



Pesticide Safety:  
There's more to  
know than read  
the label first.

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# What is a pesticide

- Any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest.
- Any substance or mixture of substances intended for use as a plant regulator, defoliant, or desiccant.
- Any nitrogen stabilizer.
- A product is likely to be a pesticide if the labeling or advertising:
  - Makes a claim to prevent, kill, destroy, mitigate, remove, repel or any other similar action against any pest.
  - Indirectly states or implies an action against a pest.
  - Draws a comparison to a pesticide.
  - Pictures a pest on the label.



# EcoEXEMPT Jet

## Wasp & Hornet Spray

**KILLS:** Wasps, hornets, yellow jackets and spiders instantly

**FOR USE AROUND:** Residential, commercial and institutional establishments such as schools, government buildings, nursing and assisted living facilities and office buildings

**15-18 FT. JET**

### ACTIVE INGREDIENTS:

From Plant Essential Oils

Rosemary Oil

Peppermint Oil

2-Phenethyl Propionate

## Not considered pesticides

- Drugs used to control the diseases of humans or animals, which are regulated by the FDA
- Fertilizers and soil nutrients
- Certain low-risk substances such as cedar chips, garlic and mint oil are exempted from regulation by EPA (requires license)
- 25b classification requires no signal word (mostly food-safe compounds)
  - Oils like cedar, clove, cottonseed, garlic, linseed, mint, rosemary, thyme
- Pest control devices (i.e., mousetraps) are not pesticides, but subject to labeling requirements



## What is Pesticide Toxicity and Exposure?

# What is Risk?

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**ACTUARIAL:** A measure of the probability and severity of an adverse effect.

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**LEGAL:** The probability or chance that a particular hazard will lead to injury.

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**BUSINESS:** The probability of loss resulting from inadequate or failed internal processes.

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**MILITARY:** The probability or chance that a particular threat will exploit a particular vulnerability.

# Defining Risk



Toxicity

Exposure



Hazard

**Reduce risk by reducing your exposure...Read the label!**

Risk Expressed  
as Cost

Threat

Vulnerability

Assets/Cost

Risk



# Categories of Risk



Legal risk

Compliance enforcement (prosecution)  
Liability (litigation)



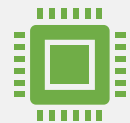
Financial risk

Assets (loss of money)  
Liability (debits)



Market risk

Loss of sales  
Loss of profit (reduced margin, bottom line)



Technology risk

Breakdown (down time)  
Disruption (interruption of activity)



# Factors That Increase Risk

A person wearing a full-body white protective suit, including a hood and a respirator mask, is walking through a field. They are carrying a large, red cylindrical container, likely a pesticide tank, on their back. The background shows green foliage and a bright, hazy sky.

- Toxicity

- chemicals
- physical conditions
- human health factors

- Exposure (handler)

- mixing/loading
- application
- cleanup
- storage/transport
- disposal

- Exposure (workers/public)

- entering treated areas
- movement off site
- transport
- mix/load/storage sites
- disposal
- spills
- exposure to treated crops

# Laws to Reduce Risk

- U. S. Laws

- FFDCA 1908
- FIFRA 1947
  - updated several times
- OSHA 1973
- ESA 1973
- RCRA 1973
- SARA Title III
- CWA 1974
- SDWA 1975
- 40 CFR 170-171
- FQPA 1996
- Patriot Act 2001
- FMSA 2015

- Texas Laws

- Pesticide Law 1899
- Herbicide Law
- Clean Air Act
- Clean Water Act
- Solid Waste Disposal
- OSHA
- TX Health Code
- TX Occupational Code
- TX Admin. Code
- Public Information Act 1993

# Areas Where Applicators Can Reduce Risk

A woman in a white lab coat and orange gloves is working in a greenhouse. She is standing in a row of hanging plants, which appear to be leafy greens. The greenhouse has a white plastic covering and metal support structures. The background is slightly blurred, showing more of the greenhouse structure and other plants.

- Pesticide Toxicity


- least toxic pesticides
- non-chemical alternatives
- rate, dilution, formulation

- Exposure (handler)

- use PPE
- use of advanced packaging systems
- implement advanced handling systems

- Exposure (workers/public)

- control access
- control runoff/leaching/drift
- change transportation factors
- mix/load/storage sites
- minimize waste
- be prepared to handle spills
- avoid harvesting
- Best Management Practices – SOPs



## Common Signs and Symptoms of Pesticide Poisoning

- Eye irritation
- Nose and throat pain
- Skin rash
- Dizziness
- Headache
- Muscle aches or cramps
- Exhaustion
- Nausea
- Diarrhea
- Chest pain
- Breathing difficulties
- Blurred vision
- Excessive salivation or drooling
- Very small, pinpoint pupils
- Lack of muscle control
- Convulsions or seizures
- Unconsciousness

The Type  
and Severity  
of Symptoms  
Depend on:

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The Pesticide

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The Route of Exposure

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The Length of Exposure

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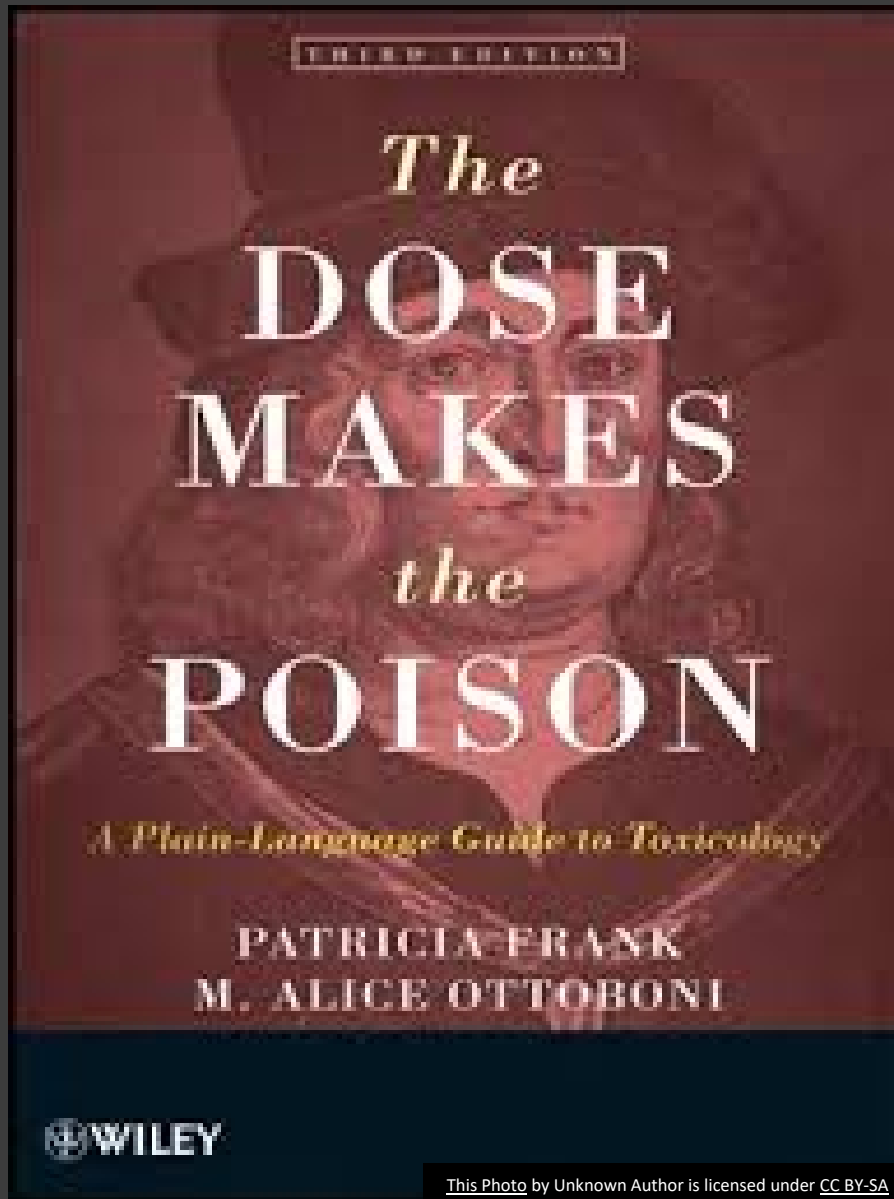
How Often you are Exposed

