WASHINGTON STATE UNIVERSITY
EXTENSION

Avoid Getting into a Pickle! Use PICOL

Kristi Boone
Washington State University
Pesticide Resources and Education

PICOL Manager

Kristi Boone

picol.info@wsu.edu

- 9 Years with WSU Pesticide Resources & Education Program
  - Extensive background and applied knowledge
- B.A. from WSU
- M.S. from University of Idaho

Overview

- Definition of a Pesticide
- EPA & State Registration
- Pesticide Label Review
- Common Pesticide Label Issues (aka the Pickle)
- How to Use PICOL (how to avoid the Pickle)

Kristi Boone

Disclaimer

Product names and situations are examples; neither endorsement nor condemnation is intended

WASHINGTON STATE UNIVERSITY
EXTENSION

What is a Pesticide?

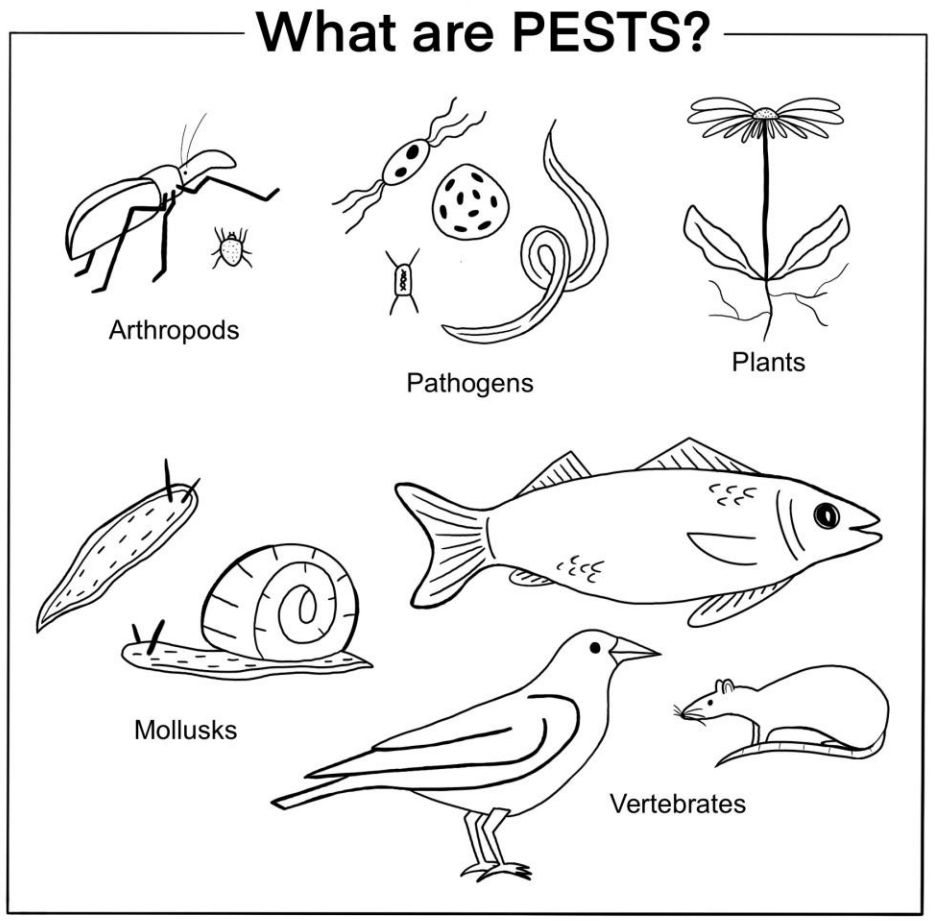
Pesticide is defined as something that will kill, destroy, control, repel or mitigate a pest

dnr.wa.gov

Herbicide, Insecticide, Fungicide, etc.

What is a Pest?

- Plant or animal detrimental to man
- Anything that pesters or annoys
- Competition for our livestock and crops
- Impacting human health
- Destroys buildings and other structures
- Reduce aesthetic value of landscapes



Kellen Pautzke

How do Pesticides Work?

- Contact: Pesticides must touch the pest at a susceptible part to injure it and be effective
- Systemic: Pesticide must get within the pest’s body and circulate
- Selective: Pesticides only affect a narrow range of pests
- Fumigants: Pesticides in the form of fumes or vapor that a pest must inhale to be effective

Pesticides are Highly Regulated

Federal

- Environmental Protection Agency (EPA)
- Authority to regulate pesticide is passed by Congress
- **F**ederal **I**nsecticide, **F**ungicide, and **R**odenticide **A**ct (FIFRA)
  - Federal statute that governs the registration, distribution, sale, and use of pesticides in the United States

Pesticides are Highly Regulated

State

- Departments of Agriculture
- Laws are passed by state legislature - influenced by federal laws
- Regulate pesticide registration, licensing and compliance

Pesticide labels are legal documents.

The user is liable for personal injury, plant/crop damage, or pollution incurred through misuse of a pesticide.

