Understanding Pesticide Labels

Every pesticide is labeled with instructions on how to properly use the product. A label is the written, printed, or graphic matter on, or attached to the pesticide container. Labels mean different things depending on your point of view. To the buyer or user, the label is a source of facts on how to use the product correctly and legally. To the manufacturer it is a license to sell. To the state or federal government, it is a way to control the distribution, storage, sale, use, and disposal of the product. To physicians, the pesticide label is a source of information on proper treatment for poisoning cases.

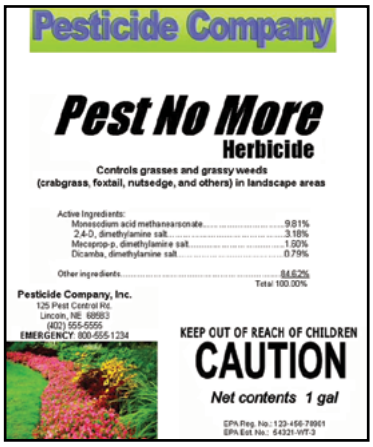

Image by PSEP, University of Nebraska-Lincoln

Read the label carefully to be sure that it is intended for use on the type of plant you wish to protect or to control the type of pest you've identified. There are many types of pesticides used to control pests: insecticides (insects), herbicides (weeds), fungicides (fungi), rodenticides (mice and rats), algaecides (algae), bactericides (bacteria), and others.

Every pesticide has a **brand, trade, or product name**, which is displayed plainly on the front of the label. Different manufacturers use different brand names for products containing the same active ingredient. Most companies will register brand names as a trademark that restricts other companies from using that name.

Every pesticide label must include the product's **active** and **inert ingredients** with the percentage of each by weight. Only the active ingredient(s) must be listed out by name (chemical or common name). Inert ingredients (often listed as "Other Ingredients") don't have to be listed out by name.

On the front panel of the pesticide label is a statement indicating the **type of pesticide** and general terms of what the product will control. The front label also includes the **net contents**. This can be expressed in weight (pounds or ounces; kilograms or grams) for dry formulations, or in volume (gallons, quarts, or pints; liters or milliliters) for liquids. Pesticides are available in a variety of formulations and each is used for a specific purpose. For example, a dust (shaken on plant) is different than a wettable powder (mixed in water and sprayed on plant).

Signal Words

The words and symbols used on the label are important clues in recognizing how potentially dangerous the product is to humans.

- **DANGER** signals that pesticide is highly toxic through ingestion, skin absorption, or by breathing it in. This product will also cause severe eye damage and skin burning. A few drops to a teaspoonful taken by mouth could be lethal. This signal word is often accompanied with the word "POISON" (printed in red) and the skull-and-crossbones symbol.
- **WARNING** signals that the pesticide is moderately toxic through ingestion, skin absorption, or through breathing it in. As little as a teaspoonful to a tablespoonful by mouth could be lethal.
- **CAUTION** signals that the product is slightly toxic through ingestion, skin absorption, or by breathing it in. This product also will cause slight eye and skin irritation. An ounce to more than a pint taken by mouth could be lethal.
- Some new pesticide labels issued by the Environmental Protection Agency (EPA) are not required to have a signal word.

Precautionary Statements

These statements are included on each pesticide label to help users decide the proper steps to take to protect themselves, other people, or domestic animals that could be exposed. Examples include:

- "Keep out of reach of children"
- "Hazards to humans and domestic animals"
- "Harmful if swallowed"
- "Avoid contact with skin"
- "Do not breathe vapors or spray mist"
- "Remove contaminated clothing and wash before re-use"

Other Statements

- **Route of Entry Statements** immediately follow the signal word and indicate the places that must be particularly protected – mouth, skin, lungs, or eyes. Many pesticide products are hazardous by more than one route.
- **Personal Protective Equipment Statements** may be listed on many pesticide labels and should be followed strictly.

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Long-sleeved shirts, long pants, socks, and shoes should be worn when applying all pesticides, even if the label doesn't contain a protective clothing statement. Other labels may specify goggles, chemically resistant gloves, or respirator, as examples.

