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Understanding the Pesticide Label

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This NebGuide describes the parts of a pesticide label to aid understanding and promote safe and effective use of pesticide products.

The pesticide label is more than just a piece of paper, it is a legal document recognized by courts of law. Pesticide applicators assume certain responsibilities when they purchase and use a product. (For more information see NebGuide G479, *Pesticide Laws and Regulations*).

The format of labels differs between manufacturers, as well as between consumer and commercial product labels. The U.S. Environmental Protection Agency’s (EPA) *Consumer Labeling Initiative* (CLI) details the main differences between consumer and commercial product labels. (See more on CLI at <http://www.epa.gov/pesticides/regulating/labels/consumer-labeling.htm>.)

Pesticide products are further differentiated based on type and registration, and have different label types. There are many different types of pesticides but some examples include herbicides, insecticides, fungicides, termiticides and rodenticides. All pesticide products must be registered with the EPA. The four main pesticide registrations are:

- **Section 3** — product has standard registration;
- **Section 25(b)**— minimal risk, product has been exempted from registration;
- **Section 24(c)** — pesticide has been registered based on a special local need; and
- **Section 18** — product has been given an emergency exemption.

Pesticide manufacturers are required by law to provide certain information on the label. The information includes:

- brand name or trade name of the product;
- ingredient statement;
- percentage or amount of active ingredient(s) by weight;
- net contents of the container; and
- name and address of the manufacturer.

Other required parts of the label are:

- the registration and establishment numbers;
- statement of practical treatment;
- environmental hazard statement;
- classification statement;
- directions for use;
- re-entry statement, if necessary;
- harvesting and/or grazing restrictions; and
- storage and disposal statements.

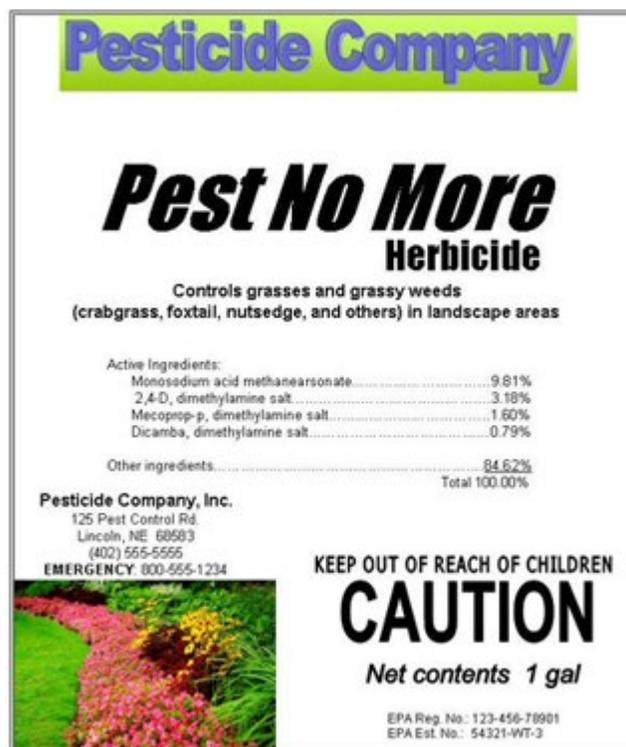


Figure 1. An example of pesticide label.

Brand, Trade, or Product Name

Brand, trade, or product name is used to identify and market the product (e.g., Pest No More in *Figure 1*). Different companies use different brand names to market products even when the same active ingredient is used.

Ingredient Statement

Every pesticide label must include the product's active and inert ingredients with the percentage of each by weight. Only the active ingredients must be listed out by name (chemical and/or common name). Inert ingredients, also referred to as "other ingredients" on consumer pesticide labels, don't have to be listed out by name but must show the percentage by weight. *Net contents* are listed on the front of the product and indicate the total amount of product in the container (fluid ounces, pints, quarts, ounces, pounds, etc.).

Use Classification Statement

Each pesticide is categorized as either a General Use Pesticide (GUP) or a Restricted Use Pesticide (RUP). In general, GUPs are less toxic than RUPs. Thus, to purchase, apply, or supervise the use of RUPs, the applicator must be trained and certified (*Figure 2*).

