

Pesticide

info

WHAT YOU SHOULD KNOW ABOUT PESTICIDES



California Department of Pesticide Regulation

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www.cdpr.ca.gov

BRANCHES

Enforcement
916-324-4100

Northern Regional Office
916-376-8960

Central Regional Office
559-297-3511

Southern Regional Office
714-279-7690

Environmental Monitoring
916-324-4039

Fiscal Operations
916-324-1350

Human Health Assessment
916-445-4233

Information Technology
916-445-2992

Personnel
916-322-4553

**Pest Management
and Licensing**
916-445-3914

**Licensing and Certification
Office**
916-445-4038

Pesticide Registration
916-445-4400

Worker Health and Safety
916-445-4222

Read the label first!

The most valuable time spent in pest control is the time you take to read the pesticide label. Labels tell you:

- How to *use* a product so it works like it should and doesn't hurt you, anyone else, or the environment.
- How to *store* the product safely.
- How to give first aid.
- Where to call for help or more information.

Label information helps you get maximum benefits from the pesticide at minimum risk. Reading the label saves money! It helps you buy the right product, buy the right amount for your needs, and use the right amount for the job.

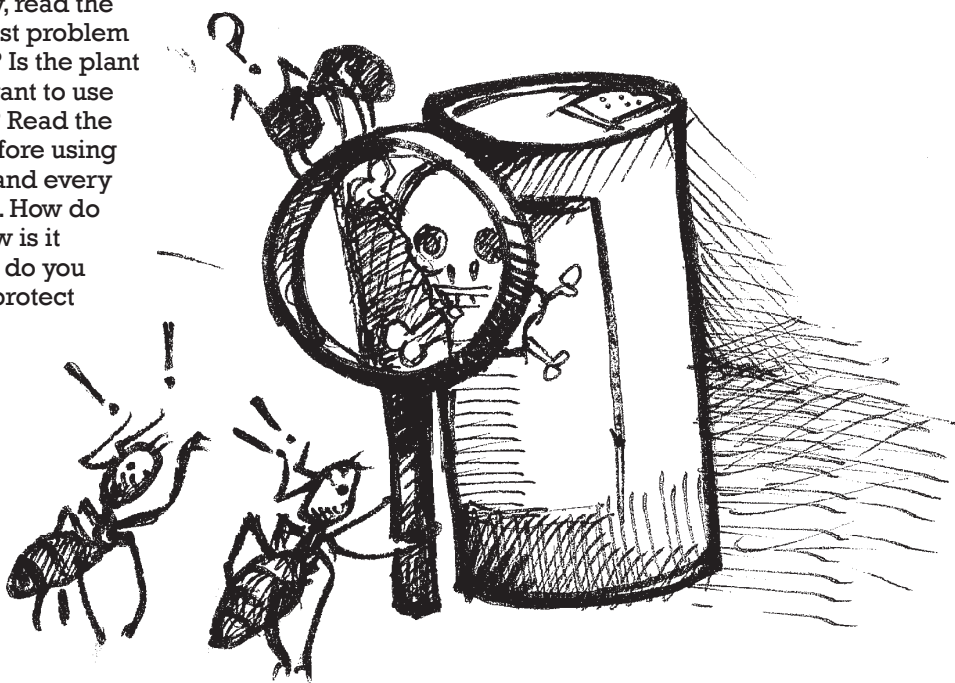
Before you buy, read the label. Is the pest problem you have on it? Is the plant or place you want to use it on the label? Read the label again before using the pesticide, and every time you use it. How do you mix it? How is it applied? What do you need to do to protect yourself and others?

Take time to look at the whole label. Don't trust your memory. Label

instructions can change. Using pesticides contrary to the label is illegal, may make the product ineffective and, even worse, dangerous. A pesticide product label includes:

Common name and brand name

Some pesticides have "**common names**" that are easier to recognize than chemical names. For instance, carbaryl is the common name for the compound whose chemical name is 1-naphthyl N-methylcarbamate. Common names are generic and non-proprietary. Several companies may sell products with the same active ingredient using different "**brand names**"; the labels will have the same chemical or common name.





LABELS TELL YOU:

How to use a product safely and effectively.