Pesticide Registrations

Section 3 → Most common

Section 24c (SLN) → Special local needs

Section 18 → Emergency exemption from registration

Section 25(b) → Minimum-risk pesticides

ofsonline.org

Special Local Needs

Section 24c – **Special Local Needs** – SLN register additional uses to existing labels

- Very specific uses not found on original label

FIFRA Section 24(c)
Special Local Need (SLN) Label

For Distribution and Use Only in the State of Oregon

Opensight®
EPA Reg. No. 62719-597

EPA SLN No. OR-110017

For Control of Herbaceous Broadleaf Weeds and Woody Plants in Forest Plantations

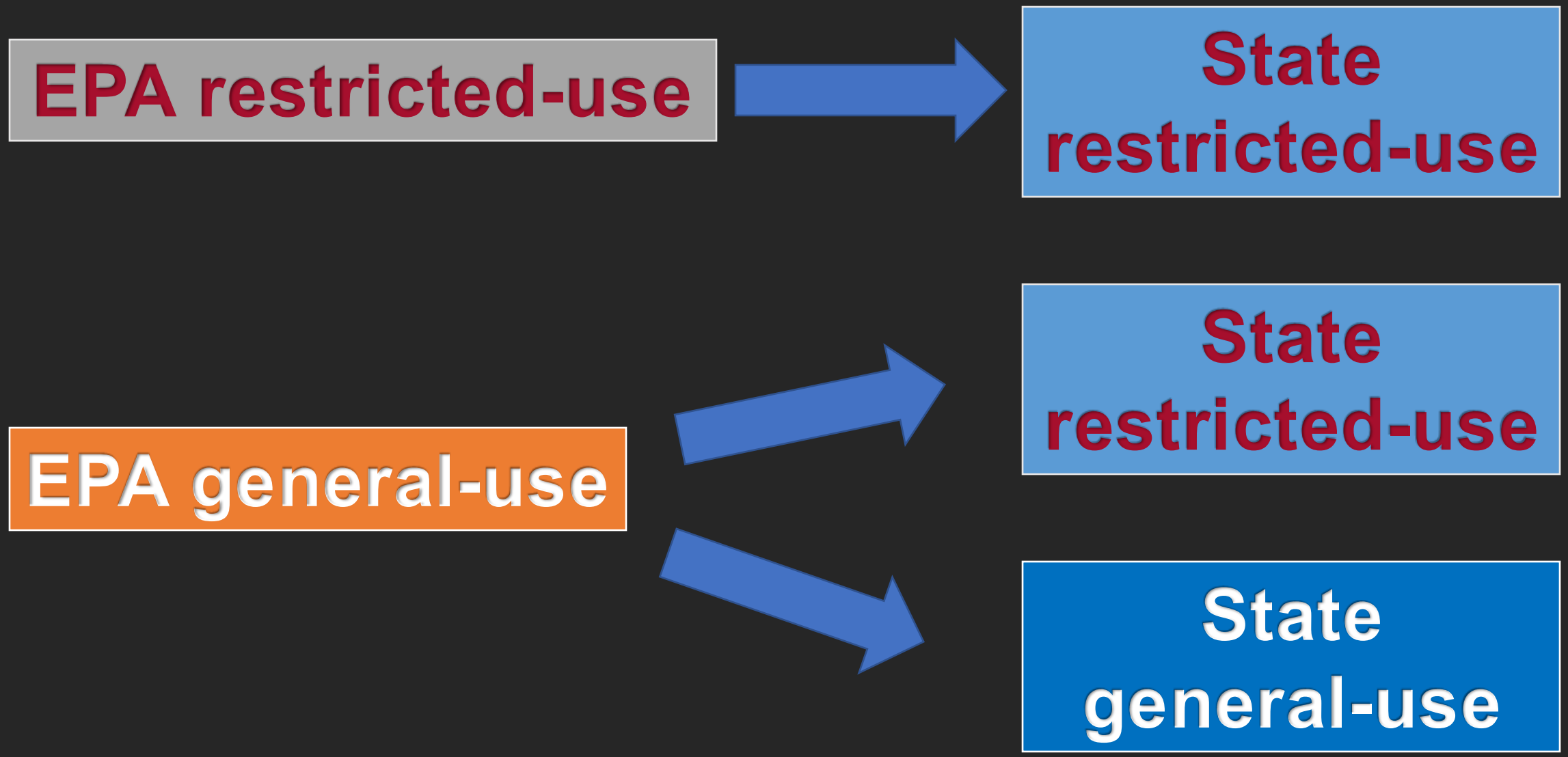
This label is valid until December 31, 2026, or until otherwise amended, withdrawn, canceled, or suspended.

Restricted-use Pesticides

- Potential to harm humans, non-target organisms or the environment
- Applicators must be certified and demonstrate competence

RESTRICTED USE PESTICIDE

Due to ground and surface water concerns. For retail sale to and use only by Certified Applicators or persons under their direct supervision, and only for those uses covered by the Certified Applicator's certification.