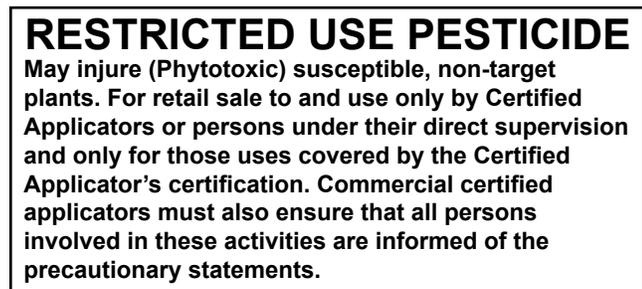


Figure 2. An example of a Restricted Use Pesticide statement.

Type of Pesticide

Most labels state the type of pesticide on the front. For example, the label may say *Herbicide*, indicating it controls weeds or *Insecticide*, indicating it will control insects.

Manufacturer

The name and address of the manufacturer, formulator, or registrant (e.g., Pesticide Company, Inc. in *Figure 1*) of the product is required to be on the label. If the registrant is not the manufacturer, then contact information will be preceded by statements like "packed for," "distributed by," or "sold by."

Emergency Telephone Number

Often the label will show a telephone number to use in case of emergencies (poisoning, spill, fire, etc.). This is especially common on consumer labels.

Registration and Establishment Numbers

The *Registration Number* (EPA Reg. No.) is proof that the product and the label was approved by the EPA. The *Establishment Number* (EPA Est. No.) identifies the specific facility that manufactured the product. This allows an individual product to be traced back to the manufacturing facility.

Signal Words

Pesticide labels must include a signal word prominently displayed on the front unless they have a Class IV toxicity level. Signal words identify the relative toxicity of a particular product. The signal words, in order of increasing toxicity, are Caution, Warning, Danger, and Danger-Poison. (*Table I*).

Table I. Signal words that may appear on the label.

Signal Word	Category	Toxicity*
Danger or Danger-Poison	Class I — highly toxic	Corrosive or irritant properties, a few drops to 1 teaspoon
Warning	Class II — moderately toxic	1 teaspoon to 1 ounce
Caution	Class III — slightly toxic	1 ounce to 1 pint/ 1 pound
Caution or none	Class IV — very slight hazard	Over 1 pint or 1 pound

*The lethal dose is less than those listed for a child or person under 150 lbs. and more for a person over 150 lbs.

Precautionary Statements

These statements guide the applicator to take proper precautions to protect humans or animals that could be exposed. Sometimes these statements are listed under the heading *Hazards to Humans and Domestic Animals*. Every pesticide label must include the statement: "Keep Out of Reach of Children." Some example *Precautionary Statements* include: "Harmful if inhaled," and "Remove contaminated clothing and wash before reuse."

Often the *Route of Entry* and *Personal Protective Equipment (PPE) Statements* are located under the *Precautionary Statement* on a label. The *Route of Entry Statement* identifies the way(s) in which a particular pesticide may enter the body and gives specific actions to prevent exposure. The main routes of exposure are dermal (skin and eyes), oral, and respiratory.

The *Personal Protective Equipment Statement* outlines the equipment requirements that protect the applicator from exposure to the pesticide (see NebGuide G758, *Protective Clothing and Equipment for Applicators*). Nebraska Extension recommends applicators wear at a minimum long-sleeved shirt, long pants, chemical-resistant shoes plus socks, and chemical-resistant gloves in order to be adequately protected, other necessary protective clothing and equipment will be provided on the label.

Statement of Practical Treatment

Also called *First Aid* on many consumer labels, the *Statement of Practical Treatment* tells what to do in case of exposure to the product. This information should be read before using the product, again in the event of an emergency, and be available for all emergencies in order to reference specific information. Statements like “move individual to fresh air” and “seek medical attention” are two examples of information found in the *Statement of Practical Treatment* section.

Environmental Hazard Statement

Environmental Hazard Statement details possible hazards to the environment including soil, water, air, wildlife, fish, and nontarget plants. There may be special warning statements like “this product is highly toxic to bees,” “do not contaminate water when disposing of equipment washwaters,” and “do not allow drift to contact nontarget plants or trees.”

Physical or Chemical Hazards

The *Physical or Chemical Hazards* section of the label describes any possible fire, chemical, or explosion hazards specific to the product. For example, “spray solutions of this product should be mixed, stored, and applied, using only stainless steel, aluminum, fiberglass, plastic, or plastic-lined steel containers” and “this gas mixture could flash or explode causing serious personal injury if ignited by open flame, spark, welder’s torch, lighted cigarette, or other ignition source” are both statements that can be found under this section of the label.

