



Reading and Understanding a pesticide label is one of the most important sections to study. In order to use a pesticide legally and effectively, you must read the entire label and follow the instructions. Because of this, there will be a label on your pesticide exam for you to answer questions about. In this section, we will discuss the key sections of a pesticide label, and look at some example label language.

The Pesticide “Label” is the information attached to the pesticide container. “Labeling” is distinct from the “Label” – Labeling is all of the information received from the manufacturer about a pesticide product.

## What is the Pesticide Label?

- The information printed on or attached to the pesticide container
- The LABEL contains all information a USER needs to use pesticide safely and effectively
- Pesticide users required by law to comply with instructions on the pesticide label
- “Labeling” is a related term that indicates both the label and any additional manufacturer information about product, - brochures, leaflets, etc.

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## Key Sections of a Pesticide Label

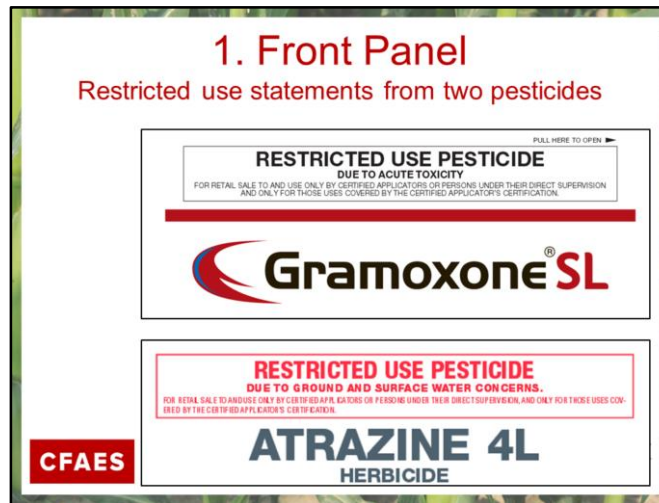
1. Front Panel
2. First Aid
3. Precautionary Statements
4. Directions for Use
5. Storage and Disposal



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These are the key sections of a Pesticide Label. Let's look at each of these individually.



These are two excerpts from a pesticide front panel, or first page of the pesticide label. A lot of information appears on the front panel of the pesticide label.

If a pesticide has a restricted use designation, the restricted use statement will appear in bold at the top of the label's front panel. If it is a general use pesticide, there will be no statement across the top. At registration, the US EPA decides whether a pesticide will be general use or restricted use.

Here are two excerpts from pesticides labels showing two restricted use statements. The EPA may designate pesticides as restricted use for different reasons. In these examples, Gramoxone indicates it is RUP because of acute toxicity. It is highly poisonous, consuming even a very small amount can be lethal. The Atrazine label indicates it is a RUP because of ground and surface water concerns.

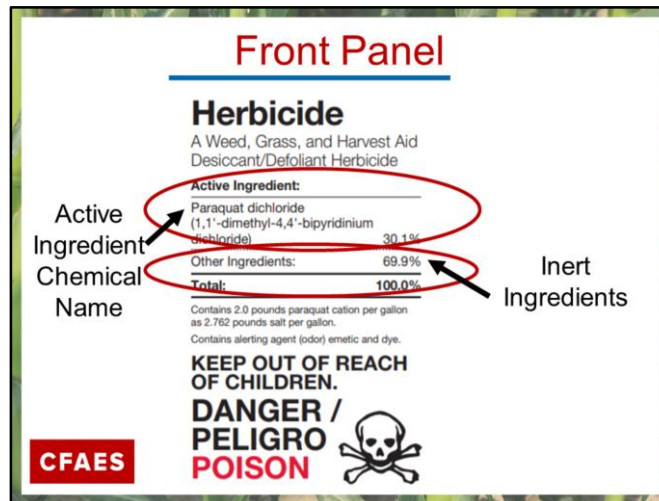


The Brand name is used to market the material and sometimes appears with the type of formulation.

In the case of Gramoxone SL, the SL means soluble concentrate.

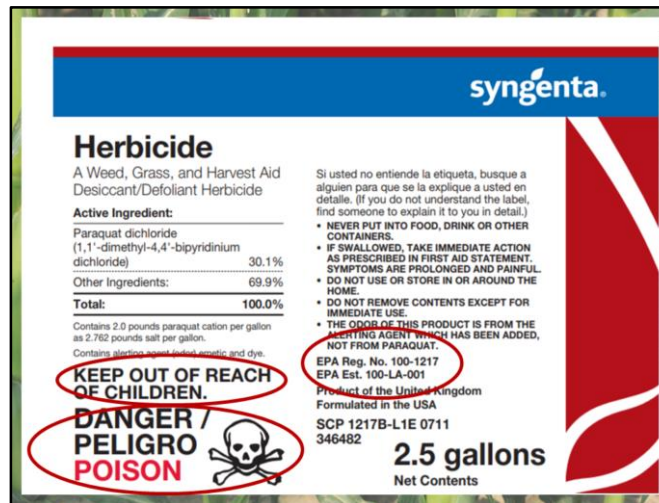
(not to be confused with SC – Suspension Concentrate).

