsing at least two more times. Instead of triple rinsing, you can **pressure rinse** pesticide containers by using a pressure-rinse nozzle Follow these steps:
- Insert the nozzle into the side of the container.
- Turning the nozzle in all directions, rinse the inside of the container for at least half a minute.
- Drain the container as well as you can into the mix tank.

Bags and other nonrinsable containers should be shaken or tapped to remove as much of the pesticide product as you can.

Empty containers should be locked away until they can be disposed of properly. Even well-rinsed containers may still contain small amounts of pesticides. Don't use them for any other purpose, and **do not take them home** under any circumstances. Never leave empty containers lying around the work site or anywhere else. Some pesticide containers can be returned to the dealer, but they must be properly cleaned first.

Suggested Review and Discussion

1. How many times should you rinse empty containers?

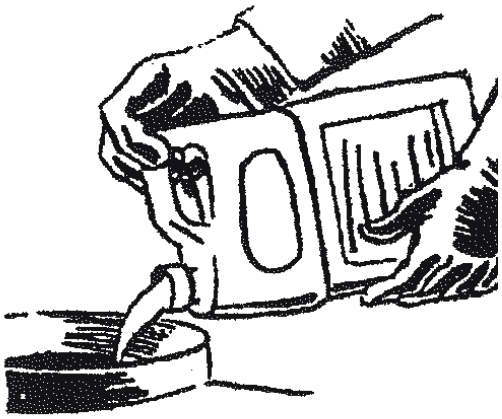
2. What are the steps for washing empty containers?

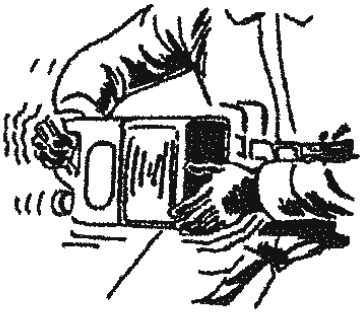
3. What should you do if a container cannot be rinsed?

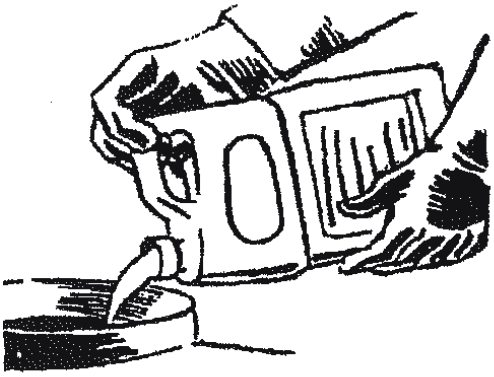
4. What should you do with empty containers?

5. Name three things **not** to do with empty containers?

6. If in doubt about what to do with containers, what should you do?







UNIT 14 DISPOSING OF PESTICIDES AND PESTICIDE CONTAINERS

Objectives

After this section, you should be able to:

- Explain where to look first for directions on safe disposal of leftover pesticides.
- State who to contact for more information about disposal.

Opening Questions

Do you know your state's regulations for disposal of pesticides? How can you find out about them?

Occasionally, you may have leftover pesticides that you can no longer use. Store them carefully in a locked storage area until they can be disposed of properly.

The best way to dispose of unwanted pesticides is to use them up according to label directions. Your employer should avoid buying more pesticides than will be needed.

Although the label has general directions for disposal of pesticides and pesticide containers, disposal requirements vary from state to state.

Your employer should check with the Ohio Department of Agriculture and then tell you what to do. In general:

- If pesticide containers have been properly triple rinsed or cleaned, they may be sent to a sanitary landfill.
- Containers cannot be disposed of by open burning.

- Leftover pesticides and improperly cleaned containers cannot be sent to sanitary landfills.

- Disposal programs for containers and/or for pesticides are occasionally offered by the Ohio Department of Agriculture, local municipalities, or business groups. Help your employer take advantage of these opportunities.