Agricultural Use Requirements

Information about use in agricultural settings (*Figure 3*) will only be on pesticide labels where the *Worker Protection Standard* (WPS) must be followed. The WPS includes specific safety measures for agriculture workers and handlers of agricultural pesticides.

Agricultural Use Requirements

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE), and restricted entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 4 hours.

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

- Coveralls
- Chemical resistant gloves made of any waterproof material
- Shoes plus socks

Figure 3. An example of an *Agricultural Use* label section.

The *Re-entry Statement* or *Restricted Entry Interval* (REI) is often contained in the information pertaining to WPS. The REI indicates how much time must pass after the application before workers are allowed back in to the treated area with no personal protective equipment (PPE). (See NebGuide G1219, *Worker Protection Standard for Agricultural Pesticides*.)

Some pesticide applications fall under *Non-agricultural Use Requirements* (lawns, golf courses, aquatic areas, rights-of-way, etc.) and no specific re-entry time is indicated. Often the label on these products advises people and pets to not enter the area until the application has dried or dust has settled.

Storage and Disposal Statement

Each pesticide label has general storage and disposal instructions. Keep pesticides stored in a secure location, away from food and feed supplies, and in the original containers. When disposing of pesticide containers, **triple- or pressure-rinse and puncture containers to avoid re-use**. State and local laws may include additional requirements, especially for proper pesticide disposal procedures (see Extension Circular EC2507, *Safe Transport, Storage, and Disposal of Pesticides*). Two very common statements found on the label under this section are: “do not contaminate water, food, or feed by storage or disposal,” and “store in original containers only.”

Directions for Use

Directions For Use instruct the applicator how to properly apply the pesticide and achieve the best results. This section provides information such as the rate of application, the sites the product is intended to protect (e.g., aquatic, non-crop sites, wildlife habitat areas, crop sites, greenhouses, etc.), which pests it controls, mixing directions, and other specific directions related to applying the pesticide.

In cases where the product is intended for use on crops or vegetables, the *Pre-harvest Interval* (PHI) will be listed, which indicates how much time must pass between the application and harvest to avoid pesticide residues so that the crop will not exceed the maximum tolerance level for pesticide residues. The consequences of not following the PHI can vary, but toxicity to livestock or inability to sell harvested grain are two possible results. On some labels, the *Re-entry Statement* may also be listed under this section.

A product with the potential to harm pollinators will have restrictions to the application, indicated by a *Bee Hazard Icon* (Bee Box) on the label (*Figure 4*) in the directions for use section.

PROTECTION OF POLLINATORS

**APPLICATION RESTRICTIONS** EXIST FOR THIS PRODUCT BECAUSE OF RISK TO BEES AND OTHER INSECT POLLINATORS. FOLLOW APPLICATION RESTRICTIONS FOUND IN THE DIRECTIONS FOR USE TO PROTECT POLLINATORS.

Look for the bee hazard icon  in the Directions for Use for each application site for specific use restrictions and instructions to protect bees and other insect pollinators.

This product can kill bees and other insect pollinators.

Bees and other insect pollinators will forage on plants when they flower, shed pollen, or produce nectar.

Bees and other insect pollinators can be exposed to this pesticide from:

- o Direct contact during foliar applications, or contact with residues on plant surfaces after foliar applications
- o Ingestion of residues in nectar and pollen when the pesticide is applied as a seed treatment, soil, tree injection, as well as foliar applications.

When Using This Product Take Steps To:

- o Minimize exposure of this product to bees and other insect pollinators when they are foraging on pollinator attractive plants around the application site.
- o Minimize drift of this product on to beehives or to off-site pollinator attractive habitat. Drift of this product onto beehives or off-site to pollinator attractive habitat can result in bee kills.

Information on protecting bees and other insect pollinators may be found at the Pesticide Environmental Stewardship website at <http://pesticidestewardship.org/PollinatorProtection/Pages/default.aspx>.

Pesticide incidents (for example, bee kills) should immediately be reported to the state/tribal lead agency. For contact information for your state, go to www.aapco.org/officials.html. Pesticide incidents should also be reported to the National Pesticide Information Center at www.npic.orst.edu or directly to EPA at beekill@epa.gov

Figure 4. Explanation of the bee hazard icon.

Read and follow all label directions for effective, safe, and legal use of pesticides. Reading the pesticide label will help ensure proper and legal pesticide use.

Disclaimer

Reference to commercial products or trade names is made with the understanding that no discrimination is intended of those not mentioned and no endorsement by University of Nebraska–Lincoln Extension is implied for those mentioned.

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