EPA restricted-use
State restricted-use
EPA general-use
State restricted-use
State general-use

EPA Registration Number

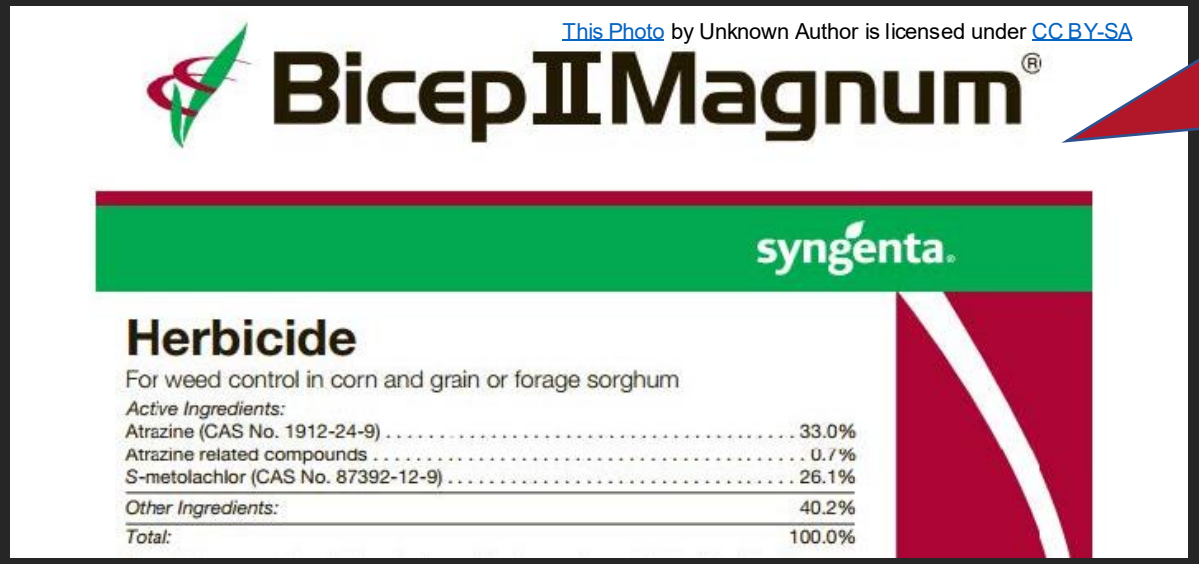
- This is an important number that identifies a particular product and indicates the label has been approved by EPA
- EPA registration number must be kept in application records by all license applicators

What goes into a pesticide formulation?

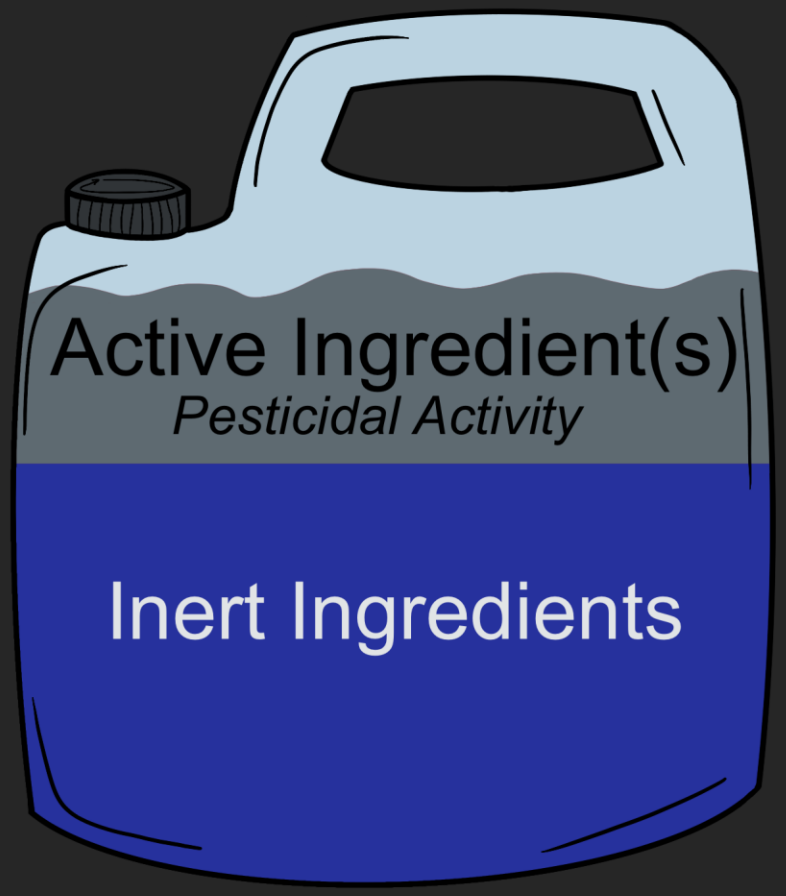
Active Ingredient:

-The component in the pesticide product that controls the pest

-Has pesticidal activity



What goes into a pesticide formulation?



- **<u>Inert Ingredients:</u>**
  - Other materials added to the pesticide product
  - <u>Do not</u> have pesticidal activity

Enhance the activity of the active ingredient to have:

- Better penetration
- More selectivity
- Increased effectiveness

Why pesticide formulations?

- Formulations make an active ingredient more convenient to handle
  - Safer
  - Easier
  - More accurate to apply
  - In some, more attractive to the pest

Liquid, Granule, Aerosol, Powder, etc.

