Understanding the Label

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Highly sophisticated pest control practices are used on grapes to ensure profitability, reduce any harmful effects on the environment, and to protect humans who consume the crop as table grapes, juice, raisins, and wine. In grape production a large amount of manual labor is required (harvest, pruning, shoot thinning, etc.). These practices greatly reduce disease pressure. However, wineries and buyers desire disease-free fruit. Therefore, pesticides must be applied on a preventative schedule modified only for varied weather conditions.

Grapes are perennials and will be in place for decades. As a result, it is important to practice the most environmentally sound disease management possible. Understanding and following the pesticide label ensures that you are using the pesticide in accordance with the EPA’s health and safety regulations.

The Label: Many people find that reading and understanding the label is one of the most difficult aspects of disease control. However, if you know what to look for, reading the label is almost as easy as reading the nutrition information on a can of soup. But first, we have to understand the terms.

A label is information printed on or attached to the pesticide container. Labeling includes the label itself, plus all the other information you receive from the manufacturer about the product when you buy it. See the difference? No pesticide may be sold in the United States until the EPA (Environmental Protection Agency) has reviewed the manufacturer’s application for registration and determined that use of the product will not present an unreasonable risk to humans or the environment. Pesticide users are required by law to comply with all the instructions and directions in the pesticide labeling.

There are 3 major types of registration as designated by the EPA: federal registration, special local needs registration (SLN), and emergency exemptions from registrations. Federal EPA registrations are most common. An official EPA registration number, which must appear on the label, will ensure that you are buying an approved product. Special local needs, also known as 24(c) registrations, allow states to further control how the pesticide is used in their jurisdiction, including registering additional uses or adding limitations for a federally registered pesticide, such as adding application sites,
pests, or alternate control techniques to those listed on the federal label. To use a pesticide for the supplemental purpose, applicators must have a copy of the SLN label in their possession during the pesticide application process. Special local needs registrations are only legal in the state or local area specified on the label. Emergency exemptions from registration are used when an emergency pest situation occurs for which no pesticide is registered. Known as “Section 18 exemptions,” this provision allows a pesticide product to be sold and used for a non-registered purpose for a specified period of time. The agency that grants the emergency exemption must supply the needed application rates, safety precautions, and other vital information.

The EPA classifies every use of every pesticide as either “unclassified” or “restricted use”. A restricted use pesticide is classified as such because the active ingredient or some of the pesticide components pose a higher risk than an unclassified pesticide to harm humans or the environment unless it is applied by a certified applicator with knowledge of how to safely and effectively use the material. Pesticide use involves application, mixing and loading, transporting, storing, and handling pesticides, care and maintenance of application and handling equipment, and disposal of pesticides or their containers. Only a certified pesticide applicator may use or supervise the use of restricted-use pesticides.

*Parts of the Pesticide Labeling.* Now that we’re up to speed on the lingo we can get into the information found in the labeling, which is grouped by sections based on the law (some parts must go under some headings) and the manufacturer’s preference.

**Brand name** – each manufacturer has a brand name for each of its products. Different manufacturers may use different brand names for products with the same active ingredient. Most companies register their brand names as a trademark, therefore, other companies cannot use that name. Pesticides must not be selected on brand name alone, as companies may use the same name with minor variations to designate entirely different active ingredients. Always read the ingredient statement to determine the active ingredients that the product contains.

**Ingredient statement** – Each pesticide label must list what is in the product. Pesticides are typically composed of active ingredients as well as inert ingredients. Active ingredients are listed by chemical name and/or common name and include the amount of each ingredient (as percentage of total product). Inert ingredients do not have to be individually named but the label must show what percentage they make up of the total product. By purchasing pesticides according to their common or chemical names you will ensure that you always get the right active ingredient.

**Registration numbers** – An EPA registration number (e.g., EPA Reg. No. 1111-222-ZZ) indicates that the label has been approved. The first set of numbers (1111) identifies the manufacturer or company, the second set of numbers (222) identifies the product, and
the letters (ZZ) may be required by a state to appear on that label. A special local needs registration number appears as EPA SLN No. VA-100001. In this case we know that this pesticide is a special local needs (SLN) pesticide for Virginia. The SLN number may be found on the front panel of the label or in the supplemental labeling. An establishment number is also on the label or the container and identifies the facility where the product was made.

**Name and address of manufacturer** – The law requires that the maker or distributor of a product put the name and address of the company on the label.