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Age of the Person

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Health of the Person



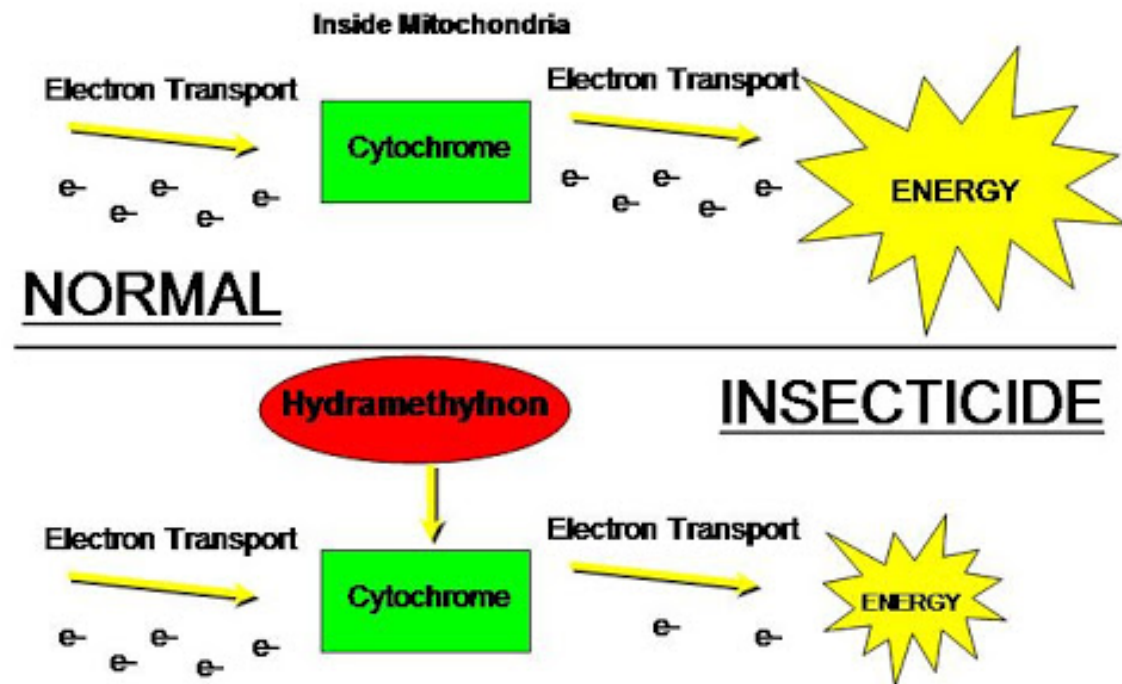
## Not all pesticides are equally toxic!

- First rule of toxicology: The dose makes the poison
  - All things are poison, and nothing is without poison; only the dose permits something not to be poisonous.

# How insecticides work: Modes of action

- Nervous system poisons
  - Acts on the nerve
- Metabolic inhibitors
  - Affect ability of target to process food
- Hormone mimics
  - Disrupt normal growth & reproduction
- Physical poisons
  - Physically damage insect
- Repellents & attractants

## Modes Of Action – Hydramethlynon



# Mode of Action Classification

- All products have been assigned to groups based on their mode of action:
  - i.e. pyrethroids are Group 3; Neonicotinoids are Group 4A, Spinosad is Group 5, Diamides are Group 28
- Product labels include the number corresponding to the mode of action group.
- The aim is to help product users make better decisions such as product rotations or tank mixing.

GROUP 4A INSECTICIDE





# Commonly used L&O pesticides 1950-1970

- Organo-chlorines
  - DDT
  - chlordane
  - lindane
  - heptachlor
  - dicofol (Kelthane®)
  - methoxychlor
- Organophosphates
  - malathion
  - diazinon
  - chlorpyrifos (Dursban®)
  - trichlorfon (Dylox®)
  - dimethoate (Cygon®)
- Carbamates
  - carbaryl (Sevin®)



# Other insecticides in use 1950-1970

- Botanicals
  - pyrethrum
  - nicotine sulfate
- Dormant oils
  - non-nerve toxin



## LESCO<sup>®</sup> Horticultural Oil Insecticide

NET FOR USE on plants being grown for sale or other commercial use, or for commercial and production, or for research purposes. For use on plants intended for aesthetic purposes or climate modification and being grown in enclosed gardens or parks, or in golf courses or trees and grounds, or in residential fruit trees.

A highly refined superior spray oil for control of insects and mites on fruit trees and ornamentals.

Active Ingredient:	Classification: Petroleum Oil
Refined Petroleum Distillate 98.00%	Petroleum Distillate (Minimum) 98.00%
Other Ingredients: 1.00%	50% Distillation Point of Petroleum Distillate 0.44%
Total 100.00%	Flour Paste 0.00%
	Weight per gallon 7.2 lb

EPA Reg. No. 10604-06 EPA Est. No. 12607-S-1

**KEEP OUT OF REACH OF CHILDREN  
CAUTION  
FIRST AID**

IF SWALLOWED:	• Call a poison control center or doctor immediately for treatment advice. • Do not induce vomiting unless told to do so by the poison control center or doctor. • Do not give any liquid to a person. • Do not give anything by mouth to an unconscious person.
IF IN EYES:	• Flush eyes with water and move eyelids up and down with water for 15-20 minutes. Remove contact lenses, if present, after the first few minutes. Then continue flushing. • Call a poison control center or doctor for treatment advice.
IF ON SKIN OR CLOTHING:	• Use oil contaminated clothing. • Remove contaminated work clothes of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.
IF INHALED:	• Move person to fresh air. • If person is not breathing, call 911 or an ambulance. Then give artificial respiration, preferably by mouth-to-mouth, if possible. • Call a poison control center or doctor for further treatment advice.

**NET LIQ. NUMBER**

Always use product container or label with you when calling a poison control center or doctor or going to hospital. For more information, contact the U.S. Dept. of Health and Human Services, Washington, D.C. 20204.

**NOTE TO PESTICIDE**

Contains 100% refined petroleum distillate, including 100% refined petroleum distillate. See additional instructions elsewhere on label.

**#019492**

NET CONTENTS 2.5 U.S. GALS.

Manufactured for LESCO, Inc., 11800 Sprague Road, Strongsville, Ohio 44136-1172

# Insect nervous system

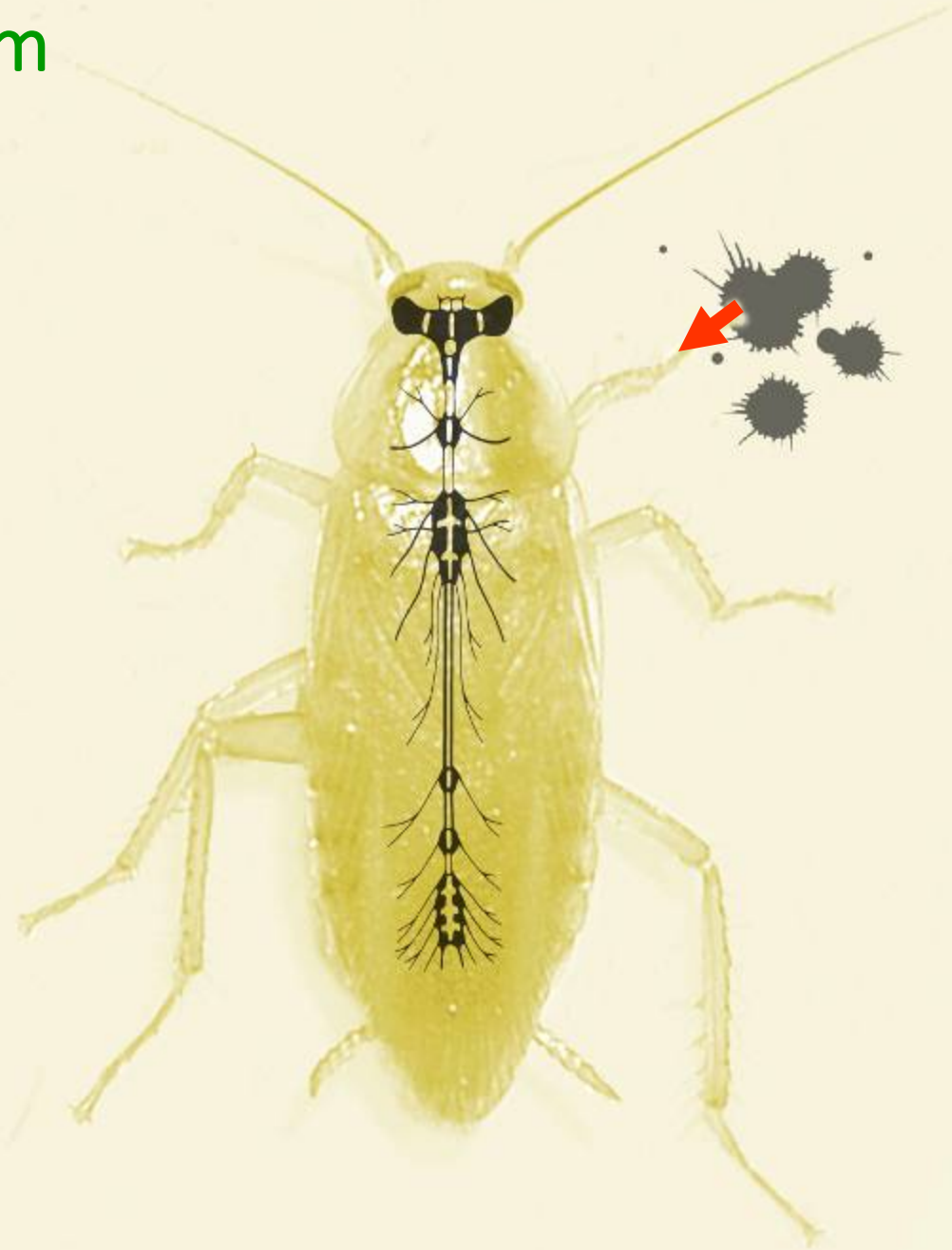
Nerve cord located on bottom of body



Toxins absorbed by cuticle and taken into blood



Very quick movement to nerve cord



# IRAC

1	Acetylcholinesterase (A... inhibitors	∨
2	GABA-gated chloride ch... antagonists	∨
3	Sodium channel modula...	∧
A	Pyrethroids, Pyrethrins	∨
B	DDT, Methoxychlor	∧
	DDT	
	Methoxychlor	
4	Nicotinic acetylcholine r... (nAChR) competitive mo...	∨
5	Nicotinic acetylcholine r... (nAChR) allosteric modul...	∨
6	Glutamate-gated chloride channel (GluCl) allosteric	∨