Active Ingredients

+

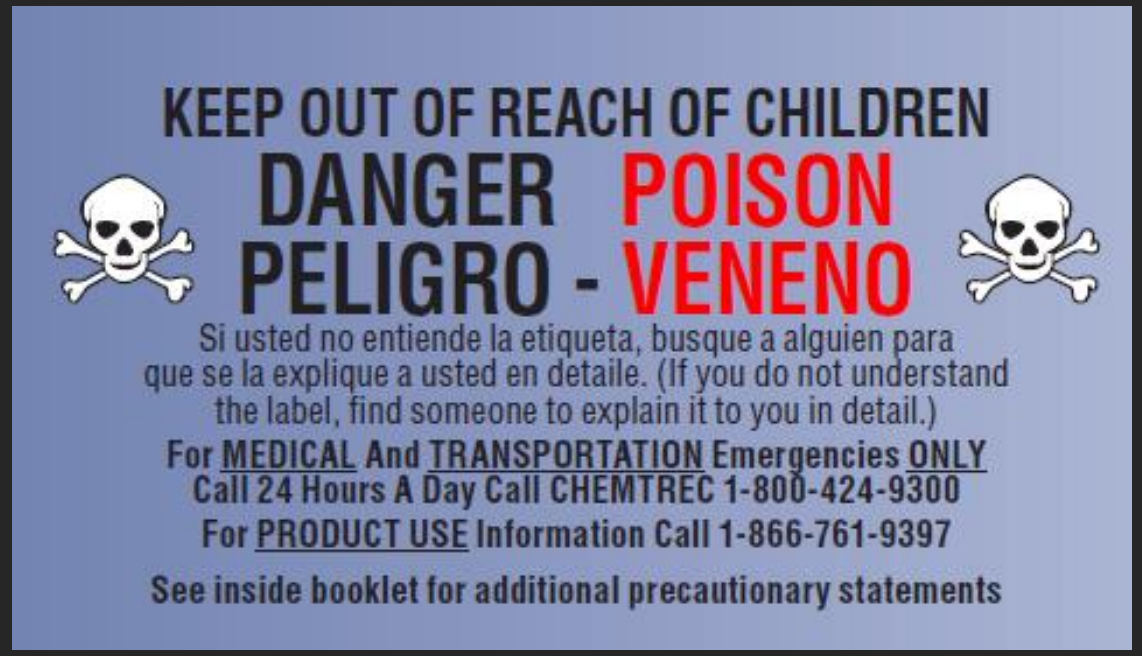
Inert Ingredients
(water, emulsifiers, dry carriers, solvents, surfactants, stabilizers, dyes)