Suggested Review and Discussion

1. Where can you look for directions about what to do with leftover pesticides?

2. Who should know about state requirements for disposal?

3. Is it safe to store leftover pesticides before getting rid of them?

Unit 15 Cleaning Up

Objectives

After this section, you should be able to:

- Describe safe practices to follow when removing PPE.
- Tell what to do with PPE after taking it off.
- Explain how to clean PPE if your boss asks you to do it.
- List the types of equipment that cannot be cleaned.
- Describe what to do for personal cleanliness whenever you finish a pesticide handling job and at the end of the workday.
- Give directions for washing protective clothing and PPE in a washing machine.

Opening Questions

Do you usually keep your gloves on or take them off when you remove your PPE?

Does your boss ever ask you to clean PPE?

When you finish any pesticide handling job, take off your PPE. That way, you and others won't risk contacting any pesticides that may be on the PPE. When taking off PPE, be careful not to get pesticides on your skin or inner clothing. Here are some safe practices for removing PPE:

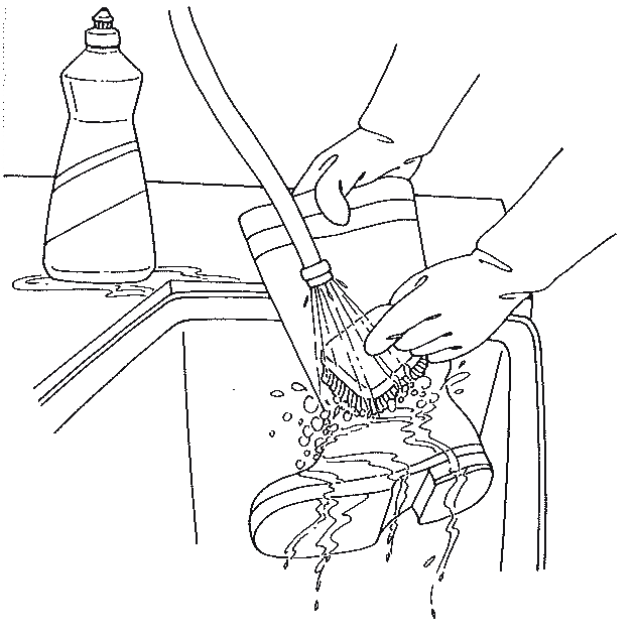
- Wash the outside of your gloves while you are still wearing them.
- If possible, keep your gloves on while taking off your other PPE.
- Peel down your coverall and take off other PPE. If you've already removed your gloves, touch the outsides of the PPE as little as possible.

Wash your hands. Wash your face and any other exposed skin, too. Use lots of soap and water.

Put all your used PPE in a place by itself until it can be cleaned or disposed of. You should not wear home or take home PPE that has not been cleaned.

If your employer asks you to clean PPE at work, be sure you know how to do it safely. Wear gloves. Hand wash the inside and outside of PPE like gloves, boots, and respirator face-pieces.

Use mild soap or mild detergent and very warm water to wash most PPE. For coveralls and other machine washable items, follow the washing procedure on the next page.



Some types of equipment cannot be cleaned — they should be thrown away when they can no longer protect you. These include respirator filters, cartridges, and canisters and some kinds of disposable coveralls, gloves, shoe coverings and aprons. Your employer should tell you when to throw them out. Throw away coveralls or other work clothes that are soaked with pesticides because, in this case, even thorough washing will not remove all the pesticide.

At the end of the day, take off your work clothes, shower, and put on clean clothes. Put your used work clothes into a container until they can be washed. Don't ride home with pesticides on your clothes — you will contaminate your vehicle.

Don't let other people touch any of your work clothes that may have pesticides on them. Even when you wear a coverall over regular work clothes, the work clothes can pick up small amounts of pesticides. The pesticides can rub off onto anyone who touches the clothes. At home, be sure to keep your contaminated work clothes out of reach of children and pets.

Washing procedure for work clothes:

- Always keep your work clothes separate from your family's clothes. Wash work clothes in a separate load in the washer.

- Wash only a few items at a time to allow plenty of agitation and water for dilution. Use the highest water-level setting.