## Some modern insecticide classes

- botanicals
- pyrethroids
- carbamates
- nicotinoids
- fiproles
- pyridazinones
- juvenile hormone analogs
- chitin synthesis inhibitors
- avermectins
- spinosyns
- oils
- others

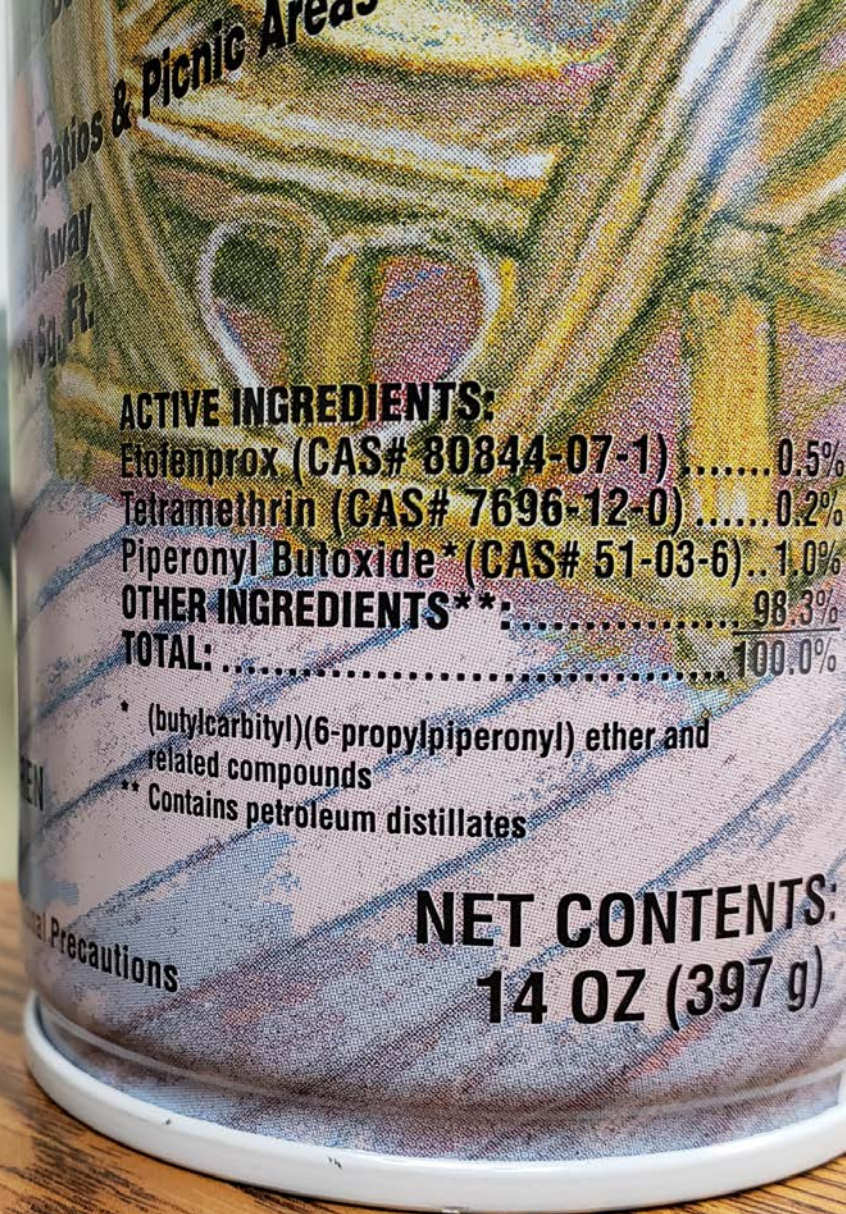


42 distinct insecticide groups and subgroups based on modes of action

# Why is knowing about insecticide classes important?

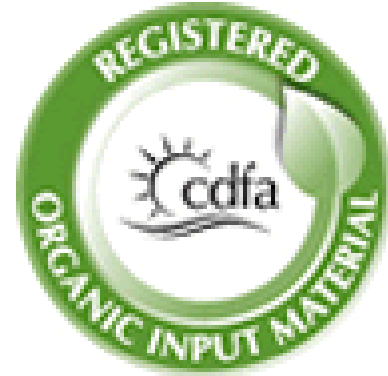
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- Aids in remembering insecticide characteristics and efficacy ratings
- Helps in resistance management
  - compounds in a given group usually share a common mode of action
  - pesticide rotation only worthwhile if rotation is made among different insecticide classes (groups)



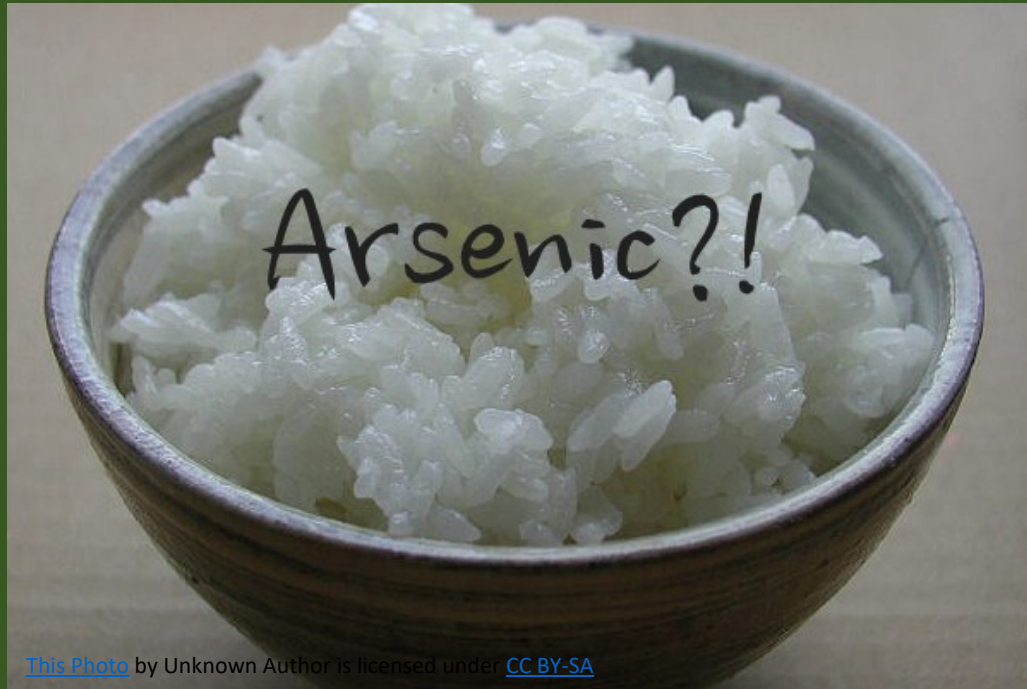
# Organic vs. Synthetic

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- Organic pesticides include products derived from natural sources
- Synthetic pesticides are human-produced

# Are organic products inherently safe?



Poison ivy

# Low impact pesticides

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- Contact or short-lived insecticides
- Insect growth regulators IGR
- Baits
- Microbial based products
- Other insecticides with low toxicity to beneficials and humans





# Some terms

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- *Contact* - you get what you hit
- *Residual* - continues to kill on surfaces after dry
- *Systemic* - refers to water soluble insecticides that are taken up in plant's phloem system
- *Translaminar* - some movement into leaf, controlling insects on inside of leaf or on leaf undersides



# Pesticide Labeling

Most important source of information about a pesticide



The label is the law!