Surfactants: Spreaders, stickers, wetting agents

Signal Words

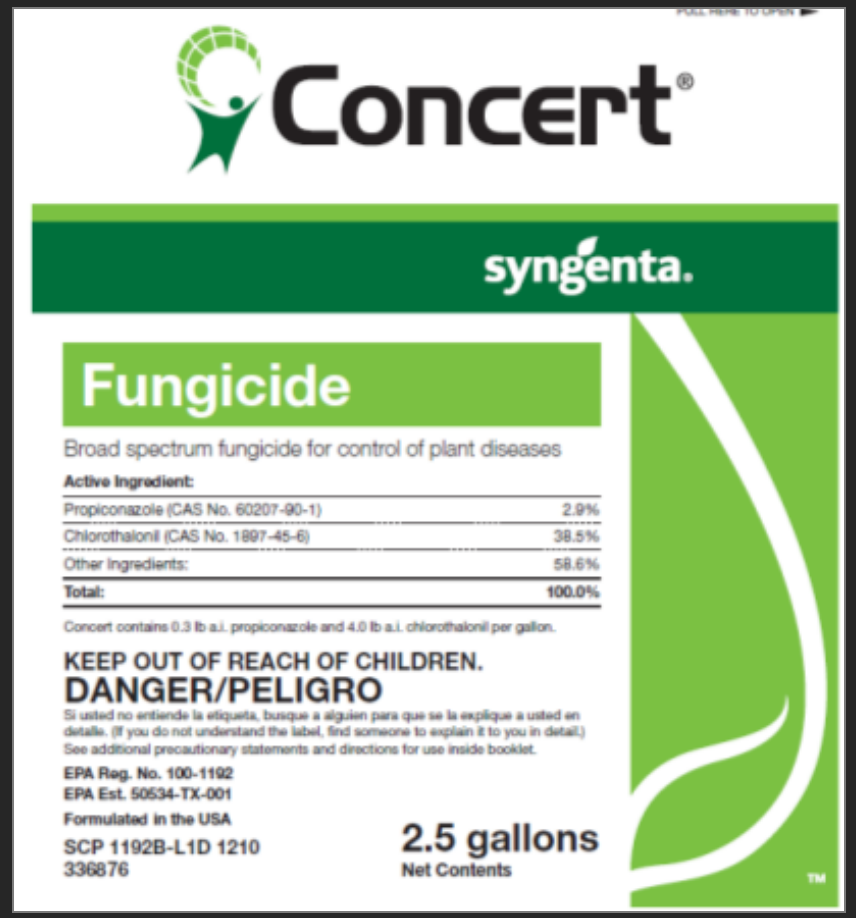
DANGER – POISON
Skull and Crossbones

Deadly and Highly toxic by any route of entry

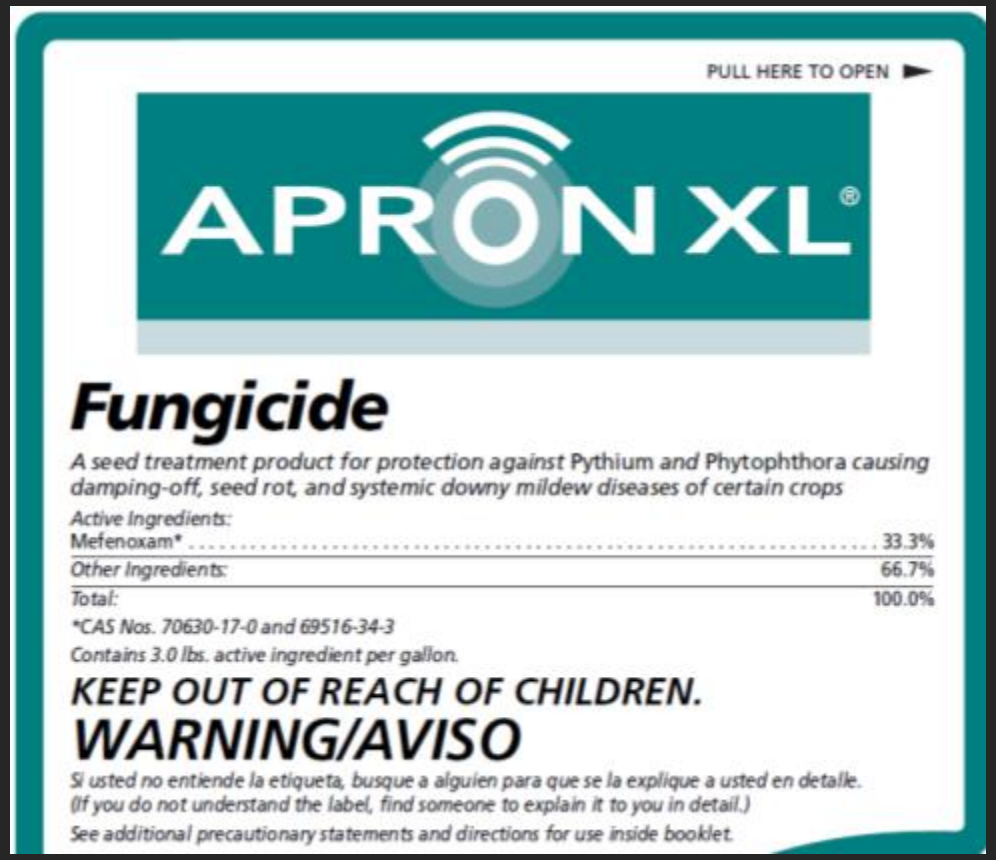


DANGER

Can cause severe eye damage or skin irritation;
<u>not</u> highly toxic if inhaled or swallowed