- Use a heavy-duty detergent and hot water for the wash cycle.

- Rinse your work clothes twice in warm water. Using two rinse cycles helps remove even more pesticide residue.

- Use two complete machine cycles to wash items that are moderately to heavily contaminated.

- If possible, hang your work clothes outside on a clothesline to dry (for 24 hours). Try not to use a clothes dryer because pesticide residues may contaminate the clothes dryer over a period of time. If you must use a clothes dryer, use the hottest setting possible to help break down pesticide residues.

- Before doing family laundry, it is a good idea to clean the machine by running the washer through at least one more complete cycle without clothing but with detergent and hot water.

Suggested Review and Discussion

1. What is the first thing to do after you finish working with pesticides? Why is this so important?

2. What are safe practices to follow when taking off your PPE?

3. Which parts of your body should you wash immediately after peeling off PPE?

4. What is a safe way to wash PPE by hand?

5. Which PPE should be thrown away after use?

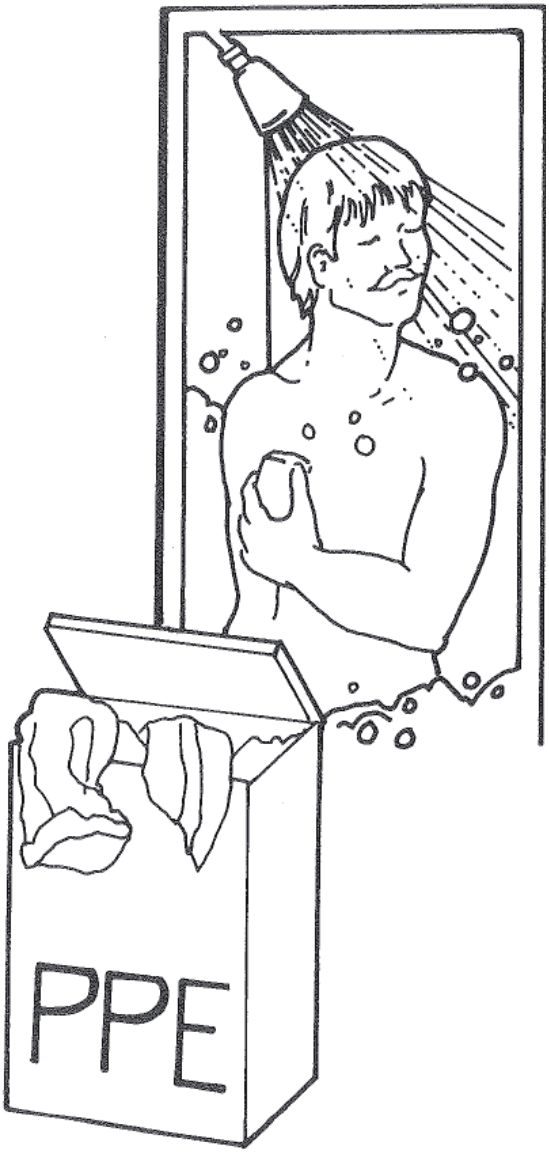
6. At the end of the workday, what should you do to ensure that you have no pesticides anywhere on you?

7. How can you protect your family from pesticide contamination?

8. What is the procedure for machine washing work clothes or coveralls that have been exposed to pesticides?

9 What is the recommended way of drying work clothes that have been exposed to pesticides?

10. How should you clean your washing machine after doing your work clothes and before doing family laundry?



Unit 16 Laws and Regulations

Objectives

After this section, you should be able to:

- Tell what federal and state agencies regulate the use of pesticides.
- Give the names of the federal and state pesticide laws.
- Tell who registers pesticides.
- Explain why pesticide labels are enforceable as law.
- Explain the difference between Restricted Use and General Use pesticides.
- Describe the accountability of trained servicepersons to make legal applications and list the types of penalties for failing to do so.
- List the pesticide application recordkeeping requirements.
- Explain ODA's off-site pesticide movement regulations.
- Describe the obligation to report illnesses or property damage that arise due to pesticide applications.
- Explain ODA's requirements for safe use of application equipment.
- Explain ODA's direct supervision and serviceperson training requirements.

