WASHINGTON STATE UNIVERSITY

World Class. Face to Face.

Pesticide Safety

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Regional Extension Specialist

"DDT is good for me-e-e!"

Prevent, destroy, control, repel or mitigate pests

Plant regulators, defoliants, and dessicants

Washington Definition includes "spray adjuvants"

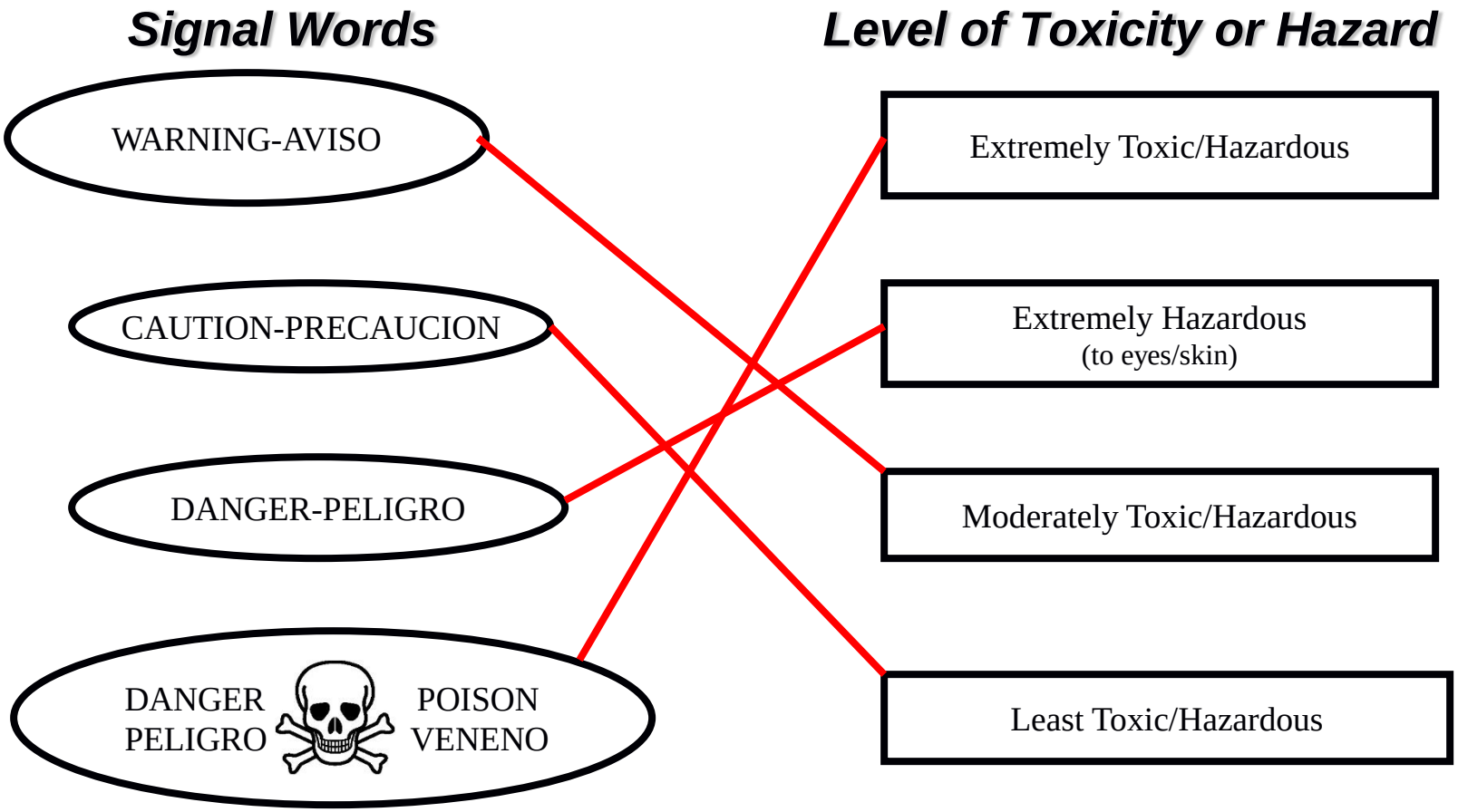
Legal Definition: Pesticide

What do these acronyms stand for?