**Net contents** – The front panel of the pesticide label tells you how much is in the container. This can be expressed as dry ounces or pounds, gallons, pints, quarts, or fluid ounces. Liquid formulations also list the pounds of active ingredient per gallon of product.

**Type of pesticide** – The type of pesticide is usually listed on the front panel of the label. For example: *Fungicide for control of fungal pathogens on grapes*.

**Type of formulation** – The front panel also tells you what type of formulation the product is. The formulation may be designated by names or abbreviations (see Formulation Information).

**Front-panel precautionary statements.**

Signal words and symbols – DANGER, WARNING, or CAUTION must appear in large letters on the front panel of the label. These signal words indicate how acutely toxic the product is to humans. The signal word is directly below the statement, “Keep out of the reach of children,” which is required on every label. The signal word is based on the total contents of the formulated product, not the active ingredient alone and indicates the greatest risk of acute effects from the four methods of exposure (oral, dermal, inhalation, and eye). The signal word does not indicate the risk of delayed or allergic effects.

DANGER – signals that a pesticide is highly toxic. The product is very likely to cause immediate illness from oral, dermal, or inhalation exposure, or to cause eye or skin irritation.

POISON/SKULL AND CROSSBONES – All highly toxic pesticides that are very likely to cause acute illness through oral, dermal, or inhalation exposure will also have the word POISON in red along with the skull and crossbones symbol. Products that are labeled DANGER due to skin and eye irritation may not have the skull and crossbones.

WARNING – signals the product is moderately likely to cause acute illness from oral, dermal, or inhalation exposure or that the product is likely to cause moderate eye or skin irritation.
CAUTION – signals that the product is slightly toxic or relatively nontoxic, with only slight potential to cause acute illness from oral, dermal, or inhalation exposure. Skin or eye irritation, if any, is slight.

Statement of first aid – Most pesticide labels include instructions on how to respond to an emergency exposure of the product. The instructions may include first aid instructions or direct you to medical help.

**Hazards to humans.**

Acute effects statements – statements that indicate which route of entry (mouth, skin, eyes, lungs) must be particularly protected and what action to take to avoid acute effects from exposure to the pesticide.

Delayed effects statements – warnings on pesticides that the EPA considers to have delayed effects such as tumors or reproductive problems.

Allergic effects statements – statement that the pesticide product has the potential to cause allergic effects such as skin irritation or asthma.

**Personal protective equipment** – the **minimum** personal protective equipment that you must wear when using the pesticide. The personal protective equipment may vary with how the pesticide is handled.

**Environmental hazards** – section of the label that indicates precautions for protecting the environment when you use the pesticide.

**Physical or chemical hazards** – any special fire, explosion, or chemical hazards posed by the product.

**Directions for use** – states that it is a violation of Federal law to use a pesticide in any manner inconsistent with its labeling. Also contains sections on storage and disposal, entry into treated area after application, and specific directions for using the product. The entry statement tells you how much time must pass before workers can reenter the treated area without personal protective equipment. The entry statement may be located in a box under the heading “Entry” or “Worker Protection” or it may be in a section called “Important”, “Note”, or “General Information”. The entry statement is the same as the restricted entry interval or REI on grape spray charts. The storage and disposal section contains instructions for how to store the pesticide and dispose of excess pesticide, as well as the pesticide container.

**Rules, recommendations, and caveats:**
- Growers should always thoroughly read the label before applying any pesticide. Changes in rates permitted, preharvest intervals, reentry intervals, etc. are not uncommon, and it’s easy to make an illegal application if you just go by what you did last year.
- It is against the law to apply a pesticide to grapes if grapes are not listed on that pesticide’s label.
- Use of unregistered pesticides may cause health and environmental problems, be ineffective, and result in grapes being declined by the purchaser.
- If illegal residues (unregistered products or residues above legal limits) are found in the grapes or grape products, growers and purchasers can be held legally responsible.
- Pesticides specify time intervals for re-entry and days to harvest or PHI – these intervals must be obeyed.
- Two or more pesticides may be applied in combination. The applicator must pay careful attention to compatibility (physical and chemical). The label sometimes identifies incompatibilities.
- Whenever possible, practices should be used to avoid resistance development in a target population. Alternating pesticides (rotating different active ingredients) against a particular pest or tank-mixing with a different active ingredient are highly recommended methods to delay development of resistance.
- This guide is not inclusive and does not replace material provided by manufacturers or by Virginia Cooperative Extension.

Additional information on diseases and fungicide applications is available on my [homepage](http://example.com) and the [2006 Pest Management Guide](http://example.com/2006Guide).