Opening Questions

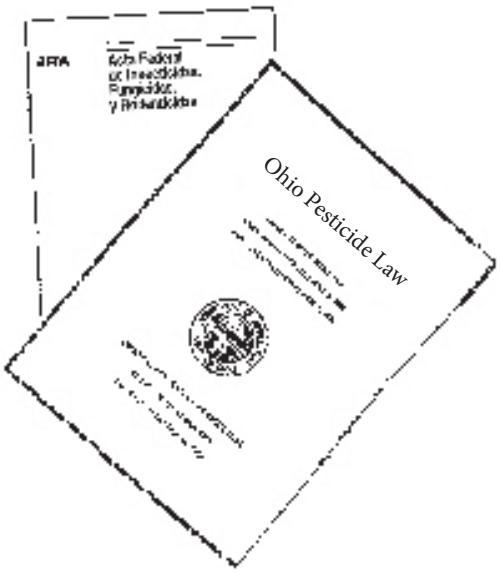
Do you know who regulates the use of pesticides in Ohio?

Are you familiar with either FIFRA or the Ohio Pesticide Law?

Do you know who the certified applicator(s) is (are) at your employer?

Do you know which certified applicator is responsible for providing direct supervision to you?

In Ohio, the use of pesticides is regulated by the USEPA and the Ohio Department of Agriculture. ODA actually enforces the federal pesticide law for USEPA in Ohio. This law is called the Federal Insecticide Fungicide and Rodenticide Act (FIFRA). In addition, ODA also enforces the Ohio Pesticide Law. Both laws also contain a set of regulations which further define requirements to be met by pesticide users.



One of FIFRA's most important features is that it sets the requirements under which pesticides can be registered. All pesticides must be registered with USEPA. In addition, any company that wants to register a pesticide must also provide label directions for safe use of the product.

That is, if the pesticide product is used according to the label directions, then no unreasonable harm should be caused to people or the environment. It is a legal requirement that pesticide products be used according to the label directions. THE LABEL IS THE LAW.

USEPA classifies products as either Restricted Use or General Use. A Restricted Use product is more likely to cause harm to people or the environment unless it is applied by a certified applicator or someone under the direct supervision of a certified applicator. FIFRA requires a certified applicator to be involved in the application of a Restricted Use product. A Restricted Use pesticide product cannot be sold to or bought by a noncertified person.

RESTRICTED USE PESTICIDE

Due to very high toxicity to humans and birds.

For retail sale to and use only by certified applicators or persons under their direct supervision and only for those *uses* covered by the certified applicator's certification.

Know the Law

General Use pesticides, although not as dangerous as Restricted Use Pesticides (RUPs), can still cause substantial damage to people or the environment if applied or handled incorrectly. In Ohio, therefore, any pesticide applied commercially, including by a public agency, or in publicly-accessible sites, must be applied by a certified applicator or a trained serviceperson under the direct supervision of a certified applicator.

Although not certified, a trained serviceperson can be held accountable for an illegal application of pesticides. If label directions or the directions of the certified applicator are ignored, the trained serviceperson may be accountable for civil or criminal penalties.

A civil penalty is a fine based on the cost of ODA's investigation and usually amounts to several hundred dollars. If the trained serviceperson knowingly violates the pesticide laws or label directions, and the environment or human health is endangered, then criminal charges may be filed. Under the Ohio Pesticide Law, for a first offense, a person could be charged with a first or second degree misdemeanor. In addition, USEPA can levy civil penalties and initiate criminal charges against illegal pesticide handlers.

EPA
United States
Environmental Protection Agency

DEPARTMENT OF AGRICULTURE
STATE OF OHIO

Recordkeeping

One of the most common violations is the failure to maintain proper pesticide application records. The recordkeeping requirement is spelled out in the state law and regulations. The certified applicator is responsible for maintaining the records, but the job is impossible unless the trained serviceperson records the information as soon as possible after each application. In addition, it is a serious violation if the records are false or fraudulent.