- **EPA** — **Environmental Protection Agency**
- **NIOSH** — **National Institute for Occupational Safety and Health**
- **REI** — **Restricted Entry Interval**
- **PPE** — **Personal Protective Equipment**
- **PHI** — **Pre-Harvest Interval**
- **AI** — **Active Ingredient**
- **LD50** — **Lethal Dose 50**

Signal Word Exercise

Draw a line from the signal word to the statement that best describes the level of toxicity or hazard



DO NOT FORGET:

"The Label is the Law"

Label Statements

Mandatory Statements

Environmental Hazards
This product must not be mixed/loaded, or used within 50 feet of all wells, including abandoned wells, drainage wells, and sink holes.

Advisory Statements

General Application Instructions
Thorough coverage is essential to achieve control.

Pesticide “Use”

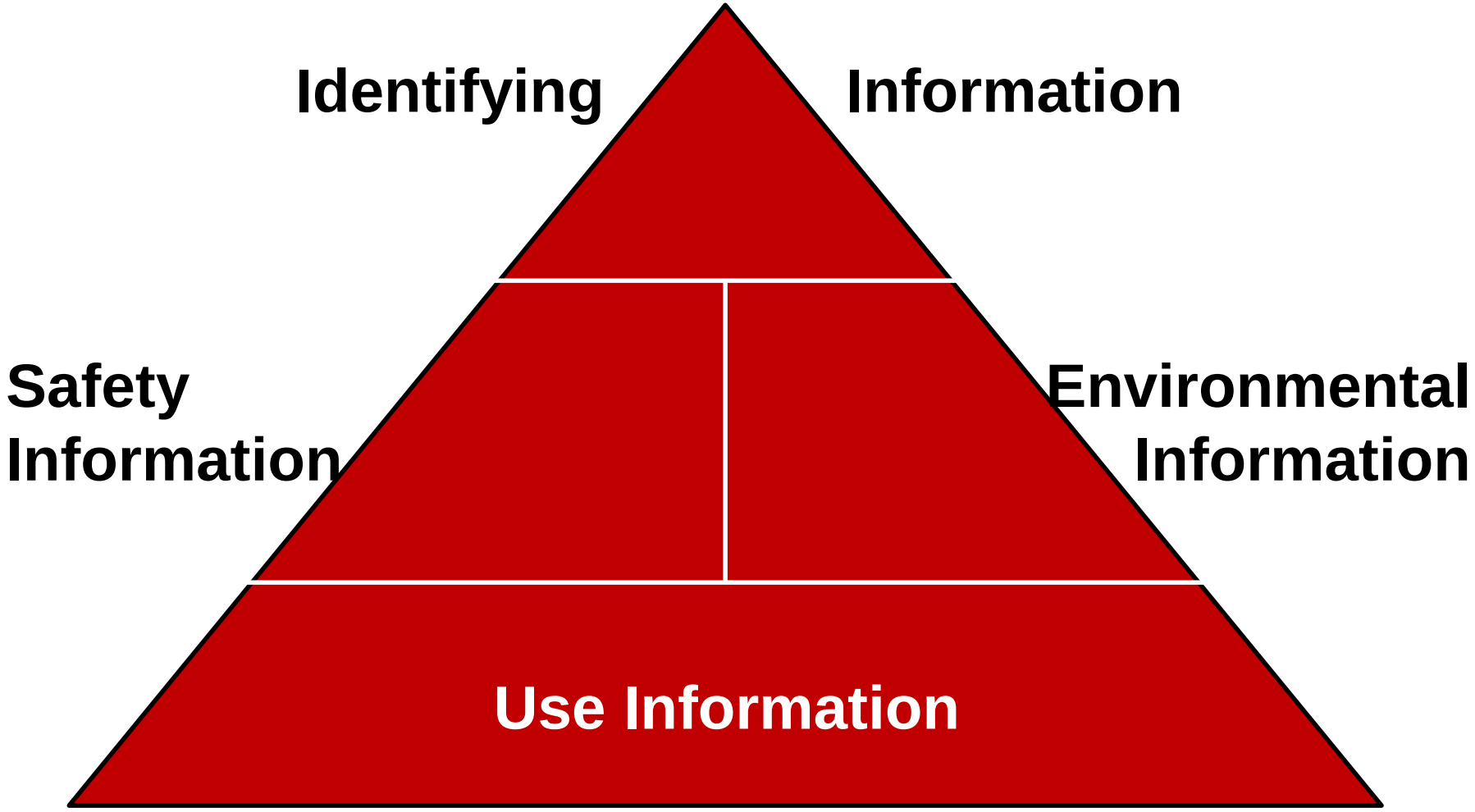
“Use” also includes the following

Mixing & Loading

Storing

Disposing