Active ingredients are one or more components in the pesticide that actually control the pest.



Active ingredients are one or more components in the pesticide that actually control the pest. The active ingredient statement will identify the toxicants by their common chemical name and give the percent by weight in the product. In the case of Paraquat (brand name), the common chemical name is Paraquat dichloride – only common names that are accepted by the US EPA may be used in the ingredient statement. A more complex chemical name that identifies the components will often follow the common name of the active ingredient on the pesticide label.

The inert, or inactive ingredients do not need to be listed individually on the label, only the % by weight of the formulation that they make up.



The keep out of reach of children statement appears on every pesticide registered in the US.

Danger with skull and crossbones is the signal word on this label – which appears on the front panel. The combination of Danger with skull and crossbones means that the material is highly toxic via ingestion, inhalation, or dermal exposure.

The EPA registration number uniquely identifies the product and the manufacturer, and indicates that the pesticide labels has been approved by the EPA. These numbers are needed for your pesticide record and are very important in case of poisoning, claims of misuse or liability.

## 2. FIRST AID or Statement of Practical Treatment

FIRST AID	
Contains Paraquat, a Bipyrindinium Herbicide. Have the product container or label with you when calling a poison control center or doctor, or going for treatment.	
IF SWALLOWED:	<ul style="list-style-type: none"> <li>Call a poison control center or doctor <b>IMMEDIATELY</b> for treatment advice.</li> <li><b>SPEED IS ESSENTIAL.</b> Immediate medical attention is required. If available, give an absorbent such as activated charcoal, bentonite or Fuller's Earth.</li> <li>Have person sip a glass of water if able to swallow.</li> <li>Do not induce vomiting unless told to by a poison control center or doctor.</li> <li>Do not give anything by mouth to an unconscious person.</li> </ul>
IF INHALED:	<ul style="list-style-type: none"> <li>Move person to fresh air.</li> <li>The odor of this product is from the stenching agent, which has been added, not from the paraquat.</li> <li>If person is not breathing, call 911 or an ambulance.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>
IF IN EYES:	<ul style="list-style-type: none"> <li>Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>
IF ON SKIN OR CLOTHING:	<ul style="list-style-type: none"> <li>Take off contaminated clothing.</li> <li>Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>
<p><b>NOTE TO PHYSICIAN:</b> Administer either activated charcoal (100g for adults or 2g/kg body weight in children) or Fuller's Earth (15% solution; 1 liter for adults or 15ml/kg body weight in children). <b>NOTE:</b> The use of gastric lavage without administration of an absorbent has not shown any clinical benefit. Do not use supplemental oxygen. Eye splashes from concentrated material should be treated by an eye specialist after initial treatment. With the possibility of late onset corneal ulceration, it is advised that patients with paraquat eye injuries are reviewed by an eye specialist the day after first presentation. Use treatment that is appropriate for chemical burns. Intact skin is an effective barrier to paraquat; however, contact with irritated or cut skin or repeated contact with intact skin may result in poisoning.</p>	
<p><b>EMERGENCY NUMBERS:</b> Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For 24-hour medical emergency assistance (human or animal) call (800) 222-1222. For chemical emergency assistance (spill, leak, fire, or accident) call ChemTrec at (800) 424-9300.</p>	

The first aid statement, on older labels called “statement of practical treatment” will assist medical professionals to give the most effective treatment in case of poisoning. The First Aid Statement is often on the Front Panel, but sometimes may appear in other parts of the label.

In case of poisoning, it is essential to take the pesticide label to the doctor.



### 3. Precautionary Statements

- Hazards to Humans and Domestic Animals
  - Personal Protective Equipment
  - User Safety Recommendations
- Environmental Hazards
- Physical and Chemical Hazards

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The Precautionary Statement Section on the pesticide label will describe hazards to people and domestic animals. This is where the user safety precautions (e.g., wash hands before eating, drinking, and chewing gum, using tobacco or using the toilet.) and required Personal Protective Equipment will be found. Remember that PPE may vary according to task.