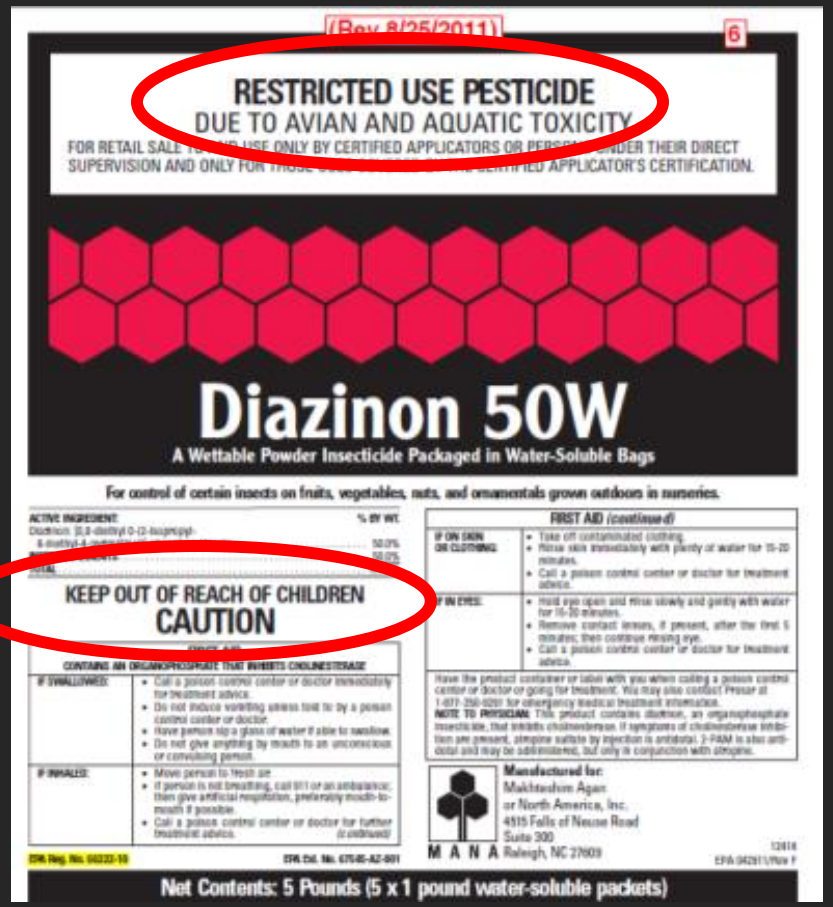
WARNING

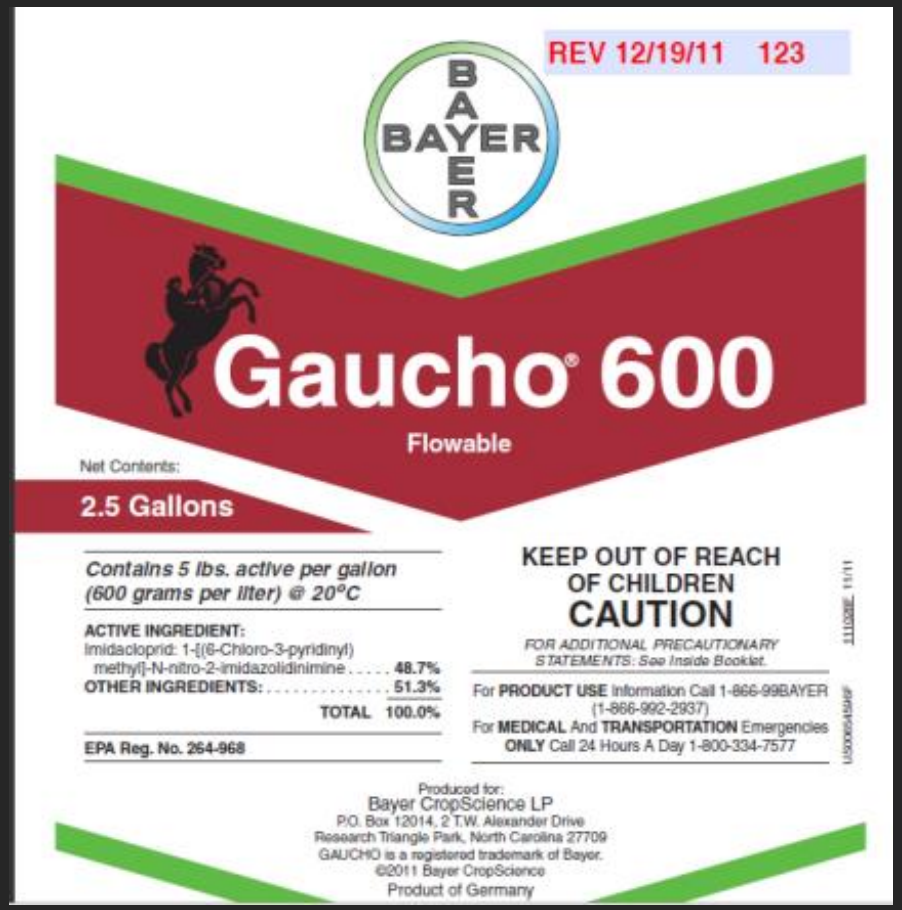


Moderately toxic either orally, dermally, or by breathing,
or
may cause moderate eye and/or skin irritation

CAUTION

Slightly toxic either orally, dermally, or by breathing, or may cause slight eye and skin irritation





To make a legal pesticide application, remember…

A pesticide may be applied at a lower dose than specified on the label, ***but not at a higher dose!***

Crop Use Recommendations

Alfalfa:

Insects Controlled	Rate of Application	Method of Application
For control of Grasshoppers	¼ to ½ pint per acre	Apply as a foliar spray when insect populations and/or damage reaches economic thresholds, refer to Cooperative Extension Pest Management Guidelines. Minimum gallonage requirements. Ten gallons of finished spray per acre with ground equipment, two gallons per acre with aircraft.
For control of Alfalfa Blotch Leafminer and Potato Leafhopper	1 to 2 pints per acre	
For control of Blue Alfalfa Aphid (nymphs and wingless	½ to 1 pint per acre	Apply as a foliar spray when insect populations and/or damage reaches economic thresholds, refer to Cooperative Extension Pest

Be sure to also review…

- Application Method
- Application Timing
- Mixing Instructions
- Equipment and Calibration
- Directions for use - Crops and Pests
- Environmental Precautions and Hazards

FORESTRY
SITE PREPARATION

Velpar DF VU Herbicide is labeled for weed and brush control in areas where the following species are grown:

EASTERN US AND LAKE STATES

Fir, balsam	*Abies balsamea*	Pine, shortleaf	*Pinus echinata*
Pine, Austrian	*Pinus negra*	Pine, slash	*Pinus elliottii*
Pine, loblolly	*Pinus taeda*	Pine, Virginia	*Pinus virginiana*
Pine, longleaf	*Pinus palustris*	Spruce, black	*Picea mariana*
Pine, ponderosa	*Pinus ponderosa*	Spruce, red	*Picea rubens*
Pine, red	*Pinus resinosa*	Spruce, white	*Picea glauca*
Pine, Scotch	*Pinus sylvestris*		

WESTERN US

Fir, Douglas	*Pseudotsuga menziesii*	Pine, lodgepole	*Pinus contorta*
Fir, grand	*Abies grandis*	Pine, ponderosa	*Pinus ponderosa*
Fir, Noble	*Abies procera*	Spruce, blue	*Picea pungens*
Fir, white	*Abies concolor*	Spruce, Engleman	*Picea englemannii*
Pine, Jeffrey	*Pinus jeffreyi*	Spruce, Sitka	*Picea sitchensis*

Velpar DF VU

Personal Protective Equipment (PPE) Requirements

Personal Protective Equipment (PPE)

Mixers and loaders must wear:

- Long-sleeved shirt and long pants or coveralls worn over long-sleeved shirt and short (or long) pants.
- Chemical-resistant gloves (see "Material Note" below)
- Shoes plus socks
- Protective eyewear
- Chemical-resistant apron

Applicators:

Aerial applicators and ground applicators in fully enclosed cabs must wear:

- Long-sleeved shirt and long pants
- Shoes plus socks

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
- Waterproof gloves
- Socks and chemical-resistant footwear

First Aid

Organophosphate

If swallowed: Immediately call a poison control center or doctor. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give **any** liquid to the person. Do not give anything by mouth to an unconscious person.