- **Statements of Practical Treatment** gives the recommended first aid treatment in case of accidental poisoning. Read this information before using the product and again in the event of an emergency. Know the possible first aid procedures before using each pesticide. Examples include "move individual to fresh air" and "seek medical attention." The pesticide container with its original label should be taken with anyone who is seen by an emergency health care provider. Direct emergency information should be obtained by calling **1-800-222-1222** or **911**.

FIRST AID +	
Neonicotinyl Insecticide	
IF SWALLOWED	• Call a poison control center or doctor immediately for treatment advice • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to do so by the poison control center or doctor. • Do not give anything by mouth to an unconscious person.
IF INHALED	• Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration. • Call a poison control center or doctor for further treatment advice.
IF ON SKIN OR CLOTHING	• Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15 to 20 minutes. • Call a poison control center or doctor for treatment advice.
IF IN EYES	• Hold eye open and rinse slowly and gently with water for 15 to 20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
NOTE: Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may contact 877-229-3763 for emergency medical treatment information. Active Ingredients: 0.74% Imidacloprid [CAS # 138261-41-3] and 0.37% Clothianidin [CAS # 210880-92-5]	

Image by Mark Shour

- **Environmental Hazards Statements** warn of potential hazards to the environment, including soil, water, air, wildlife, fish, and nontarget plants. Examples of special warning statements are "This product is highly toxic to bees," "Do not contaminate water when disposing of equipment wash waters," and "Do not allow drift to contact nontarget plants."

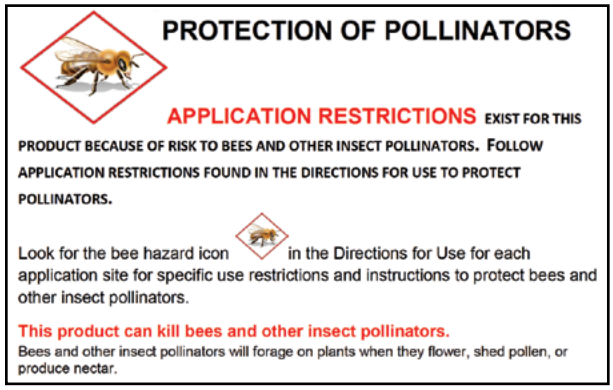

Image by University of California ANR

- **Physical or Chemical Hazards Statements** tell of any possible fire, chemical, or explosion hazards that the product may pose.

- **Storage and Disposal Instructions** for the pesticide and its container are usually included last on a pesticide label.

DIRECTIONS FOR STORAGE AND DISPOSAL	
STORAGE CONDITIONS	Store in original container in a cool, dry place, out of the reach of children, preferably a locked storage cabinet. Protect from freezing.
DISPOSAL	**If Empty:** • Non-refillable container. Do not refill or reuse container • Rinse the empty product container thoroughly and disperse the rinse water around tree or shrub as part of application. • Place empty container in trash or offer for recycling if available. **If Partly Filled:** • Call your local solid waste agency or toll free 1-877-229-3724 for disposal instructions. • Never place unused product down any indoor or outdoor drain.

Image by Mark Shour

- **Re-entry Statements** tell how much time must pass before people can re-enter a treated area without appropriate personal protective equipment. The re-entry interval (REI) is given in the product's "Agricultural Use Requirements" section. If no re-entry statement appears on the label, then sprays must be dry or dusts must have settled before re-entering the treated area.

Directions for Use instructs the applicator on how to properly use the product. This section of the pesticide label gives information about the pests it claims to control, the sites the product is intended to protect (e.g., aquatic areas, crop sites, non-crop sites, wildlife habitat areas, greenhouses, etc.), the proper equipment to be used, how much to use, mixing directions, compatibility with other often-used products, as well as where and when the material should be applied.

Another key piece of information in this section is the **pre-harvest interval (PHI)**, which is the least number of days that must pass between the last pesticide application and harvest of crops. This interval is set by the EPA to allow time for the pesticide to break down in the environment, thus preventing illegal residues on food, feed, or animal products and possible poisoning of grazing animals.

The Label is the Law

Understand what you are reading. Ask questions if the label isn't clear to you. As a buyer, you assume legal responsibility for the consequences if the product is used in any manner different from the label directions. It is illegal to use a pesticide on a crop or in a higher concentration unless it is specifically listed on the label.

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