All records for all applications of pesticides need to be in English and must be submitted to the pesticide business registered location or employer within 10 days of the application.

The pesticide business registered location or employer then must retain these records for **three years** from the date of application and make them available to the Ohio Department of Agriculture.

There are different recordkeeping requirements depending on the type of application being made: **non-structural** versus **structural**.

Non-Structural Pesticide Applications

In general, most pesticide non-structural applications are outdoor on plants, crops, lawns, landscapes, animals, ponds, etc.

The following are the items required for application records for all **non-structural** pesticide applications:

1. Name of responsible commercial applicator and names of trained serviceperson(s) applying pesticides.
2. Name & address of person contracting for service.
3. Date of application.
4. Type and size of area to be treated.
5. Location or field identification number or treatment area.
6. Trade name (brand name) & EPA registration number of pesticides used.
7. Total amount of each pesticide product used.
8. If diluted, total volume of use dilution applied.
9. Type of equipment used.
10. Time of day of application, start and completion (or when ceased for the day).
11. Wind direction and velocity, air tem-

perature and other weather conditions when applicable.

Structural Pesticide Applications

Structural applications are made to, or in buildings or structures for insects, rodents, or to protect structures.

The following are the items required for application records for all **structural** pesticide applications (except termite applications):

1. Name of responsible commercial applicator and names of trained serviceperson(s) applying pesticides.

2. Name & address of person contracting for service.

3. Date of application.

4. Pests to be controlled.

5. Locations and methods of treatment for each pesticide used.

6. Trade name (brand name) and EPA registration number of pesticides used.

7. Total amount of each pesticide product used.

8. Application concentration or dilution used for each pesticide and total volume applied.

9. Type of equipment used.

10. Time of day of application, start and completion (or when ceased for the day).

Termites

Before applying pesticides or monitoring devices to structures for the control or monitoring of termites, you must create a detailed drawing of the footprint of the structure to be treated. This drawing must include linear dimensions of the structure and, for liquid termiticide applications, the depth to footer on all exterior walls.

If you are utilizing bait or monitoring devices in and around structures for the monitoring or control of termites, records must be done on the date of the installation and subsequent monitoring of those stations. The following items are required:

1. Name of responsible commercial applicator and names or trained servicepersons applying pesticides.

2. Name & address of person contracting for service.

3. Date of application.

4. Trade name (brand name) and EPA registration number of pesticides used.

5. Total number of bait or monitoring devices installed or monitored.

6. Status of termite activity in each bait or monitoring device.

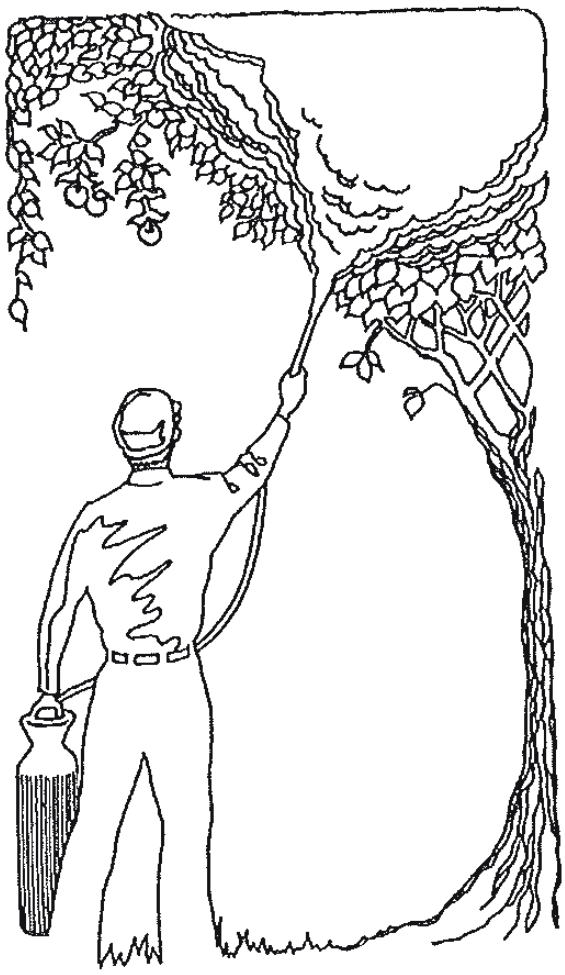
Off-site Movement

Another common violation, especially for outdoor applications, involves the off-site movement of pesticides. This movement could be due to--

- Drift - pesticide moved by wind during application
- Volatility - after application, pesticide changes to gaseous state and then moved by wind
- Runoff - rainfall moves pesticide off surface after application

By taking the proper precautions, all of the above can usually be avoided. The Ohio Pesticide Law contains regulations which address off-site movement--

> Regulation 901:5-11-02
>
> General Safety Provisions
>
> (B)(8) No person shall apply pesticide to an area or a crop in such a manner or at such a time that adjacent crops, pasture land, water or other areas will be damaged or contaminated.



Pesticide applications can cause problems. These are sometimes due to illegal or faulty applications. But sometimes problems occur even after all reasonable precautions have been taken and a completely legal application has been made. The following are some common problems that occur due to pesticide applications:

- A pet becomes ill and is taken to a veterinarian.
- The neighbor's garden is damaged by pesticide drift.
- A customer claims that the pesticide smell is making her sick.
- The horse pasture next door is contaminated and cannot be used for grazing.
- A person has an asthma attack due to the pesticide and goes to the hospital.
- Pesticide runs off the site of application into a pond and kills fish.
- Children break out in a rash the day after your application and are taken to a doctor.

It is the certified applicator's job to respond to the complaints. However, the trained serviceperson must tell the certified applicator when made aware of these kinds of situations.

In addition, the certified applicator must inform the Ohio Department of Agriculture when certain types of problems occur. The Ohio Pesticide Law contains two regulations concerning problem reporting--

Regulation 901:5-11-02

General Safety Provisions

(D)(4) Pesticide applicators shall report to the department of agriculture:

(a) By telephone, within forty-eight hours after learning of any human illness requiring medical attention resulting from or allegedly resulting from a pesticide used by the pesticide applicator or a trained serviceperson, immediate family member or subordinate employee working under the pesticide applicator's direct supervision. Such telephone notification shall be followed by a written report within seven calendar days.

(b) By written report within ten calendar days after learning of any property damage in excess of five hundred dollars ($500.00) resulting from or allegedly resulting from a pesticide used by the pesticide applicator or a trained serviceperson, immediate family member or subordinate employee working under the pesticide applicator's direct supervision.

Pesticide problems happen sometimes because the application equipment is improperly maintained or operated. Oftentimes, the trained serviceperson is the only person who uses a certain piece of equipment and therefore, knows the conditions of the equipment better than any other person there.