Main Components of the Label



Pesticide Label Exercise

- **What is signal word?**
- **What is REI?**

  Note: Caution and Warning labels - minimum 4 hours, unless label states longer

- **What is active ingredient, and how much is there?**

  Note: Dry formulations are a % of weight.
  Liquids are lbs. per gallon

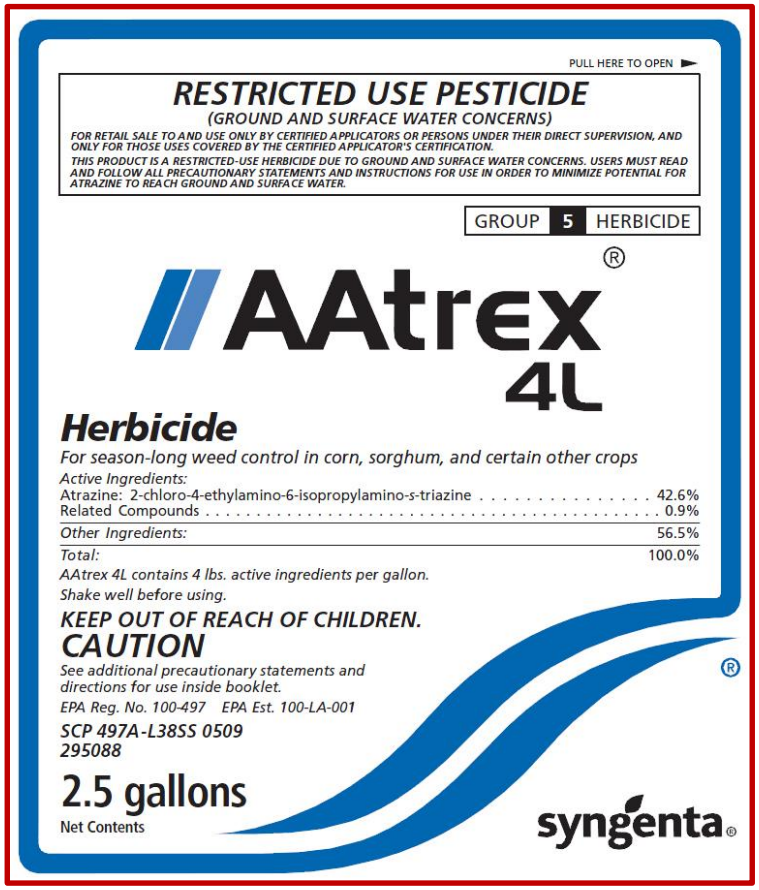
- **What are Brand, Common, and Chemical names?**
- **What kind of formulation is it?**
- **What are FIRST AID and Environmental Hazards?**
- **What PPE do you need to wear?**
- **What is the EPA Registration Number?**

Pesticide Label Exercise (continued)

- **Is this pesticide restricted or general use?**
- **Can an employee without a license apply this?**
- **What routes of entry are mentioned under “Precautionary Statements”?**
- **How are you required to notify people that they cannot enter the treated area during the Restricted Entry Interval?**