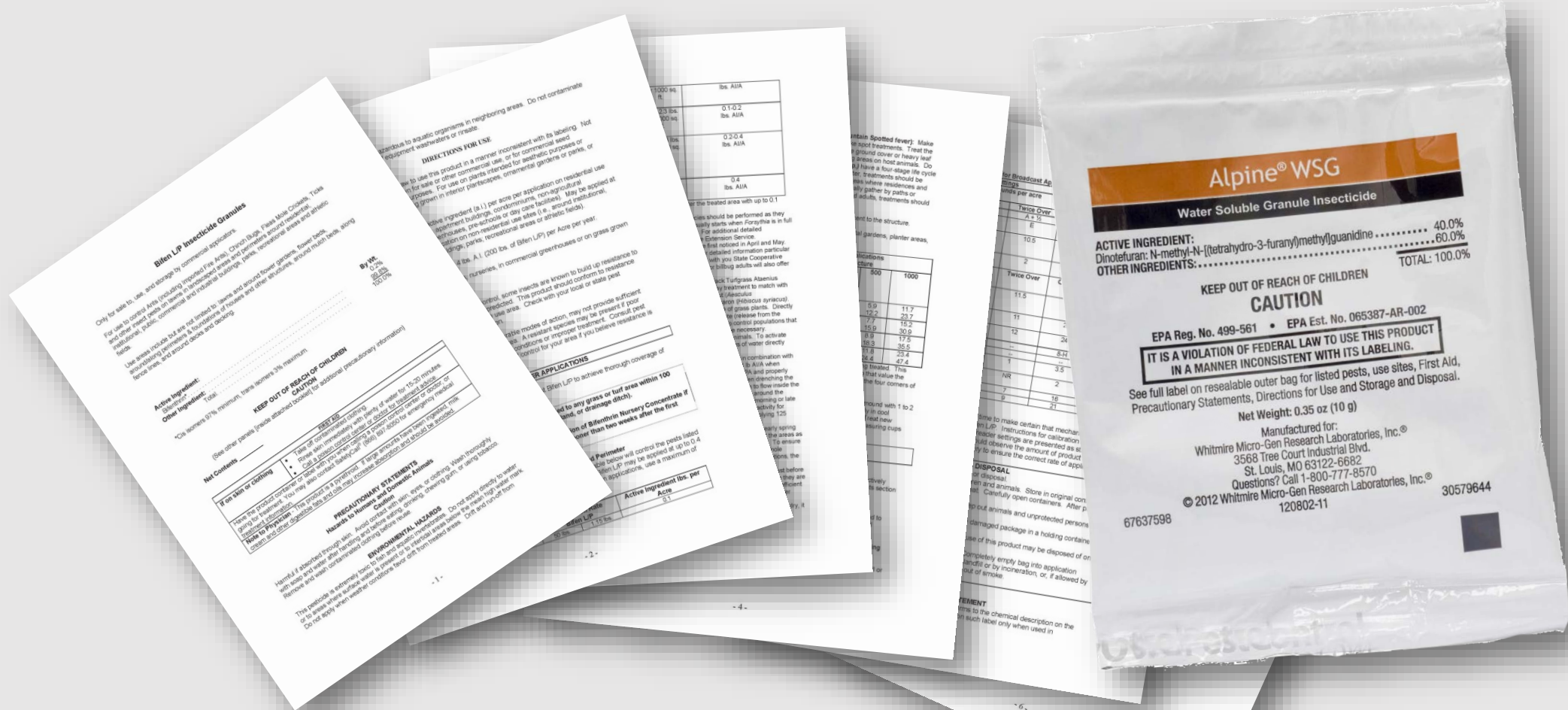
Read the label

before you buy/sell  
the product

before you use the  
product

before you dispose  
of the product

# Pesticide Labels may be extensive documents or text printed directly on the pesticide container



# Legal considerations

- Use of any pesticide inconsistent with its label is prohibited by federal and state law
- Deliberate violations of the label can result in heavy fines, imprisonment, or both



# Every Label Will Have This Information

- Trade name
- Ingredients
- Manufacturer name and address
- EPA Establishment No
- EPA Registration No.
- Special consideration
- Directions for use
- Child Warning Statement
- Front panel precautionary statements
- Statement of Practical Treatment



# Safety Data Sheets (HCS 2012/GHS Format)

On March 26, 2012, OSHA published the final rule of its revised Hazard Communication Standard (HCS) 29 CFR §1910.1200 to align with the Globally Harmonized System for the Classification and Labeling of Chemicals (GHS).

One of many changes to the HCS is the move from a performance-oriented to a uniformity-oriented approach or standardized format for Safety Data Sheets (SDS), previously called Material Safety Data Sheets (MSDS). The goal is to enhance hazard communication and workplace safety through consistency.

## Retained Requirements

- Employers must have an SDS in the workplace for each hazardous chemical used.
- SDS must be readily available to employees in their work areas and during their shifts.
- SDS must be in English.

## New Provisions

- SDS must be in a uniform format that includes at least the required section numbers, headings and associated information.\*

## Compliance Dates

- By December 1, 2013, employers must train employees on new Safety Data Sheets.
- By June 1, 2015, all SDSs must be in the uniform format as prescribed in HCS 2012.

\* This poster describes the minimum information that an SDS must include to comply with the HCS 2012. "Non-Mandatory" sections fall outside of OSHA's jurisdiction and will not be enforced. However, they are included to show what a fully GHS-compliant SDS would require— in addition to the OSHA-mandated ones.

## 1 Identification



- Product identifier used on the label;
- Other means of identification;
- Recommended use of the chemical and restrictions on use;
- Name, address, and telephone number of the manufacturer, importer, or other responsible party;
- Emergency phone number.

## 2 Hazard(s) Identification



- Classification of the chemical;
- Signal word, hazard statement(s), symbol(s) and precautionary statement(s);
- Unclassified hazards.

## 3 Composition/Information on Ingredients



### For Substances

- Chemical name;
  - Common name and synonyms;
  - CAS number and other unique identifiers;
  - Impurities and stabilizing additives which are classified.
- For Mixtures (in addition to required substance information)**  
The chemical name and concentration or concentration ranges of all ingredients which are classified as health hazards.

**Note on Trade Secret Claims:** Statement must be provided if chemical identity and composition have been withheld.

## 4 First Aid Measures



- Description of necessary measures, subdivided according to the different routes of exposure, i.e., inhalation, skin and eye contact, and ingestion;
- Most important symptoms/effects, acute and delayed;
- Indication of immediate medical attention and special treatment needed, if necessary.

## 5 Fire Fighting Measures



- Suitable (and unsuitable) extinguishing media;
- Specific hazard arising from the chemical (e.g., nature of any hazardous combustion products);
- Special protective equipment and precautions for fire-fighters.

## 6 Accidental Release Measures



- Personal precautions, protective equipment, and emergency procedures;
- Methods and materials for containment and cleaning up;

## 7 Handling and Storage



- Precautions for safe handling;
- Conditions for safe storage, including any incompatibilities.

## 8 Exposure Controls/Personal Protection



- OSHA permissible exposure limit (PEL) and any other exposure limit used or recommended by the chemical manufacturer, importer, or employer preparing the safety data sheet;
- Appropriate engineering controls;
- Individual protection measures, such as personal protective equipment.

## 9 Physical and Chemical Properties



- |   |   |
|---|---|
| (a) Appearance (physical state, color, etc.); | (j) Upper/lower flammability or explosive limits; |
| (b) Odor;                                     | (k) Vapor pressure;                               |
| (c) Odor threshold;                           | (l) Vapor density;                                |
| (d) pH;                                       | (m) Relative density;                             |
| (e) Melting point/freezing point;             | (n) Solubility(ies);                              |
| (f) Initial boiling point and boiling range;  | (o) Partition coefficient: n-octanol/water;       |
| (g) Flash point;                              | (p) Auto-ignition temperature;                    |
| (h) Evaporation rate;                         | (q) Decomposition temperature;                    |
| (i) Flammability (solid, gas);                | (r) Viscosity.                                    |

## 10 Stability and Reactivity



- Reactivity;
- Chemical stability;
- Possibility of hazardous reactions;
- Conditions to avoid (e.g., static discharge, shock, or vibration);
- Incompatible materials;
- Hazardous decomposition products.

## 11 Toxicological Information



- Description of various toxicological (health) effects and available data:
- Information on the likely routes of exposure (inhalation, ingestion, skin and eye contact);
  - Symptoms related to the physical, chemical and toxicological characteristics;
  - Delayed and immediate effects and also chronic effects from short and long term exposure;
  - Short-term measures of toxicity (such as acute toxicity parameters);

## 12 Ecological Information (Non-Mandatory)



- Ecotoxicity (aquatic and terrestrial, where available);
- Persistence and degradability;
- Bioaccumulative potential;
- Mobility in soil;
- Other adverse effects (such as hazardous to the ozone layer).

## 13 Disposal Considerations (Non-Mandatory)



- Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging.

## 14 Transport Information (Non-Mandatory)



- UN number;
- UN proper shipping name;
- Transport hazard class(es);
- Packing group, if applicable;
- Environmental hazards (e.g., Marine pollutant (Yes/No));
- Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code);
- Special precautions.

## 15 Regulatory Information (Non-Mandatory)



- Safety, health and environmental regulations specific for the product in question.

## 16 Other Information



- The date of preparation of the SDS or the last change to it.