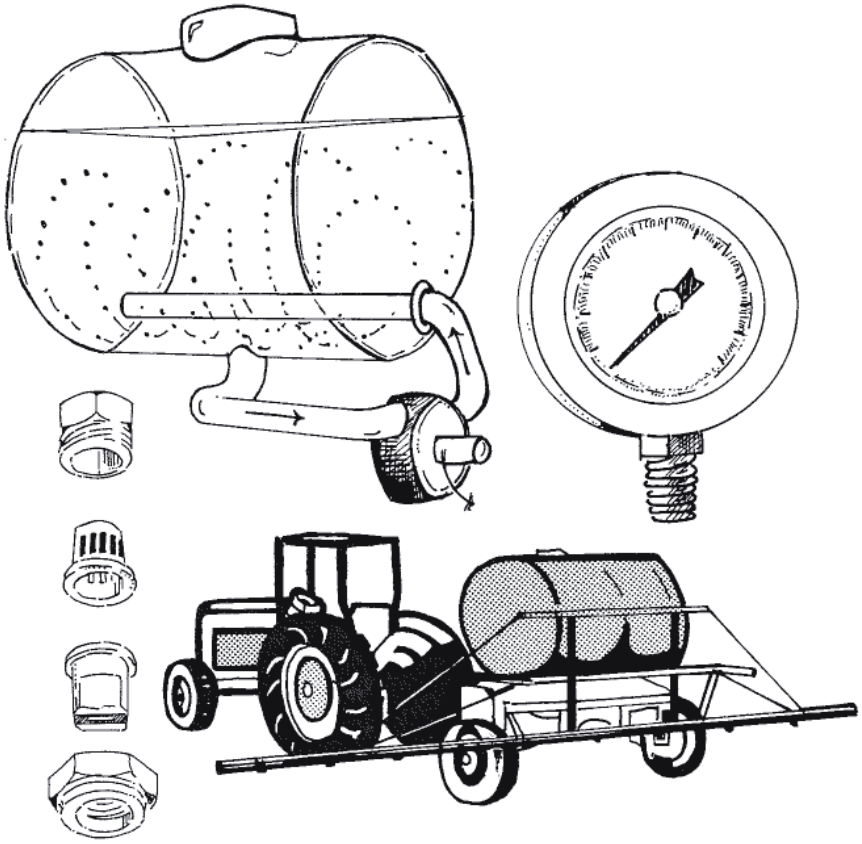
It is the responsibility of the trained serviceperson, as well as the certified applicator, to recognize problems with the pesticide handling equipment that might lead to an unsafe application. Further, while out on the job, it is the trained serviceperson's responsibility to use the equipment in the proper manner.

The Ohio Pesticide Law contains the following regulation pertaining to the safe use of equipment--

Regulation 901:5-11-02

General Safety Provisions

(B)(6) No person shall operate equipment for the application of pesticides, including such auxiliary equipment as hoses and metering devices in such conditions or in such a manner as to result in leakage, spillage, dripping, backflow, vapors or drift.



Direct Supervision

Direct supervision of trained servicepersons is a requirement of the Ohio Pesticide Law. The regulations require certified applicators to provide basic training to servicepersons before their first occupational exposure to pesticides. The required content, or criteria, of this training is listed in the introduction for this manual. In addition, the law and regulations require servicepersons to receive training in the proper use of the equipment and all pesticides with which they are to work.

It is expected that some of the latter training will be given on-the-job. Instruction in the use of various equipment may be given when servicepersons are at the pesticide use sites. Certain aspects of the pesticides in use may be better explained at use sites.

The pesticide labels will also provide additional instruction. It is required that trained servicepersons have written directions or immediate access to the label for each pesticide to be handled at the pesticide use site. Servicepersons who are lawn care applicators, pest control operators, commercial agricultural applicators, etc. or those who work away from headquarters on a route or in similar situations, **must have the labels in their vehicle for any pesticides which they are carrying.**

In addition to instruction, under direct supervision, a responsible certified applicator must be available when the trained serviceperson is handling pesticides. Although the certified applicator does not have to be at the site, he or she must be--

(1) within close geographic proximity to the work site which under normal circumstances shall not exceed twenty-five miles; or

(2) available within a short period of time, which under ordinary circumstances shall not exceed two hours.

If either of these conditions cannot be met, the trained serviceperson must become a certified applicator.

Suggested Review and Discussion

1. Does your employer have a copy of the Ohio Pesticide Law and the Regulations pursuant to the law that you can read?

2. Who are the certified applicators at your employer?

3. Who directly supervises you?

Review Questions

1. What kinds of information can be found on a pesticide label?

2. How can pesticides harm you?

3. How can you prevent pesticide exposure?

4. What is personal protective equipment and when, why and how must you use it?

5. What should you do if pesticide comes in contact with your body?

6. How do you clean up a pesticide spill?

7. What environment problems might occur from careless pesticide applications?

8. What human or animal health problems might occur due to careless pesticide applications?

9. What laws govern the use of pesticides?

Notes