



Pesticides: Learning About Labels

WASHINGTON STATE UNIVERSITY EXTENSION FACT SHEET • FSIPM001E

Pesticides (*pest*-nuisance, *icide*-kill or strike) control, destroy or repel pests such as weeds, insects, rodents, birds, fungi, germs, or other organisms that are annoying, unsightly, harmful to health, or cause loss or damage. When used carefully and properly, they provide many benefits: improve our surroundings, improve our food supply, and protect our health. Pesticides are a major strategy used in Integrated Pest Management.

The **pesticide label** provides valuable information about proper handling and use of the pesticide, potential risks the pesticide may pose to humans, animals, plants, and the environment, and instructions on how to minimize or avoid those risks. Every person who applies pesticides has the responsibility to read and follow the label information so no harm results from handling pesticides from the time of purchase through ultimate use or disposal.

Once you are certain of the pest and decide to use a pesticide, **READ THE LABEL** several times to obtain the results you expect and to prevent harm to you, water quality, and the environment.

Before you buy a pesticide, read the pesticide label to determine these basics.

- Where the pesticide can and cannot be applied.
- If the pesticide will control the pest or pests.
- If the pesticide can be applied safely and legally under the application conditions.
- Necessary application and safety equipment.
- Amount of pesticide needed for the application (buy only the amount needed).
- Relevant restrictions for use of the pesticide.

Compare different pesticide labels. Several different products often can control the same pest on the

same site. Comparing the labels and product prices will help you select the product that controls the pest and is less toxic or less expensive.

Before you mix the pesticide, read the label to determine the following.

- Protective equipment you should wear.
- Compatibility of the pesticide with other products or additives.
- Amount of the pesticide to use.
- Mixing procedure.

Before you apply the pesticide, read the label for the following information.

- Safety measures you should follow.
- Procedures that minimize potential harm to people, animals, plants and the environment.
- How to apply the pesticide.
- When to apply the pesticide (including limitations about reentering a treated area and the minimum number of days that must elapse following application before vegetables, fruits, or other crops can be harvested).
- How to launder clothing worn during application.

Before you store or dispose of the pesticide or pesticide container, read the label to determine:

- Where and how to store the pesticide.
- How to decontaminate and dispose of the pesticide container.
- Where and how to dispose of surplus pesticide.

By law, certain kinds of information must appear on a pesticide label. People who use pesticides have the **LEGAL** responsibility to read, understand and follow the label directions. Pesticide labels usually

contain the following important sections.

- 1. Product name:** Every pesticide has a product name or a trade name. Examples of some product names include Deep Woods Off Insect Repellent®, Black Flag® Ant & Roach Killer, Lysol® Brand Disinfectant Deodorizing Cleaner, Roundup® Herbicide, and Hi-lex® Bleach.
- 2. Type of pesticide:** The label must indicate what type of pesticide the product is or what types of pests it will control. (Disinfectants kill germs, insecticides kill insects, herbicides kill weeds, fungicides kill mold and other fungi.)
- 3. Ingredient statement:** Each pesticide label must include the active and inert ingredients in the product. The statement shows what

the active ingredients are and the amount of each. The ingredient statement must list the official chemical names or common names for all active ingredients. Inert ingredients need not be named, but the label must show what percent of the total contents they comprise. Often garden magazines recommend certain pesticides by the common name of an active ingredient (e.g., captan, malathion, carbaryl) instead of recommending a specific product name that contains that active ingredient.

Check the active ingredients when comparing pesticides. Many different pesticides contain the same active ingredient. By purchasing pesticides according to the common or chemical name you will be sure to get the

2. Type of pesticide

1. Product name

3. Ingredient statement

5. Signal word

4. Keep out of reach of children

7. Note to physician

11. Physical and chemical hazards

12. Directions for use

6. Statement of practical treatment

8. Precautionary statements

10. Environmental hazards

13. Storage and disposal

9. Hazards to humans and domestic animals

PEST-B-GONE
Insecticide and Fungicide

Control Insects and Diseases on Flowers and Ornamentals

ACTIVE INGREDIENTS

Captan (N-trichloromethylthio-4-cyclohexene-1,2-dicarboximide).....	11.76%
Related Derivatives.....	0.24%
Malathion (0,0-dimethyl dithiophosphate of diethyl mercaptosuccinate).....	6.00%
Carbaryl (1-naphthyl N-methylcarbamate).....	12.00%
INERT INGREDIENTS.....	69.70%
Contains Petroleum Distillate	Total 100.00%

Sunset Chemicals, Galveston, TX 87777 EPA Reg. No. 010-1133, EPA Est. No. 010-TX-2

DANGER
Keep out of reach of children

PHYSICAL OR CHEMICAL HAZARDS: Do not use or store near heat or open flame. Do not store below 32°F.