# Hazard Communication Safety Data Sheets

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- **Section 1, Identification** includes product identifier; manufacturer or distributor name, address, phone number; emergency phone number; recommended use; restrictions on use.
- **Section 2, Hazard(s) identification** includes all hazards regarding the chemical; required label elements.
- **Section 3, Composition/information on ingredients** includes information on chemical ingredients; trade secret claims.
- **Section 4, First-aid measures** includes important symptoms/effects, acute, delayed; required treatment.
- **Section 5, Fire-fighting measures** lists suitable extinguishing techniques, equipment; chemical hazards from fire.
- **Section 6, Accidental release measures** lists emergency procedures; protective equipment; proper methods of containment and cleanup.

# Hazard Communication Safety Data Sheets

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- **Section 7, Handling and storage** lists precautions for safe handling and storage, including incompatibilities.
- **Section 8, Exposure controls/personal protection** lists OSHA's Permissible Exposure Limits (PELs); ACGIH Threshold Limit Values (TLVs); and any other exposure limit used or recommended by the chemical manufacturer, importer, or employer preparing the SDS where available as well as appropriate engineering controls; personal protective equipment (PPE).
- **Section 9, Physical and chemical properties** lists the chemical's characteristics.
- **Section 10, Stability and reactivity** lists chemical stability and possibility of hazardous reactions.
- **Section 11, Toxicological information** includes routes of exposure; related symptoms, acute and chronic effects; numerical measures of toxicity



# Other Info

- Section 12, Ecological information\*
- Section 13, Disposal considerations\*
- Section 14, Transport information\*
- Section 15, Regulatory information\*
- **Section 16, Other information**, includes the date of preparation or last revision.
- Employers must ensure that SDSs are readily accessible to employees.

**GHS BASICS**  
Globally Harmonized System of Classification and Labeling of Chemicals

Revised Hazard Communication Standard: 29 CFR 1910.1200

GHS = new labels + safety data sheets (formerly MSDS) + new pictogram

### CHEMICAL LABELS

The GHS requires that label preparers designate the appropriate hazard warnings using four key elements on each label:

- Pictogram:** A visual warning that identifies the hazards of a specific chemical.
- Signal Word:** A single word to indicate the severity of a hazard. Danger = severe. Warning = less severe.
- Hazard Statement:** Describes the hazard(s) of a chemical dependent on its hazard class and category.
- Precautionary Statements:** Describes the measures to be taken to minimize or prevent adverse effects resulting from exposure, improper storage or improper handling of a hazardous chemical.

### SAFETY DATA SHEETS (SDSs)

The SDS provides users with 16 standardized categories of information pertaining to a chemical's hazards. This facilitates safe handling of the chemical and allows for safe procedures in the event of an emergency.

- Identification:** Includes the product identifier, the manufacturer's or distributor's name, address, phone number and emergency phone number, recommended use, and restrictions on use.
- Hazard identification:** Includes all hazards regarding the chemical required label elements.
- Composition/information on ingredients:** Includes information on the chemical's ingredients, such as their ratios.
- First-aid measures:** Includes acute and delayed symptoms, required treatment.
- Fire fighting measures:** Lists suitable extinguishing equipment, chemical hazards from fire.
- Accidental release measures:** Lists emergency procedures, protective equipment, proper methods of containment and cleanup.
- Handling and storage:** Lists precautions for safe handling and storage, including incompatibilities.
- Exposure controls/personal protection:** Lists OSHA's Permissible Exposure Limits (PELs), Threshold Limit Values (TLVs), workplace engineering controls, personal protective equipment (PPE).
- Physical and chemical properties**
- Stability and reactivity**
- Toxicological information**
- Ecological information\***
- Disposal considerations\***
- Transport information\***
- Regulatory information\***
- Other information**  
\*ecological information

### PICTOGRAMS

Nine pictograms represent health, physical and environmental hazards.

- EXPLOSIVES**  
Self-reactives  
Organic Peroxides
- FLAMMABLES**  
Pyrophorics  
Self-heating  
Self-reactives
- OXIDIZERS**
- CORROSIVES**  
Skin Corrosion/Irritant  
Eye Damage  
Corrosive to Metals
- GASES UNDER PRESSURE**
- ACUTE TOXICITY (Severe)**
- ACUTE TOXICITY (Harmful)**  
Irritant  
Skin Sensitizer  
Respiratory Tract Irritant
- CARCINOGEN**  
Reproductive Toxicity  
Target Organ Toxicity  
Aspiration Toxicity
- ENVIRONMENTAL TOXICITY**

English version [shown here](#)



# Let's Review Common Types of Products

# Pyrethroid Products

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All outdoor applications must be limited to spot or crack and crevice treatments only, except for the following permitted uses:

1. Treatment of soil or vegetation around structures;
2. Applications to lawns, turf, and other vegetation;
3. Applications to the side of a building, up to a maximum height of 3 feet above grade;
4. Applications to underside of eaves or soffits, and covered doors and windows;
5. A pin stream application, defined as one inch wide, or less; and
6. Applications made through the use of a coarse, low-pressure spray to only those portions of surfaces that are directly above bare soil, lawn, turf, mulch or other vegetation, as listed on this label, and not over an impervious surface, drainage or other condition that could result in runoff into storm drains, drainage ditches, gutters, or surface waters, in order to control occasional invaders or congregating pests.



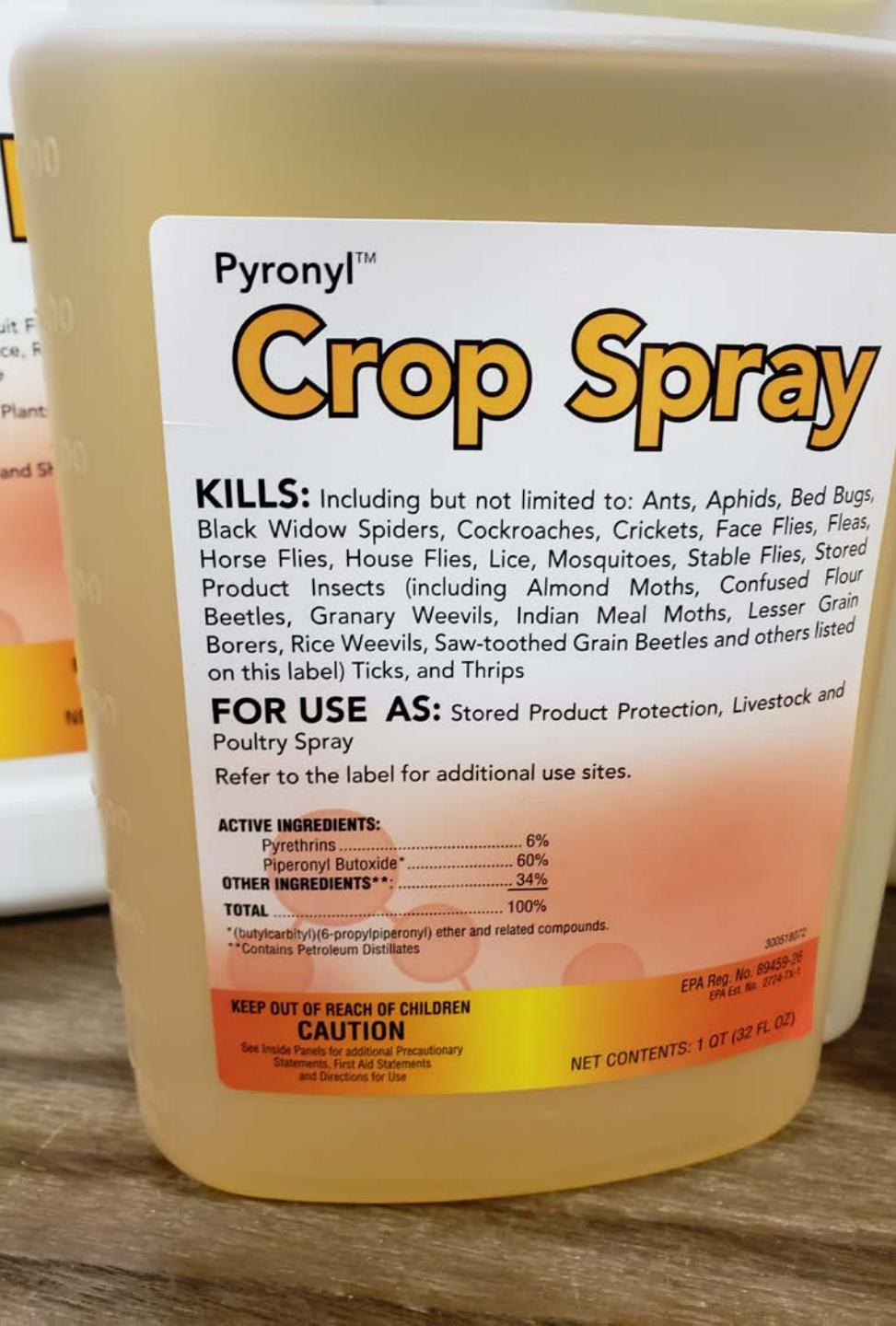
# Pyrethroid label changes – Granular

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Requirements for Granular Formulations labeled or intended for outdoor uses:

- Apply this product directly to the lawn or garden area. Water treated area as directed on this label. Do not water to the point of run-off
- Do not make applications during rain.