Restricted Use Statement

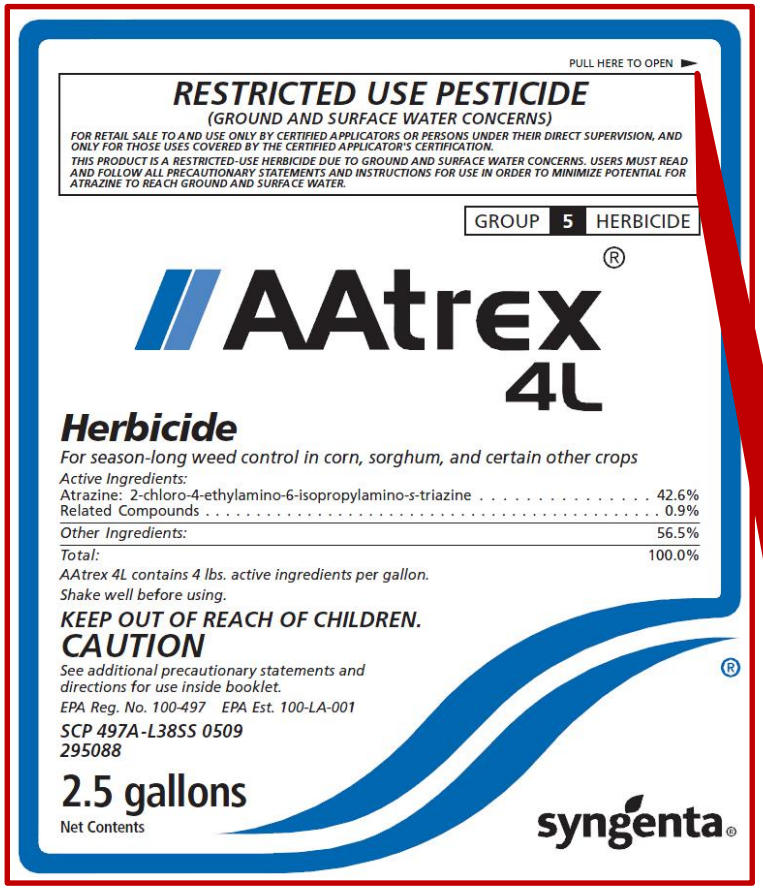
Identifying Information



Why is AAtrex a Restricted-Use Pesticide?

Restricted Use Statement

Identifying Information



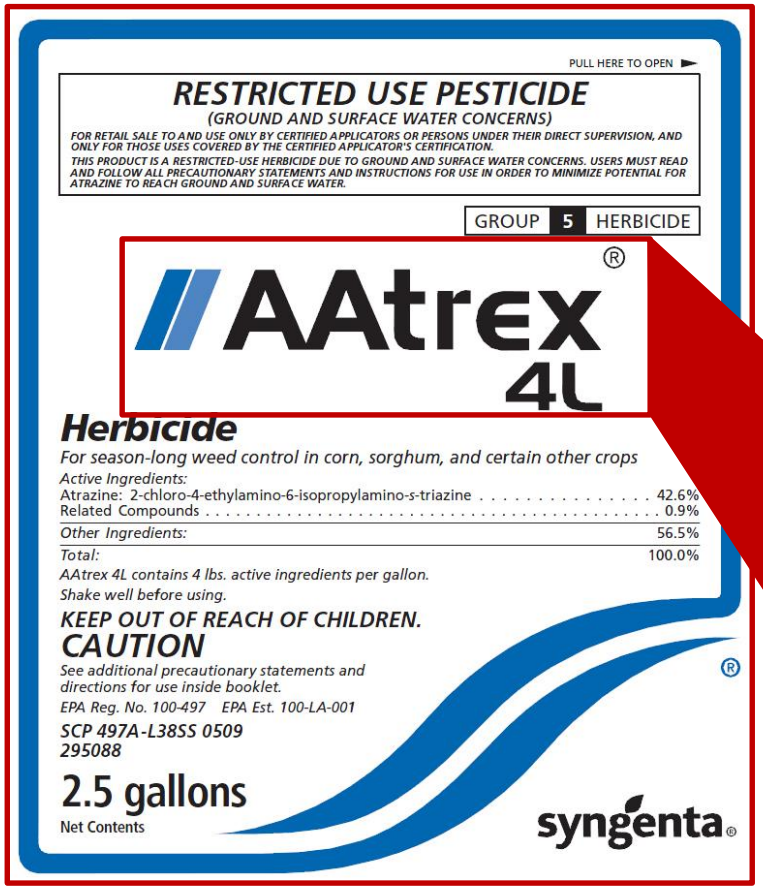
Why is AAtrex a Restricted Use Pesticide?