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

Pest-B-Gone Insecticide and Fungicide is a complete concentrate containing fungicide, aphicide, miticide, scalcicide, and spreader-sticker. Easy to use, mixes with water instantly, no plugging nozzles, no messy powders to handle, measure or mix, no pre-mixing or straining necessary. Designed especially for home gardens to protect roses, evergreens and flowers from the ravages of listed insects and diseases.

SHAKE PRODUCT THOROUGHLY BEFORE USING. Contains micronic particles which settle upon standing and require reblending by agitation. Choose a cool, calm period, preferably early morning or evening. Shake sprayer occasionally or agitate to keep spray particles in suspension during application.

ROSES, EVERGREENS, AND FLOWERS
Insects: Aphids, apple maggot, bagworm, black cutworm, bud moth, cherry fruit fly and worm, codling moth, plum curculio, mites, oriental fruit moth, pear slugs, psylla, red banded leafroller, scale (Forbes, Putnam San Jose), and tent caterpillars.
Diseases: Bitter rot, black spot, black rot, blossom blight, botrytis blossom end rot, downy mildew, fly speck, frog eye, leaf spot, scab, and sooty blotch.

MIX 1.5 TABLESPOONS PER GALLON OF WATER. Begin applications when insects or disease symptoms first appear or conditions favor their development and repeat at weekly intervals or as necessary to maintain control. Remember, it is easier to prevent damage than to cure it. Therefore a preventive spray schedule is recommended. Do not use if rain is expected shortly after application. Select still periods for application (early morning or evening) to reduce waste by blow away and blow back. Spray in early morning or in the evening to avoid direct sunlight. Do not apply through any type of irrigation equipment.

STORAGE AND DISPOSAL
STORAGE: Keep pesticide in original container. Do not put concentrate or dilute solution into food or drink container. Avoid contamination of feed and foodstuffs. Store in a cool, dry place, preferably in a locked storage area. **PRODUCT DISPOSAL:** Empty container by use. **CONTAINER:** Do not reuse empty jug. Rinse thoroughly before discarding in trash.

NOTICE: Buyer assumes all responsibilities for safety and use not in accordance with directions.

Net Contents: 1 pint

STATEMENT OF PRACTICAL TREATMENT—If in eyes: Flush with plenty of water. Call a physician. If on skin: Wash with plenty of soap & water. Get medical attention if irritation persists. If swallowed: Drink large quantity of milk, egg whites, gelatin solutions, or large quantities of water. Avoid alcohol. If inhaled: Remove victim to fresh air. If not breathing, give artificial respiration, preferably by mouth. Get medical attention. **Note To Physician:** Carbaryl is a modest cholinesterase inhibitor. Atropine is antidotal. Emergency medical information, 1-800-732-2200.

PRECAUTIONARY STATEMENTS—HAZARDS TO HUMANS AND DOMESTIC ANIMALS—
DANGER—Causes irreversible eye damage. Harmful if swallowed. May cause allergic skin reactions. Do not get in eyes. Wear goggles or face shield when handling. Avoid contact with skin and clothing. Wear chemical resistant gloves. Also wear long pants and long-sleeved shirt and apply with the wind to your back. Wash nondisposable gloves thoroughly with soap and water before removing. Clothing worn while handling this product must be laundered separately from other clothing before reusing.

ENVIRONMENTAL HAZARDS—This pesticide is toxic to fish, aquatic invertebrates, and aquatic life stages of amphibians. Do not apply directly into water. Drift and runoff may be hazardous to aquatic organisms in areas near the application site. Do not clean equipment or dispose of equipment washwaters in a manner that will contaminate water resources. This product is highly toxic to bees exposed to direct treatment on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting the treatment area.

right active ingredient no matter what the trade name or formulation. When comparing two different products with the same active ingredient, compare the amount of active ingredient in each product and the application rates. Often products contain the same active ingredient, but in different concentrations.

4. **Keep out of reach of children** statement is required on all pesticide containers. Many accidental poisonings and personal tragedies could be prevented by keeping pesticides and other home products out of the reach of children and pets.
5. **Signal word** indicates product toxicity from a single exposure. Pesticides are either toxic by being corrosive or irritating, or by causing our bodies to function improperly.



DANGER-POISON along with a skull and crossbones symbol: products are highly toxic and potentially deadly at low doses. **Danger-Poison** will always be in red.

DANGER (no poison) products are corrosive and can cause irreversible eye damage or severe skin injury.

WARNING products are moderately toxic or can cause moderate eye or skin irritation.

CAUTION products are slightly toxic or may cause slight eye or skin irritation.

You can tell whether the concern is due to irritation or eye damage or causes illness by reading the precautionary statement section (#12 & #13). Other household product labels use the same signal words to inform users of similar hazards. Some very low hazard products may not have signal words.