# Pyrethroid label changes – Liquid, RTU

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Requirements for Liquid, Dust, and Ready-to-Use Formulations products labeled or intended for outdoor residential uses:

- Do not water the treated area to the point of run-off.
- Do not make applications during rain, frozen, and/or extreme wet areas
  - Don't treat within 10' of storm drains
  - Don't treat within 25' to aquatic habitats

# Pyrethroid label changes

Additional Application Restrictions For General Outdoor Surface and Space Sprays, except for outdoor fogging devices:

- All outdoor applications must be limited to spot or crack-and-crevice treatments only, except for the following permitted uses:
  - Treatment to soil or vegetation around structures;
  - Applications to lawns, turf, and other vegetation;
  - Applications to building foundations, up to a maximum height of 3 ft.





# Arena<sup>®</sup> 50 WDG INSECTICIDE<sup>1</sup>



FOR FOLIAR AND SYSTEMIC CONTROL OF LISTED INSECTS IN COMMERCIAL AND RESIDENTIAL LANDSCAPES AND INTERIORSCAPES, NON-BEARING FRUIT AND NUT TREES, RESIDENTIAL APPLE AND PEAR TREES, TURFGRASS AND SITES WHERE PLANTS ARE GROWN FOR ORNAMENTAL, AESTHETIC AND CLIMATE MODIFICATION PURPOSES

Active Ingredient	By Wt
*Clothianidin	50.0%
Other Ingredients	50.0%
Total	100.0%

\*(E)-1-(2-chloro-1,3-thiazol-5-ylmethyl)-3-methyl-2-nitroguanidine  
EPA Reg. No. 59639-152  
EPA Est. 39578-TX-1<sup>®</sup>, 67545-AZ-1<sup>®</sup>  
Superscript is first letter in lot number.

**KEEP OUT OF REACH OF CHILDREN  
CAUTION**  
SEE BELOW FOR ADDITIONAL  
PRECAUTIONARY STATEMENTS.

### FIRST AID

**If swallowed:** Call poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to by the poison control center or doctor. Do not give anything by mouth to an unconscious person.

**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.

(continued)

**FIRST AID (continued)**  
**If inhaled:** Move person to fresh air. If person is not breathing, call 911 or ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.  
**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.

### HOT LINE NUMBER

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

### PRECAUTIONARY STATEMENTS

#### HAZARDS TO HUMANS AND DOMESTIC ANIMALS

**CAUTION**  
Harmful if swallowed. Harmful if inhaled. Avoid contact with skin. Harmful if inhaled. Avoid contact with clothing. Avoid breathing spray.

#### PERSONAL PROTECTIVE EQUIPMENT (PPE)

Applicators and other handlers wear long-sleeved shirt and long pants, chemical-resistant gloves (butyl rubber ≥ 14 mils, nitrile or neoprene rubber ≥ 14 mils, natural rubber latex ≥ 14 mils), and shoes or coveralls of ethylene, polyvinyl chloride ≥ 14 mils.

Follow the manufacturer's instructions for cleaning and maintaining PPE. If no such instructions are available, use detergent and hot water. Wash and clean PPE separately from other laundry.

#### ENGINEERING CONTROLS

When handlers use closed systems or enclosed cabs in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides (40 CFR 170.240 (d)(4-6)), the handler PPE requirements may be reduced or modified as specified in the WPS.

**IMPORTANT:** When reduced PPE is worn because a closed system is being used, handlers must be provided all PPE specified above for "applicators and other handlers" and have such PPE immediately available for use in an emergency, such as a spill or equipment break-down.

## Neonics Pollinators Beware



**SAMPLE PRODUCT IMAGE**  
See label for specific product information

# 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:

- Direct contact during foliar applications, or contact with residues on plant surfaces after foliar applications
- 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:

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

Incidents (for example, bee kills) should immediately be reported to the state/tribal lead agency. For more information, visit [www.epa.gov](http://www.epa.gov). Pesticide incidents can also be reported to the EPA at [1-800-455-7434](mailto:1-800-455-7434).

Alerts users to separate restrictions on the label. These prohibit certain pesticide use when bees are present.



The new bee icon helps signal the pesticide's potential hazard to bees.

Makes clear that pesticide products can kill bees and pollinators.

Bees are often present and foraging when plants and trees flower. EPA's new label makes it clear that pesticides cannot be applied until all petals have fallen.

Warns users that direct contact and ingestion could harm pollinators. EPA is working with beekeepers, growers, pesticide companies, and others to advance pesticide management practices.

Highlights the importance of avoiding drift. Sometimes, wind can cause pesticides to drift to new areas and can cause bee kills.

The science says that there are many causes for a decline in pollinator health, including pesticide exposure. EPA's new label will



## ENVIRONMENTAL HAZARDS

This product is toxic to aquatic invertebrates. Do not apply when weather conditions favor drift from treated areas. Drift and runoff may be hazardous to aquatic organisms in neighboring areas. Do not apply where runoff is likely to occur. Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwater or rinsate.

This product is toxic to bees exposed to treatment and for more than 5 days following treatment. Do not apply this product to blooming, pollen-shedding, or nectar-producing parts of plants if bees may forage on plants during this time period.

### 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.



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

## DIRECTIONS FOR USE

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

**READ ENTIRE LABEL. USE STRICTLY IN ACCORDANCE WITH PRECAUTIONARY STATEMENTS AND DIRECTIONS AND WITH APPLICABLE STATE AND FEDERAL REGULATIONS.**

Do not apply this product in any way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

### BEE HAZARD

See individual crops/use sites for specific pollinator protection application restrictions. If none exist under the specific crop/use site for foliar applications, follow these application directions for crops that are for food/feed and commercially grown ornamentals that are attractive to pollinators and non-agricultural uses:

Pollinator  
Protection Box

# Worker Protection

- Agricultural Worker
  - Work in treated fields or Greenhouses
  - Agricultural activities
    - Propagates plants, cuts turf
  - Exposed to pesticide residues
  - DO NOT HANDLE PESTICIDES
- Pesticide Handler
  - Mix, load, apply pesticides
    - Includes herbicides, granular baits, fungicides, defoliants, etc.
  - Fix application equipment
    - YES! Mechanics MAY BE handlers
  - Must be 18 years old

## **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 on this label about personal protective equipment (PPE), notification to workers 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 entry into treated areas during the restricted entry interval (REI) of 12 hours.

PPE required for early entry into 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, shoes and socks, chemical-resistant gloves made of any waterproof material.

## **NON-AGRICULTURAL USE REQUIREMENTS**

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

### RESISTANCE MANAGEMENT

*Arena* 50 WDG Insecticide<sup>1</sup> contains a Group 4A insecticide. Insect biotypes with acquired resistance to Group 4A insecticides may eventually dominate the insect population if Group 4A insecticides are used repeatedly in the same field or in successive years as the primary method of control for targeted species. This may result in partial or total loss of control of those species by *Arena* 50 WDG Insecticide<sup>1</sup> or other Group 4A insecticides.

To delay insecticide resistance consider:

- Avoiding the consecutive use of *Arena* 50 WDG Insecticide<sup>1</sup> or other Group 4A insecticides that have a similar target site of action on the same insect species.
- Using tank mixtures or premixes with insecticides from a different target site of action Group as long as the involved products are all registered for the same use and have different sites of action.

(continued)


(continued)

- Basing insecticide use on a comprehensive Integrated Pest Management (IPM) program.
- Monitoring treated insect populations for loss of field efficacy.
- Contacting your local extension specialist, certified crop advisors and/or manufacturer for insecticide resistance management or IPM recommendations for the specific site and resistant pest problems.
- For further information or to report a suspected resistance, you may contact Valent U.S.A. LLC at 800-898-2536.