How to store the product safely.

First aid instructions.

Phone numbers to call for help or more information.



Single copies of this
handout are available
by calling your
County Agricultural
Commissioner's office,
from DPR at
916-445-3974,
or can be downloaded
from DPR's Web site,
www.cdpr.ca.gov,
"Consumer Fact Sheets."

Ingredients

The "**active ingredient**" is the part of the product that kills or inhibits the target pest. The label must list the active ingredient (either the chemical or common name) and give the percentage by weight. "**Inert ingredients**," also called "**other ingredients**," are intentionally included in the product but not for their effect on the pest. They include solvents, emulsifiers, wetting agents and diluting substances. They are not necessarily chemically inert, and may have toxic properties. Inert ingredients do not need to be specified but their percentage must be listed.

EPA registration number

This number tells you that U.S. EPA has reviewed the product and found it can be used without risk if you follow the directions on the label properly. Don't buy or use any pesticide product that doesn't have an EPA registration number.

Signal words

Labels use three signal words, **Danger**, **Warning**, or **Caution**, to show a product's potential for making you sick if it isn't used correctly.

"**Caution**" appears on products that are least harmful to you.

"**Warning**" means a product is more harmful than one with a "Caution" label.

"**Danger**" means a product is poisonous or corrosive and should be used with extreme care.

Whatever the signal word, always follow the label instructions. Any substance—whether a pesticide, household cleaner, or over-the-counter medication—can be dangerous if not used correctly.

Precautionary statements

Besides the signal word, pay close attention to any warnings in the "**Precautionary statements**."

This section tells you about special precautions you should take. For example, you may need to wear long sleeves and pants, gloves, goggles, or other protective clothing and equipment. This is where you also find any extra protections needed for children or pets.

Pesticides can be useful but wrong or careless use can cause environmental damage. The label lists several ways to protect the environment. Follow these instructions to avoid harming beneficial insects (for example, bees), damaging nearby desirable plants, or polluting

ground or surface water (with irrigation runoff or drift from treated areas).

First aid

If swallowing or inhaling the product or getting it in your eyes or on your skin could be harmful, the label will give you first aid instructions. The instructions are not a substitute for medical advice or treatment. **ALWAYS** call a doctor or a Poison Control Center (1-800-222-1222) for advice if you think pesticides made someone sick. When you call, try to have the pesticide container with you.

Most labels do say what the symptoms of pesticide illness are. To get this information, call the National Pesticide Information Center (1-800-858-7378) or your regional Poison Control Center (1-800-222-1222).

Directions for use

This section tells you how to use the pesticide. You should make sure the pest you are trying to control is listed. This is your assurance that you are not wasting time and money on something that won't work. This section also tells you how much to use, and where, how and when you should apply the product. Always read and follow label directions. Be sure the pesticide is the right one for your pest problem—then use only the amount needed and no more.

Storage and disposal

Look here to find out how to store and dispose of leftover pesticide and empty containers safely. State or local laws may be stricter than federal requirements on the label. If you can't finish using a pesticide, check with your local solid waste management authority, environmental health department or county agricultural commissioner to find out if your community has a household hazardous waste collection program. You can also call 1-800-CLEANUP or go to www.cleanup.org for this information. Get the county agricultural commissioner's phone number in your local white pages under county government headings, or by calling 1-877-378-5463 (1-87PestLine). You can also get the commissioner's number on DPR's Web site, www.cdpr.ca.gov, and find more tips and information on safe pesticide use.

Pesticide Complaint?

1-87PestLine
INFORMATION LINE

1-877-378-5463



Protect Your Health Read the Label

Top three pesticide safety tips:

- 1) Read the entire label
- 2) Only apply where the label says it should be applied
- 3) Keep all pesticides in their original containers

MOSQUITO REPELLENT



KEEP OUT OF REACH OF CHILDREN

WARNING: Read cautions on back.

Active Ingredient:

DEET.....7.0%
Other Ingredients.....93.0%

NET 7.5 FL OZ (222 mL)

SIGNAL WORDS



How toxic is the product?

Caution = mildly toxic

Warning = moderately toxic

Danger = highly toxic

ACTIVE INGREDIENTS



What is in the product?