If in eyes: 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. Call a poison control center or doctor for treatment advice.

If on skin or clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

Note to physician: Chlorpyrifos is a cholinesterase inhibitor. Treat symptomatically. If exposed, plasma and red blood cell cholinesterase tests may indicate significance of exposure (baseline data are useful). Atropine, only by injection, is the preferable antidote. Oximes, such as 2-PAM/protopam, may be therapeutic if used early; however, use only in conjunction with atropine. In case of severe acute poisoning, use antidote immediately after establishing an open airway and respiration.

Note to physician: Contains petroleum distillate – vomiting may cause aspiration pneumonia.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-992-5994 for emergency medical treatment information.

Statement of Practical Treatment

Storage and Disposal Directions

Atrazine 90DF

A Water-Dispersible Granule For Weed Control In Corn, Sorghum And Other Crops

STORAGE AND DISPOSAL

DO NOT CONTAMINATE WATER, FOOD, OR FEED BY STORAGE OR DISPOSAL.

PESTICIDE STORAGE: Store in a dry location away from children, animals, foods, feeds, seeds, or other agricultural chemicals. Handle in accordance with information given under PRECAUTIONARY STATEMENTS. In the event of spillage, scrape up spillage. If spillage is not suitable for use, dispose of in accordance with information given under DISPOSAL. Repackage and relabel useable product in a sound container.

PESTICIDE DISPOSAL: Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

CONTAINER DISPOSAL: Nonrefillable Container. Do not reuse or refill this container. Completely empty bag into application equipment. Then offer for recycling if available or dispose of empty bag in a sanitary landfill or by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

Read the label before…

- Buying the pesticide
- Storing the pesticide
- Mixing and applying the pesticide
- Disposing of unused pesticides and empty containers

Remember – The label is the law!

The Pickles…

Most Common Issue

Not Reading the *ENTIRE* Label

- Skimming the 'Front Panel' or early label

Agricultural Uses

DuPont™ ASSURE® II herbicide is a selective herbicide that controls annual and perennial grasses in canola, crambe, cotton, crops grown for seed, eucalyptus, dry beans (including Chickpea), dry and succulent peas, flax, hybrid poplar plantings, lentils, mint (spearmint and peppermint), pineapple, ryegrass grown for seed, snap beans, soybeans, sugarbeets, sunflowers, Enlist™ field corn and noncrop areas. ASSURE® II is also registered for control of annual and perennial grasses in alfalfa, onion, carrot, garlic, Swiss chard, spinach, radish, Chinese cabbage, and red beets grown specifically under contract as non food/non feed crops for seed production only.

ASSURE® II does not control sedges or broadleaf weeds. Applied at specified rates and timings, ASSURE® II controls the grasses listed in the "Weeds Controlled and Rate Selection" chart. ASSURE® II will control emerged grasses. Subsequent flushes of grasses require additional treatment. See "Use Restrictions" portion of the label before using. Follow all use directions and restrictions listed for the specific crop.

Most Common Issue

Not Reading the *ENTIRE* Label

Agricultural Uses

DuPont™ ASSURE® II herbicide is a selective herbicide that controls annual and perennial grasses in canola, crambe, cotton, crops grown for seed, eucalyptus, dry beans (including Chickpea), dry and succulent peas, flax, hybrid poplar plantings, lentils, mint (spearmint and peppermint), pineapple, ryegrass grown for seed, snap beans, soybeans, sugarbeets, sunflowers, Enlist™ field corn and noncrop areas. ASSURE® II is also registered for control of annual and perennial grasses in alfalfa, onion, carrot, garlic, Swiss chard, spinach, radish, Chinese cabbage, and red beets grown specifically under contract as non food/non feed crops for seed production only.

ASSURE® II does not control sedges or broadleaf weeds. Applied at specified rates and timings, ASSURE® II controls the grasses listed in the "Weeds Controlled and Rate Selection" chart. ASSURE® II will control emerged grasses. Subsequent flushes of grasses require additional treatment. See "Use Restrictions" portion of the label before using. Follow all use directions and restrictions listed for the specific crop.

Hybrid Poplar Plantings

ASSURE® II herbicide is registered for the control of grasses to aid in the establishment of hybrid poplar plantings in the states of Maine and Minnesota. ASSURE® II may be applied over hybrid poplar following planting.

What's in a Name?

Brand Name and Product Name Issues

- Roundup
  - Roundup ≠ glyphosate
    - Several Roundup brand products with NO glyphosate
- Similarly named products can have different rates, application restrictions, formulations, etc. for the SAME SITE/CROP

Attention to Detail

Regalia CG has a rate of 32-128 oz/A

Regalia 12 has a rate of 13.33-53.33 oz/A for *same crop*

REGALIA® 12 Biofungicide

A plant extract to boost the plants' defense mechanisms to protect against certain fungal and bacterial diseases, and to improve plant health.