RESTRICTED USE PESTICIDE
(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.
THIS PRODUCT IS A RESTRICTED-USE HERBICIDE DUE TO GROUND AND SURFACE WATER CONCERNS. USERS MUST READ AND FOLLOW ALL PRECAUTIONARY STATEMENTS AND INSTRUCTIONS FOR USE IN ORDER TO MINIMIZE POTENTIAL FOR ATRAZINE TO REACH GROUND AND SURFACE WATER.

Due to ground and surface water concerns

Trade Name

Identifying Information



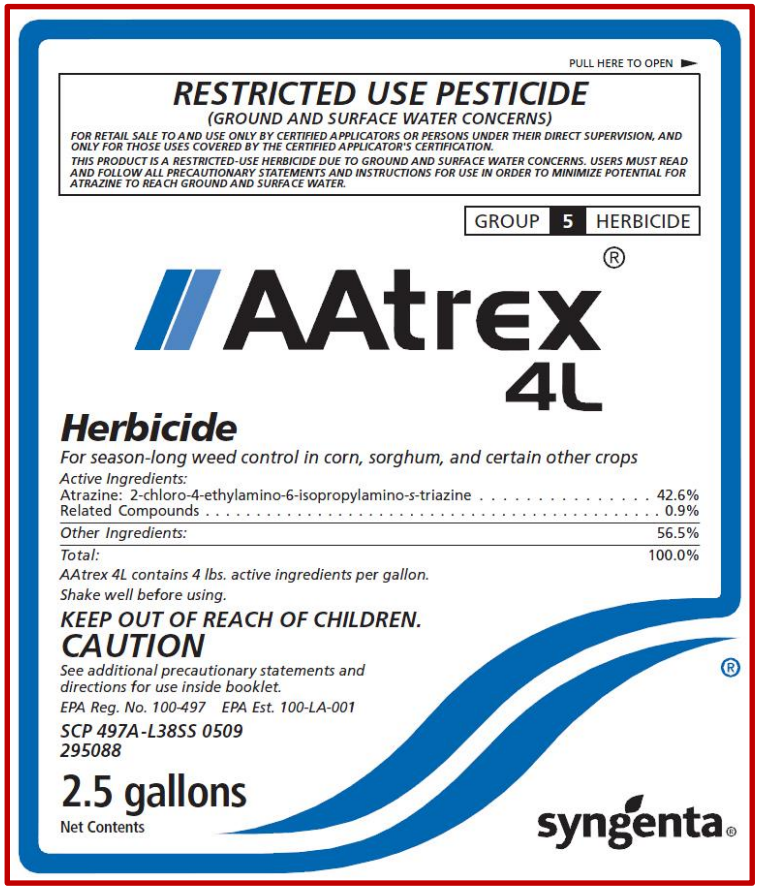
The snazzy name that makes you want to buy it.

AAtrex 4L

Herbicide

Registration Number

Identifying Information



What is AAtrex's EPA Registration Number?