STORAGE & DISPOSAL



How does this product have to be stored? What should I do with the leftovers I don't need?

EPA REGISTRATION NUMBER



What is the unique product number showing that the EPA has approved it?

npic
NATIONAL
PESTICIDE
INFORMATION
CENTER

1.800.858.7378

For general questions about pesticides, including the potential risk to humans, pets, or the environment, call NPIC at 1-800-858-7378.

Repels Mosquitoes, Ticks,
Biting Flies, Gnats, No-see-ums, Chiggers & Fleas

STOP: Read and Follow all directions and precautions on this product label.

DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

NOTICE: To the extent consistent with applicable law, buyer assumes all responsibility for safety and use not in accordance with directions.

STORAGE AND DISPOSAL

Storage: Store in a cool, dry place, out of reach of children.

Container Disposal: If empty:

If partly filled:

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals.

First Aid. If in Eyes:

If Swallowed: Call a Poison Control Center or doctor immediately for treatment advice. Do not induce vomiting unless told to do so by a Poison Control Center or doctor.

IF YOU SUSPECT A REACTION TO THIS PRODUCT: Discontinue use. Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a Poison Control Center or doctor for treatment advice.

QUESTIONS: For non-emergency information concerning this product, call the National Pesticide Information Center (NPIC) at 1-800-858-7378. For emergencies, call the Poison Control Center 1-800-222-1222. Have the product container or label with you when calling a Poison Control Center or doctor, or going for treatment.

EPA Reg. No. XXX-XX-XX

DIRECTIONS FOR USE



How and where should I use the product? How much is okay?

Not following the product's instructions is not only dangerous, but it is illegal!

PRECAUTIONARY STATEMENTS



How can the product be used safely?

FIRST AID



What should I do if it gets in my eyes, mouth, lungs, or on my skin?

**POISON
Help**
1-800-222-1222

If someone breathes in, swallows, or gets pesticide in the eyes or on the skin, call a poison control center 24/7 at 1-800-222-1222.

SIGNAL WORDS

TOPIC FACT SHEET

NPIC fact sheets are designed to answer questions that are commonly asked by the general public about pesticides that are regulated by the U.S. Environmental Protection Agency (US EPA). This document is intended to be educational in nature and helpful to consumers for making decisions about pesticide use.

What are Signal Words?

Signal words are found on pesticide product labels, and they describe the acute (short-term) toxicity of the formulated pesticide product. The signal word can be either: DANGER, WARNING or CAUTION. Products with the DANGER signal word are the most toxic. Products with the signal word CAUTION are lower in toxicity.¹ The U.S. Environmental Protection Agency (EPA) requires a signal word on most pesticide product labels. They also require it to be printed on the front panel, in all capital letters, to make it easy for users to find. The only pesticide products that are not required to display a signal word are those that fall into the lowest toxicity category by all routes of exposure (oral, dermal, inhalation, and other effects like eye and skin irritation).^{2,3} See the table below titled "Toxicity Category."

CAUTION means the pesticide product is slightly toxic if eaten, absorbed through the skin, inhaled, or it causes slight eye or skin irritation.^{2,4}

WARNING indicates the pesticide product is moderately toxic if eaten, absorbed through the skin, inhaled, or it causes moderate eye or skin irritation.^{2,4}

DANGER means that the pesticide product is highly toxic by at least one route of exposure. It may be corrosive, causing irreversible damage to the skin or eyes. Alternatively, it may be highly toxic if eaten, absorbed through the skin, or inhaled. If this is the case, then the word "POISON" must also be included in red letters on the front panel of the product label.^{2,4}