Active ingredient: Extract of *Reynoutria sachalinensis* ....12 %
Other ingredients: .....88 %
Total .....100 %

EPA Reg. No. 84059-21

EPA Est. No. 085970-FL-001
EPA Est. No. 084059-MI-001

GROUP P5 FUNGICIDE

REGALIA® CG

BIOFUNGICIDE

A plant extract to boost the plants' defense mechanisms to protect against certain fungal and bacterial diseases, and to improve plant health.
Active ingredient: Extract of *Reynoutria sachalinensis* .....5 %
Other ingredients: .....95 %
Total .....100 %

EPA Reg. No. 84059-3

GROUP P5 FUNGICIDE

KEEP OUT OF REACH OF CHILDREN

CAUTION

Active Ingredient 5% vs 12%

PPE Variations

Princep 4L vs Princep 90

PRECAUTIONARY STATEMENTS *(continued)*

Mixers and loaders supporting groundboom applications must wear:

- Coveralls over long-sleeved shirt and long pants
- Chemical resistant gloves
- Chemical-resistant footwear plus socks
- Chemical-resistant apron
- A NIOSH-approved respirator with a dust mist filter (with MSHA/NIOSH approval number prefix TC-21C or with any N, R, P, or HE filter)

All other mixers, loaders, applicators, and other handlers must wear:

- Long-sleeved shirt and long pants
- Shoes plus socks
- Chemical-resistant gloves

Don’t trust everything you read on the internet…

Products not registered in the US

Company Buy Outs or Mergers

71007D2-18

MAVERICK®

Herbicide by Monsanto

WATER DISPERSIBLE GRANULE

Maverick® herbicide is a selective herbicide for the control of listed annual and perennial grasses and broadleaf weeds in winter and spring wheat.

Complete Directions for Use

VALENT®

OUTRIDER®

Herbicide

WATER DISPERSIBLE GRANULE

Outrider® Herbicide is a selective herbicide for the control of certain annual and perennial grasses and broadleaf weeds in select pasture grasses and rangelands, non-crop areas and in winter and spring wheat.

Carefully follow detailed instructions in label pamphlet.

Dow and Corteva

How to Avoid These Pickles?

Oregonforestlaws.org

Use PICOL!!

- **P**esticide
- **I**nformation
- **C**enter
- **O**n-
- **L**ine

Anders Marlowe/Unsplash

PICOL Database

Navigate to the Pesticide Information Center OnLine Home Page: https://picol.cahnrs.wsu.edu/

WASHINGTON STATE UNIVERSITY

Pesticide Information Center OnLine (PICOL)

Home | Search | Help | API Registration

Language English

PICOL Search

Search

Not sure what to search for? Try entering a pesticide product name, pest, crop, etc. Or, simply press 'Enter' in the search bar to view all products.

Pesticide Information Center OnLine (PICOL) Database

Welcome to the Washington State University's Pesticide Resources and Education Program (PREP) pesticide label database. This free, searchable database is operated by Washington State University through funding provided from the Oregon Department of Agriculture, Oregon State University, the Washington State Department of Agriculture, and Washington State University.

PICOL provides electronic copies (i.e., PDFs) of most Washington and many Oregon registered labels. PDFs are only accepted directly from WSDA and ODA. NOTE: WEB LABELS ARE FOR INFORMATIONAL PURPOSES ONLY. THIS DATABASE IS NOT A SUBSTITUTE FOR OBTAINING, READING, AND FOLLOWING PESTICIDE LABEL DIRECTIONS. PICOL INFORMATION HAS NO LEGAL STATUS, WHEREAS THE CONTAINER LABEL IS A LEGAL DOCUMENT.

Not sure what to search for? Try entering a pesticide name, searching by ingredient, or searching by crop. Or simply click the search button to be taken to a results page where you can explore more filters to find exactly what you need.

PICOL does not include tolerance information or maximum residue limits. WSU PREP staff recommend users access either EPA's instructional page on searching the Code of Federal Regulations or the Global MRL database.

Quick Links

- All Labels
- Active SLNs
- Federal RUP
- OR SRUP
- WA SRUP
- WA I-502/I-692
- Organic

Endangered Species Act: Bulletins Live! 2

https://www.epa.gov/endangered-species/bulletins-live-two-view-bulletins

WHAT ARE BULLETINS?

Bulletins serve as a notification of geographically specific areas that require pesticide use limitations for the protection of threatened or endangered species and their designated critical habitat. Pesticide Use Limitation Area (PULA) may limit the application area, timing, or type of pesticide that can be used. Bulletins serve as an extension of the pesticide label therefore must be obtained before pesticide application.

Read the Pesticide Label

If your pesticide contains requirements to obtain a Bulletin, information will be located in the Directions for Use section of the label and will specifically direct you to obtain a Bulletin. If your pesticide label does not direct you to obtain a Bulletin no further Bulletin action is required.

PICOL Site Walk-through

Kristi Boone

https://picol.cahnrs.wsu.edu/

Why Use PICOL

- Read product labels before
  - Purchase
  - Use
  - Make sure you are stocked up with correct PPE
- Search for the right product for your application site
- Find the right product for your pest
- Build a resistance management plan
- Skip the product that won’t work!

Final Thoughts

- READ your label
- FOLLOW your label
- UNDERSTAND your label

→ Use PICOL to plan ahead!

WASHINGTON STATE UNIVERSITY

Thank you!

Kristi Boone
PICOL Manager

picol.info@wsu.edu

https://picol.cahnrs.wsu.edu/