Registration Number

Identifying Information

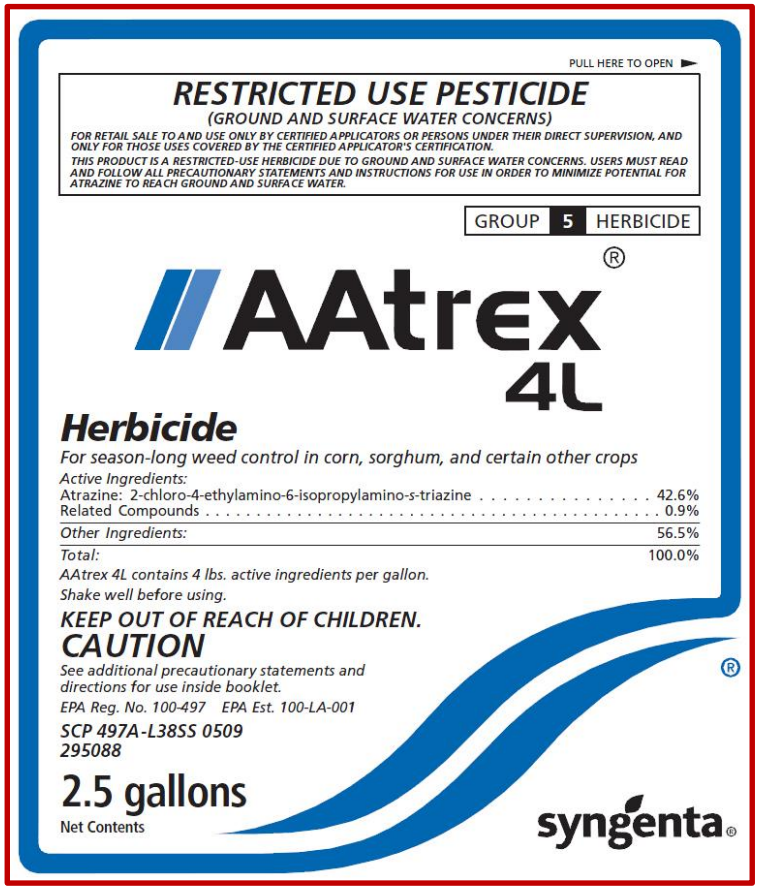
What is AAtrex's EPA Registration Number?