The potential for Environmental Hazards will be described. For example, this may include ground or surface water issues, pollinator or wildlife hazards.

The physical and chemical hazards section will cover these hazards – for example, flammable or explosive materials.

## Personal Protective Equipment

### PERSONAL PROTECTIVE EQUIPMENT (PPE)

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for category G on EPA chemical resistance category chart.

#### **Applicators and other handlers must wear:**

- Long-sleeved shirt and long pants
- Chemical resistant gloves, category G, such as barrier laminate or Viton  $\geq 14$  mils
- Shoes plus socks
- Protective eyewear (goggles or faceshield)

Discard clothing that have been drenched or heavily contaminated with the product's concentrate.

An example of a product PPE statement. Note that this product specifies that gloves that must meet specific criteria for chemical resistance.

PPE is not a recommendation, It is a legal requirement.

## User Safety Recommendations

**USER SAFETY RECOMMENDATIONS**

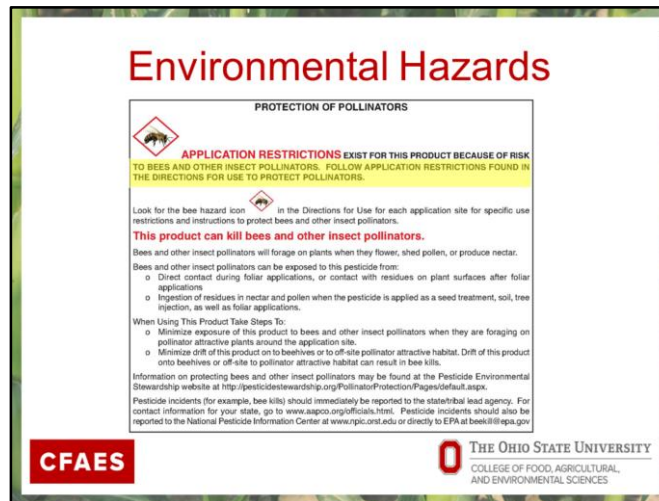
**Users should:**

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

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User Safety Recommendations are common sense directions to prevent self-contamination.



The most common environmental hazard concerns water – rivers, streams, ground water, public water systems. There are many precautions on labels about water.

This example is another type of environmental hazard statement. This example has a pollinator hazard warning, and refers you to the directions for use for specific use restrictions and requirements.

## 4. Directions for Use

- “It is a violation of Federal law to use this product in a manner inconsistent with its labeling.”
- Use directions/instructions are not advice, they are requirements

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The Directions for Use section tell you how you are allowed to use the product – crops, non-crop situations, rates, timing etc. This is where you can find the sites where this product is allowed to be applied.

Every Pesticide registered in the US has this statement.

## 4. Directions for Use

Look for instructions on:

- Use sites, crops
- Rates & Timing
- Mixing instructions
- Mixing order

Look for restrictions on:

- Wind speed
- Nozzle and droplet size
- Sensitive areas / Buffer zones
- Grazing restrictions
- Entry restrictions (REIs, PHIs)
- Maximum rates per season

### SPRAY DRIFT MANAGEMENT

AVOID DRIFT. EXTREME CARE MUST BE USED WHEN APPLYING THIS PRODUCT TO PREVENT INJURY TO DESIRABLE VEGETATION.

Do not allow the herbicide solution to mist, drip, drift or splash onto desirable vegetation since minute quantities of this product can cause severe damage or destruction to the crop, plants or other areas on which treatment was not intended.

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment- and weather-related factors determines the potential for spray drift. The applicator and/or the grower is responsible for considering all these factors when making decisions.

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The Directions for Use Section will tell you what crops or non-crop situations you may use the product and how to mix, load and apply the material. It will also tell you what restrictions you have on your application, for example, wind speed, buffer zones, non-authorized entry restrictions.

## Use Inconsistent with Label

- Applying to a crop not on the label
- Applying more than the labeled rate
- Applying at more frequent intervals
- Not wearing PPE
- Not observing well setbacks
- Not following REI's or PHI's

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In Ohio, pesticide use is site specific. You may make an application to a pest not on the label, as long as the site is listed on the label. You can also apply at lower rates.

## Restricted Entry Interval (REI)

- The amount of time after a pesticide application that entry to the treated area is restricted.