TOXICITY CATEGORY (Signal Word)³

	High Toxicity (DANGER/Danger-Poison) Category I	Moderate Toxicity (WARNING) Category II	Low Toxicity (CAUTION) Category III	Very Low Toxicity (Optional Signal Word = CAUTION) Category IV
Acute Oral LD ₅₀	Up to and including 50 mg/kg (≤ 50 mg/kg)	Greater than 50 through 500 mg/kg (> 50 – 500 mg/kg)	Greater than 500 through 5000 mg/kg (> 500 – 5000 mg/kg)	Greater than 5000 mg/kg (> 5000 mg/kg)
Inhalation LC ₅₀	Up to and including 0.05 mg/L (≤ 0.05 mg/L)	Greater than 0.05 through 0.5 mg/L (> 0.05 – 0.5 mg/L)	Greater than 0.5 through 2.0 mg/L (> 0.5 – 2.0 mg/L)	Greater than 2.0 mg/L (> 2.0 mg/L)
Dermal LD ₅₀	Up to and including 200 mg/kg (≤ 200 mg/kg)	Greater than 200 through 2000 mg/kg (> 200 – 2000 mg/kg)	Greater than 2000 through 5000 mg/kg (> 2000 – 5000 mg/kg)	Greater than 5000 mg/kg (> 5000 mg/kg)
Primary Eye Irritation	Corrosive (irreversible destruction of ocular tissue) or corneal involvement or irritation persisting for more than 21 days	Corneal involvement or other eye irritation clearing in 8 – 21 days	Corneal involvement or other eye irritation clearing in 7 days or less	Minimal effects clearing in less than 24 hours
Primary Skin Irritation	Corrosive (tissue destruction into the dermis and/or scarring)	Severe irritation at 72 hours (severe erythema or edema)	Moderate irritation at 72 hours (moderate erythema)	Mild or slight irritation at 72 hours (no irritation or erythema)

SIGNAL WORDS

TOPIC FACT SHEET

How are Signal Words Chosen?

Before the EPA can determine the appropriate signal word for a pesticide product, the manufacturer performs research on laboratory animals to determine the toxicity of the formulation. Required studies include oral exposure (eating the product), inhalation exposure (breathing in the product), dermal exposure (spreading the product on the skin) and exposures to the skin and eyes to check for irritation. The study that shows the highest toxicity is used to determine the signal word.³ For example, if a product demonstrated low toxicity when eaten, moderate toxicity when inhaled, and high toxicity when applied to skin, the EPA would assign the signal word DANGER, based on the most sensitive route of entry. In this example it was the skin.¹

See the text box on **LD₅₀/LC₅₀** for more details about the required toxicity tests.

How are Signal Words Useful?

Signal words help alert users to special hazards of a pesticide product. The signal word can be used by shoppers to select the least toxic product(s) of those that are sufficiently effective.⁴

Regardless of the signal word on the pesticide product, it is important to remember that every product still has the potential to poison (i.e., is harmful at high doses). Special care should be taken to carefully follow all of the directions on the label, each time a pesticide product is used.

LD₅₀/LC₅₀: A common measure of acute toxicity is the lethal dose (LD₅₀) or lethal concentration (LC₅₀) that causes death (resulting from a single or limited exposure) in 50 percent of the treated animals. LD₅₀ is generally expressed as the dose in milligrams (mg) of chemical per kilogram (kg) of body weight. LC₅₀ is often expressed as mg of chemical per volume (e.g., liter (L)) of medium (i.e., air or water) the organism is exposed to. Chemicals are considered highly toxic when the LD₅₀/LC₅₀ is small and practically non-toxic when the value is large. However, the LD₅₀/LC₅₀ does not reflect any effects from long-term exposure (i.e., cancer, birth defects or reproductive toxicity) that may occur at levels below those that cause death.

Date Reviewed: July 2008

References:

1. Whitford, F. *The Complete Book of Pesticide Management: Science, Regulation, Stewardship, and Communication*; Wiley & Sons: New York, 2002; pp 450-452.
2. *National Pesticide Applicator Certification Core Manual*; Randall, C., Hock, W., Crow, E., Hudak-Wise, C., Kasai, J., Eds.; National Association of State Departments of Agriculture Research Foundation: Washington, DC, 2006.
3. *Label Review Manual*; U.S. Environmental Protection Agency, Office of Prevention, Pesticides, and Toxic Substances, Office of Pesticide Programs, U. S. Government Printing Office: Washington, DC, 2007. <http://www.epa.gov/oppfead1/labeling/lrm/chap-07.pdf> (accessed June 2008), updated Aug 2007.
4. Labeling Requirements for Pesticides and Devices. *Code of Federal Regulations*, Part 156.64, Title 40, 2007.