# Resistance Management

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Difference  
between an  
indoor  
application  
and outdoor  
application

 <b>FOLIAR APPLICATION ON ORNAMENTALS IN OUTDOOR LANDSCAPES</b>			
<b>PLANTS</b>	<b>PESTS</b>	<b>ARENA 50 WDG INSECTICIDE<sup>1</sup> APPLICATION RATES (Per 100 Gals of Water)</b>	<b>SPECIAL INSTRUCTIONS</b>
Bedding Plants Evergreens Flowering Plants Foliage Plants Ground Covers Non-Bearing Fruit Trees Non-Bearing Nut Trees Non-Bearing Vines Ornamental Trees Shrubs	Aphids	0.63 to 1.26 oz	Uniformly apply the spray solution to the point of drip. Reapply as needed.  The amount of spray solution needed per acre will depend on the ornamental size and the density of the leaf canopy.
	Mealybugs Whiteflies	0.9 to 1.26 oz	
<b>RESTRICTION</b> <ul style="list-style-type: none"> <li>Regardless of the application method do not apply more than 0.4 lb active ingredient clothianidin per acre per year.</li> </ul>			

<b>FOLIAR APPLICATION ON ORNAMENTALS IN INTERIOR PLANTSCAPES</b>			
<b>PLANTS</b>	<b>PESTS</b>	<b>ARENA 50 WDG INSECTICIDE<sup>1</sup> APPLICATION RATES (Per 100 Gals of Water)</b>	<b>SPECIAL INSTRUCTIONS</b>
Bedding Plants Evergreens Flowering Plants Foliage Plants Ground Covers Non-Bearing Fruit Trees Non-Bearing Nut Trees Non-Bearing Vines Ornamental Trees Shrubs	Aphids	0.63 to 1.26 oz	Uniformly apply the spray solution to the point of drip. Reapply as needed.  The amount of spray solution needed per acre will depend on the ornamental size and the density of the leaf canopy.
	Mealybugs Whiteflies	0.9 to 1.26 oz	
<b>RESTRICTION</b> <ul style="list-style-type: none"> <li>Regardless of the application method do not apply more than 0.4 lb active ingredient clothianidin per acre</li> </ul>			



**BUCCANEER PLUS**  
glyphosate herbicide

**TENKÖZ**

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS (EXCEPT AS SPECIFIED FOR INDIVIDUAL ROUNDUP READY® CROPS), DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT.  
Non-selective, broad-spectrum weed control for many cropping systems, farmsteads and Conservation Reserve Program acres. Not all products specified in this label are registered for use in California. Check the registration status of each product in California before using.

ACTIVE INGREDIENT:  
\*Glyphosate, N-(phosphonomethyl)glycine, in the form of its isopropylamine salt . . . . . 41.0%  
OTHER INGREDIENTS: . . . . . 59.0%  
100.0%

\*Contains 480 grams per litre or 4 pounds per U.S. gallon of the active ingredient glyphosate, in the form of its isopropylamine salt. Equivalent to 356 grams per litre or 3 pounds per U.S. gallon of the acid, glyphosate.  
No license granted under any non-U.S. patent(s).

**Keep out of reach of children.  
WARNING! AVISO!**

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)  
Read the entire label before using this product. Use only according to label instructions.

**Nonrefillable container.** EPA REG. NO. 55467-9 EPA EST. NO. 42750-MO-001  
NET CONTENTS 2½ GALLONS

36829 002514 09Y14 Tenkoz, Inc.  
Alpharetta, GA 30005

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EPA Reg. No. 55467-9

AVOID CONTACT OF HERBICIDE WITH FOLIAGE, GREEN STEMS, EXPOSED NON-WOODY ROOTS OR FRUIT OF CROPS (EXCEPT AS SPECIFIED FOR INDIVIDUAL ROUNDUP READY CROPS), DESIRABLE PLANTS AND TREES, BECAUSE SEVERE INJURY OR DESTRUCTION MAY RESULT. Non-selective, broad-spectrum weed control for many cropping systems, farmsteads and Conservation Reserve Program acres. Not all products specified in this label are registered for use in California. Check the registration status of each product in California before using.

Read the entire label before using this product.  
Use only according to label instructions.  
It is a violation of Federal law to use this product in any manner inconsistent with its labeling. This product can only be used in accordance with the Directions for Use on this label or in separately published Tenzo Inc. Supplemental Labeling.  
Read the "LIMIT OF WARRANTY AND LIABILITY" statement at the end of the label before buying or using. If terms are not acceptable, return at once unopened.

THIS IS AN END-USE PRODUCT. TENZO INC. DOES NOT INTEND AND HAS NOT REGISTERED IT FOR REFORMULATION. SEE INDIVIDUAL CONTAINER LABEL FOR REPACKAGING LIMITATIONS.

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## INGREDIENTS

### 1<sup>o</sup> INGREDIENTS

#### ACTIVE INGREDIENT:

\*Glyphosate, N-(phosphonomethyl)glycine,  
in the form of its isopropylamine salt .....41.0%

OTHER INGREDIENTS: .....59.0%  
100.0%

\*Contains 480 grams per litre or 4 pounds per U.S. gallon of the active ingredient glyphosate, in the form of its isopropylamine salt. Equivalent to 356 grams per litre or 3 pounds per U.S. gallon of the acid, glyphosate.

No license granted under any non-U.S. patent(s).

## IMPORTANT PHONE NUMBERS

### 2<sup>o</sup> IMPORTANT PHONE NUMBERS

1. FOR PRODUCT INFORMATION OR ASSISTANCE IN USING THIS PRODUCT, CONTACT YOUR NEAREST TENKOZ INC. REPRESENTATIVE.

2. IN CASE OF AN EMERGENCY INVOLVING THIS HERBICIDE PRODUCT, OR FOR MEDICAL ASSISTANCE, CALL DAY OR NIGHT, 1-800-424-9300.

## PRECAUTIONARY STATEMENTS

### 3<sup>o</sup> PRECAUTIONARY STATEMENTS

#### 3<sup>1</sup> Hazards to Humans and Domestic Animals

Keep out of reach of children.

WARNING! AVISO!

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

CAUSES SUBSTANTIAL BUT TEMPORARY EYE INJURY.

HARMFUL IF SWALLOWED OR INHALED.

Do not get in eyes or on clothing.

Avoid breathing vapor or spray mist.

<b>FIRST AID:</b>	Call a poison control center or doctor for treatment advice.
<b>IF IN EYES</b>	<ul style="list-style-type: none"><li>• Hold eye open and rinse slowly and gently with water for 15 - 20 minutes.</li><li>• Remove contact lenses if present after the first 5 minutes then continue rinsing eye.</li></ul>
<b>IF INHALED</b>	<ul style="list-style-type: none"><li>• Remove individual to fresh air.</li><li>• If person is not breathing, call 911 or an ambulance then give artificial respiration, preferably mouth-to-mouth. Get medical attention.</li></ul>
<b>IF SWALLOWED</b>	<ul style="list-style-type: none"><li>• Call a poison control center or doctor immediately for treatment advice.</li><li>• Have person sip a glass of water or milk if able to swallow. This product will cause gastrointestinal tract irritation. Get medical attention.</li><li>• Do not induce vomiting unless told to do so by a poison control center or doctor.</li><li>• NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.</li></ul>
<b>HOT LINE NUMBER</b>	
<ul style="list-style-type: none"><li>• Have the product container or label with you when calling a poison control center or doctor, or going for treatment.</li><li>• You may also contact <b>1-800-424-9300</b>, day or night, for emergency medical treatment information.</li><li>• <b>This product is identified as Buccaneer Plus Glyphosate Herbicide, EPA Registration No. 55467-9.</b></li></ul>	

**DOMESTIC ANIMALS:** This product is considered to be relatively non-toxic to dogs and other domestic animals; however, ingestion of this product or large amounts of freshly sprayed vegetation may result in temporary gastrointestinal irritation (vomiting, diarrhea, colic, etc.). If such symptoms are observed, provide the animal with plenty of fluids to prevent dehydration. Call a veterinarian if symptoms persist for more than 24 hours.

#### Personal Protective Equipment (PPE)

**Applicators and other handlers must wear:** long-sleeved shirt and long pants, shoes plus socks, and protective eyewear.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d) (4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

# 2,4-D Amine Selective Weed Killer



## ALLIGARE 2,4-D AMINE

A SELECTIVE WEED KILLER

### Specimen Label

For control of many broadleaf weeds and brush control in corn field, pop and sorghum (BMR), soybeans (genotype), small grains (barley, millet, oats, rice, wheat), rice, sugarcane, fallow lands, pastures, above fruits and nut orchards, brush control, pastures, rangelands, forest management and in no-till areas such as lawns and ornamental turf, drainage ditches/creeks, fence rows and rights-of-way. Also for aquatic weed control, control of trees by injection, and bark exerts.

<b>ACTIVE INGREDIENT:</b>	Dimethylamine Salt of 2,4-Dichlorophenoxyacetic Acid	47.2%
<b>OTHER INGREDIENTS:</b>		52.8%
<b>TOTAL:</b>		100.0%

Normal Specific ACAC Method, Equivalent to:  
2,4-Dichlorophenoxyacetic Acid 39.2%, 3.0 lbs/gal.  
EPA Reg. No. 81927-38

### KEEP OUT OF REACH OF CHILDREN DANGER/PELIGRO

See label for details in Spanish. See also separate page for use, application and other details.  
(If you do not understand the label, find someone to explain it to you in Spanish.)