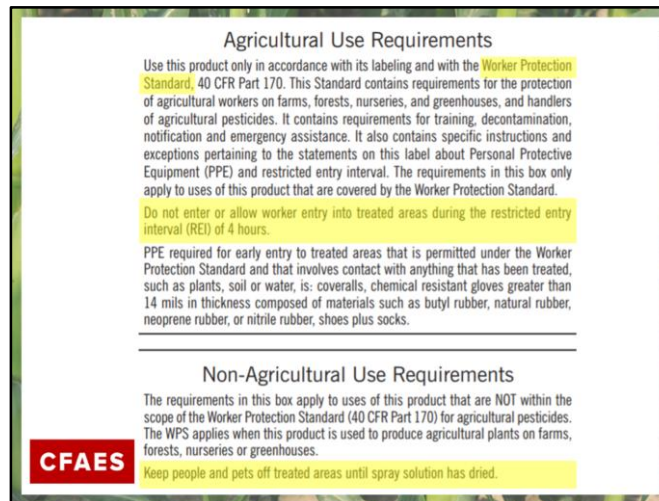


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This is of big concern at nursery farms or orchards where workers are working closely with the crop on a daily basis.





Many pesticides will have both an Agricultural Use Requirements box and a non-ag use box. If you are producing an agricultural commodity you must follow the Ag Use box. This box invokes the Worker Protection Standard, and it tells you that whenever you use this product on an agricultural commodity (as opposed to non crop areas, landscape, turf, etc.) you must follow WPS requirements.

Note: restricted entry intervals for Ag Uses and Non-Ag uses are often different. You don't get to choose..... for ag uses you must in this case keep people out for 4 hours after application.

## Pre-Harvest Interval (PHI)

- The label-required period of time between a pesticide application and harvest of the treated crop. May be different for different crops

Date of Application Harvest

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This term is important for crop protection pesticides. It describes how long you must wait after an application before the crop may be harvested. It is different from the Restricted entry interval, which is how long you must keep people out. The PHI reduces the amount of pesticide residues in the harvested crop, because all pesticides break down over time. The EPA establishes tolerances for all pesticides used on food crops, - the maximum allowable pesticide residue in a crop. The PHI is set to prevent the crop residues from exceeding the Tolerance. Not observing the PHI could result in illegal residues in the crop and it would have to be destroyed.

## Other types of time restrictions

- Grazing restrictions
- Plant-back intervals
- Minimum interval between applications
- Maximum no. applications per season
- Maximum amount allowed per crop per season

### 30-DAY PLANT-BACK:

Cereals (including buckwheat, millet, oats, rice, rye, and triticale), safflower

### 12-MONTH PLANT-BACK:

All Other Crops

### Soybean – Foliar Application Restrictions

Pre-Harvest Interval (PHI): **21 days**

Minimum interval between foliar applications: **7 days**

Maximum ADMIRE PRO SYSTEMIC PROTECTANT allowed per year: **3.9 fluid ounces/Acre** (0.14 lb AI/Acre)

Grazing restrictions specify how long you must wait after an application before animals may graze.

Plant-back restrictions appear on the pesticide label because soil residues may affect rotational crops, you must wait the period to replant.

In terms of how much or how often a pesticide may be used on a crop, this also will be clearly spelled out on the label.

## 5. Storage and Disposal

### STORAGE AND DISPOSAL

**DO NOT** contaminate water, food, or feed by storage or disposal.

#### **Pesticide Storage**

Store unused product in original container only, out of reach of children and animals.

#### **Pesticide Disposal**

Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide is a violation of federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

In case of spill, clean up dust spillage resulting from container or pack breakage by sweeping material into a pile and avoid skin contact. Carefully scoop up loose material and place it in appropriate containers so as to avoid dust generation. Ensure adequate decontamination of tools and equipment following cleanup.

#### **Container Handling**

Water soluble packages should be placed directly into spray tanks containing some water.

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The Storage and Disposal Section covers pesticide and container disposal.

## Safety Data Sheets (SDS)

- A Hazard Communications Document, formerly “Material Safety Data Sheet” (MSDS)
- Required for all hazardous materials, not just pesticides
  - Detailed physical and health hazards
  - OSHA & DOT require
  - Employers must make available to employees
- Intended audience broader; more complete hazard information than the pesticide label, such as:
  - Detailed physical and chemical hazards
  - Long-term (chronic) health risks, e.g, carcinogenicity
- Dealers should provide when pesticide purchased

The Safety Data Sheet is another document, separate from the pesticide label. It is designed to communicate the hazards associated with any hazardous substance, pesticides being only one small subset. Communication of hazards is governed in the US by OSHA by way of the SDS Sheet.

## End of Module 6: Reading and Understanding the Pesticide Label

Now take the  
**WeedKILL Label Quiz**

and quiz in your core study guide on  
pages 16-25



PUT NOTES IN HERE