6. **Statement of practical treatment** lists the first aid treatment for someone accidentally exposed to a pesticide.
7. **Note to physician** provides emergency medical personnel with poison treatment information and suggests antidotes. It often provides emergency information and phone numbers.
8. **Precautionary statements** identify potential hazards and recommend ways to minimize or avoid risks. Types of precautionary statements include "Hazards to Humans and Domestic Animals," "Environmental Hazards," and "Physical or Chemical Hazards."
9. **Hazards to humans and domestic animals:** The signal word is listed, followed by statements indicating which route(s) of entry (mouth, skin, lungs, eyes) is the most likely

to result in harmful exposure and must be particularly protected. The label indicates whether the major concern is irritation, corrosiveness, or illness. The label provides specific actions that can prevent overexposure to the pesticide. Protective clothing and equipment required to handle or apply the pesticide are listed here. Laundering instructions also are included.

10. **Environmental hazards** section of the label warns of pesticide risks to pollinators, wildlife, birds, fish, or to the environment, including water quality. It provides practical ways to avoid harm to organisms and the environment.
11. **Physical or chemical hazards** section of the label states any special fire, explosive, or chemical hazards the product may pose.
12. **Directions for use** section of the pesticide label begins with the statement, It is a violation of Federal law to use this product in a manner inconsistent with its labeling.

Correct application of a pesticide product is accomplished by following the use instructions on the label. Use instructions include many particulars. Following are some of the more common directions found in this section.

- Pests the manufacturer knows the product controls;
- Crop, animal, or site on which the product is approved for use;
- When, where, how, and in what form the product may be applied;
- Proper application equipment;
- Correct dosage;
- Mixing directions;
- Compatibility with other products;
- Minimum time between the application and entry into the treated area for unprotected persons; and
- Possible plant injury problems.

Labels for pesticides used on food plants often list the days-to-harvest or preharvest interval (PHI), which is the minimum number of days between the last pesticide application and crop harvest. The pesticide is degraded during PHI so that pesticide residues, if present, will be at safe levels below tolerances established by EPA.

13. **Storage and disposal:** All pesticide labels contain general instructions for the appropriate storage and disposal of the pesticide and its container. (see Pesticides: Safe Handling, FSIPM002E)

Protection of people and the environment from harmful effects of pesticides is based primarily on three factors.

- Pesticides must be registered or specifically exempted from registration by the U.S. Environmental Protection Agency before they can be sold or applied.
- Pesticide labels provide necessary information to pesticide users for safe handling.
- Pesticides must be used according to label instructions to achieve effective pest control and safe handling.

The pesticide registration and exemption process requires extensive testing for potential adverse health and environmental effects for each pesticide. The registration process takes many years and costs millions of dollars. Pesticide labels are developed to inform applicators about safe and proper use of the product, to warn about potential risks, and to recommend methods to avoid risks.

Read and understand the pesticide label before you buy the product. Read the label before mixing, applying, or storing the pesticide, or before disposing of the container. Anyone possessing, handling, or applying a pesticide is responsible and can be held liable for any damage, loss, or unintended consequences that the pesticide may cause.

Handling and applying pesticides requires knowledge,

care, and good judgment. Every applicator must read, understand, and follow the pesticide label instructions.

Black Flag® is a registered trademark of Boyle-Midway Household Products, Incorporated.
Deep Woods Off® Insect Repellent is a registered trademark of S. C. Johnson & Son, Incorporated.
Hi-Lex® is a registered trademark of The Dial Corporation.
Lysol® is a registered trademark of Lehn and Fink Products Group.
Roundup® is a registered trademark of Monsanto Company.

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1. Dahl, G.K. 1995. Pesticides: Learning About Labels. North Dakota State University Extension Svc. #1-1098. Fargo, ND.
2. Black, C.A., C.R. Foss, and R.L. Maguire. 2012. Washington Pesticide Laws and Safety. Washington State University Extension. EM012. Pullman, WA.

WASHINGTON, IDAHO, OREGON
POISON CONTROL CENTER
1-800-222-1222

NATIONAL PESTICIDE
INFORMATION CENTER
1-800-858-7378
<http://npic.orst.edu>

WASHINGTON STATE PESTICIDE PAGE
<http://pep.wsu.edu>



IPM—Home & Garden No. 1

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Use pesticides with care. Apply them only to plants, animals, or sites listed on the label. When mixing and applying pesticides, follow all label precautions to protect yourself and others around you. It is a violation of the law to disregard label directions. If pesticides are spilled on skin or clothing, remove clothing and wash skin thoroughly. Store pesticides in their original containers and keep them out of the reach of children, pets, and livestock.

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