FIRST AID	
<b>If in eyes:</b>	Hold eye open and flush freely and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue flushing. Call a poison control center or doctor for treatment advice.
<b>If swallowed:</b>	Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.
<b>If on skin or clothing:</b>	Take off contaminated clothing. Wash skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.
<b>If inhaled:</b>	Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.
HOT LINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor for product information. You may also contact 1-800-424-9663 for emergency medical support.	
NOTE TO PHYSICIAN	
Indicate medical therapy may contain toxic herbicide ingredients.	
<b>Manufactured by:</b> Alligare, LLC 83, 87 Street Cordova, AL 36030	

**PRECAUTIONARY STATEMENTS**  
**HAZARD TO HUMANS AND DOMESTIC ANIMALS**  
**DANGER - PELIGRO**  
CORROSIVE: Causes irritation and chemical burns if swallowed. Harmful if absorbed through skin. Do not get eyes or clothing wet. Avoid contact with skin. Wear protective gear (goggles, face shield, safety glasses), long-sleeved shirt and long pants, gloves and socks, chemical resistant gloves.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**  
Wear protective gear and chemical resistant to this product (see later materials, label and/or a 14 mil, neoprene rubber 14 mils or better a 14 mils).

**All mixers, loaders, applicators, Poppers, and other handlers must wear:**  
• Eye protection (goggles, face shield or safety glasses)  
• Long-sleeved shirt and long pants  
• Socks and boots, plus  
• Chemical resistant gloves (except for applicators using groundboom equipment, pails and dipping and)  
• Chemical-resistant apron when mixing or loading, dipping, or soils or equipment, or otherwise required by the concentrate.  
See engineering controls for additional requirements.

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washable use, use detergent and hot water. Keep and wash PPE separately from other laundry. After each use of mix, contact or PPE must be removed and if that has been cleaned.

**Engineering Control Statement:**  
Users must use an enclosed respirator that meets the requirements listed in the NIOSH for agricultural pesticides (40 CFR 170.240(b)(8)). When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides (40 CFR 170.240(d)(4-6)), the label PPE requirements do not apply or modified as specified in the WPS.

**USER SAFETY RECOMMENDATIONS**  
**Wash hands:**  
• 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 clothing away separately. Wash face and hair immediately with soap and water.  
• Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

**ENVIRONMENTAL HAZARDS**  
This product may be toxic to fish and aquatic invertebrates and may adversely affect non-target plants. Do not apply directly to water, or to areas where surface water is present, or to inter-tidal areas below the mean high water mark except as noted on appropriate labels. Do not apply to areas where birds are present or nesting, or to areas where birds are present. Do not contaminate water when disposing of equipment wash water or excess.

This chemical has properties and characteristics associated with chemicals declared in groundwater. The use of this chemical in areas where soil is permeable, particularly where the water table is shallow, may result in groundwater contamination. Application around a well or well may result in contamination of drinking water or groundwater.

**For Aquatic Use:** Fish benefit dissolved oxygen in the water and decaying weeds also oxygen. When treating or mixing, lower water levels, if need for oxygen is based only part of the infestation at a time. For example, apply the product in lanes separated by untreated areas that can be treated after vegetation is treated areas has died. During the growing season, weeds decompose in a 2 to 3 week period following treatment. Begin treatment along the shore and proceed outwards in order to allow fish to move into untreated areas. Slotters having turbid and low water level infestations may not require further treatment.

**DIRECTIONS FOR USE**  
It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Read the entire label before using this product. Use only in accordance with label precautionary statements and directions. Do not apply this product in a way that will contact workers, other persons, or pets, other animals or livestock. Keep people and pets out of the area during application. Only protected regions may be in the area during application. For any requirements check to your State or Tribe, consult the agency responsible for pesticide regulation. Product should not be used in or near groundwaters.

**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 response. It also contains specific instructions and restrictions concerning the labeling of containers of this product and other information concerning the safe use of this product. This labeling is for use only in states in which this product has been registered under the Worker Protection Standard.

Do not enter or allow water entry into treated areas during the restricted entry interval (REI) of 48 hours.  
PPE required for entry into 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  
• Socks and shoes  
• Protective eyewear

**NON-AGRICULTURAL USE REQUIREMENTS**  
The requirements in this label apply to users of this product that are NOT under the scope of the Worker Protection Standard for agricultural pesticides (40 CFR Part 170). The WPS applies when the product is used to control agricultural pests in farms, forests, nurseries, or greenhouses.

**Entry Restrictions for Non-WPS Users:** When this product is applied to agricultural and residential lawns not treated for hay or seed, non-treated areas, when applied to residential lawns, lawns, and other areas in aquatic areas, do not allow people or pets to enter the treated area until restrictions have been lifted.

**SPRAY DRIFF MANAGEMENT**  
A variety of factors including weather conditions (e.g., wind direction, wind speed, temperature, relative humidity) and method of application (e.g., ground, aerial, aircraft) may influence pesticide drift. The applicator must evaluate all factors and make appropriate adjustments when applying this product.

**Drifted Spray**  
When applying sprays that contain 2,4-D as the active ingredient, or when applying mixes that contain 2,4-D mixed with active ingredients that require a drift or buffer zone, apply only as a Control or cover spray (ASAE Standard 172) or a no-till spray (ASAE Standard 173) or greater for spraying similar weeds. When applying sprays that contain 2,4-D mixed with other active ingredients that require a buffer or no-till spray, apply only as a Control or cover spray (ASAE Standard 172) or a no-till spray (ASAE Standard 173) or greater for spraying similar weeds.





# Personal Protective Equipment (PPE)



## USER SAFETY RECOMMENDATIONS

### Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. If pesticide gets on skin, wash immediately with soap and water.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

## PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS DANGER - PELIGRO

**CORROSIVE.** Causes irreversible eye damage. Harmful if swallowed. Harmful if absorbed through skin. Do not get in eyes or on clothing. Avoid contact with skin. Wear protective eyewear (goggles, face shield, safety glasses), long-sleeved shirt and long pants, shoes and socks, chemical resistant gloves.

## PERSONAL PROTECTIVE EQUIPMENT (PPE)

Some materials that are chemical-resistant to this product are barrier laminate, butyl rubber  $\geq 14$  mils, nitrile rubber  $\geq 14$  mils or viton  $\geq 14$  mils.

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

- Eye protection (goggles, face shield or safety glasses)
- Long-sleeved shirt and long pants
- Shoes plus socks, plus
- Chemical-resistant gloves (except for applicators using groundboom equipment, pilots and flaggers), and
- Chemical-resistant apron when mixing or loading, cleaning up spills or equipment, or otherwise exposed to the concentrate.

See engineering controls for additional requirements.

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry. After each day of use, clothing or PPE must not be reused until it has been cleaned.

# SPRAY DRIFT MANAGEMENT

**A variety of factors including weather conditions** (e.g., wind direction, wind speed, temperatures, relative humidity) and method of application (e.g., ground, aerial, airblast, chemigation) can influence pesticide drift. The applicator must evaluate all factors and make appropriate adjustments when applying this product.

## **Droplet Size**

- When applying sprays that contain 2,4-D as the sole active ingredient, or when applying sprays that contain 2,4-D mixed with active ingredients that require a Coarse or coarser spray, apply only as a Coarse or coarser spray (ASAE Standard 572) or a volume mean diameter of 385 microns or greater for spinning atomizer nozzles.
- When applying sprays that contain 2,4-D mixed with other active ingredients that require a medium or more fine spray, apply only as a Medium or coarser spray (ASAE standard 572) or a volume mean diameter of 300 microns or greater for spinning atomizer nozzles

## **Wind Speed**

- Do not apply at wind speeds greater than 15 mph. Only apply this product if the wind direction favors on-target deposition and there are not sensitive areas (including, but not limited to, residential areas, bodies of water, known habitat for nontarget species, nontarget crops) within 250 feet downwind. If applying a Medium spray, leave one swath unsprayed at the downwind edge of the field.

## **Temperature Inversions**

- If applying at wind speeds less than 3 mph, the applicator must determine if: a) conditions of temperature inversion exist, or b) stable atmospheric conditions exist at or below nozzle height. Do not make applications into areas of temperature inversions or stable atmospheric conditions.

## **Susceptible Plants**

- Do not apply under circumstances where spray drift may occur to food, forage, or other plantings that might be damaged or crops thereof rendered unfit for sale, use or consumption. Susceptible crops include, but are not limited to, cotton, okra, flowers, grapes (in growing stage), fruit trees (foliage), soybeans (vegetative stage), ornamentals, sunflowers, tomatoes, beans, and other vegetables, or tobacco.
- **Small amounts of spray drift that might not be visible may injure susceptible broadleaf plants.**

# Protections During Applications: Outdoor Production

## Watch Drift

Drift can result in contact that can make you ill or contaminate your clothes worn home



## Leave

If you see drift contacting non applicators, have them leave the area immediately and wash up as soon as is practical



## Keep out

Agricultural employers must keep workers and other persons out of application exclusion zones (AEZs) {area being sprayed/treated}

# Rules Meant to Inform You and Others

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**Pesticide safety training**

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**Trainer requirements/ Training material requirements**

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**Posted pesticide safety information**

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**Pesticide application recordkeeping**

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**Pesticide application notification requirements**

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FOR INFO CALL 469-302-4280

Thank You

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