EPA Reg. No. 100-497

This is the number to be recorded in your pesticide application records

Ingredient Statement

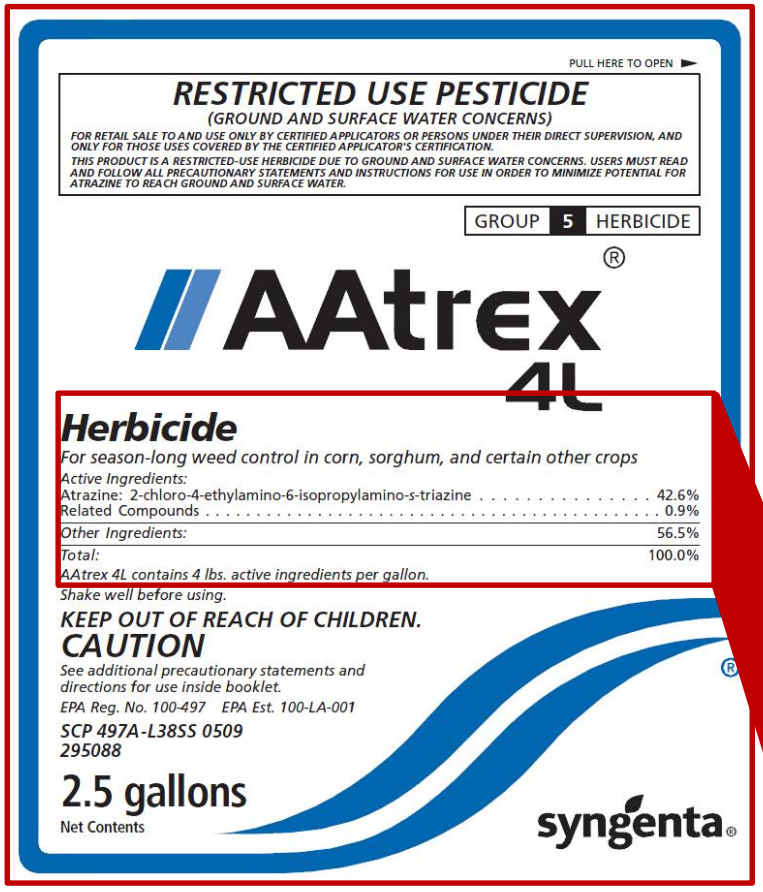
Identifying Information



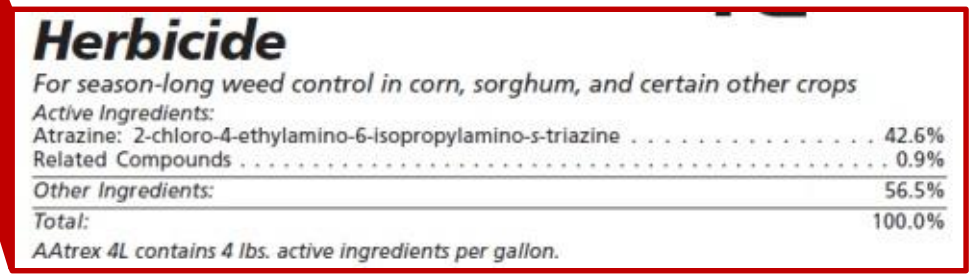
What percent of AAtrex is atrazine?

Ingredient Statement

Identifying Information

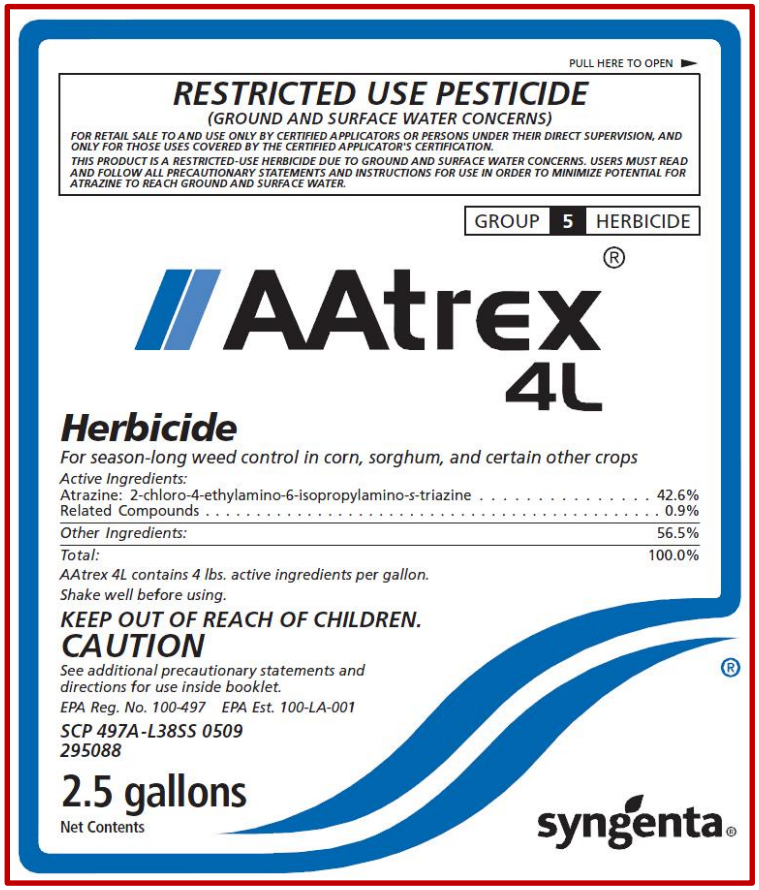


AAtrex's has 42.6% atrazine. This works out to be 4 lb per gal.



Ingredient Statement

Safety Information


PULL HERE TO OPEN

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GROUP 5 HERBICIDE

AAtrex® 4L

Herbicide

For season-long weed control in corn, sorghum, and certain other crops

Active Ingredients:

Atrazine: 2-chloro-4-ethylamino-6-isopropylamino-s-triazine	42.6%
Related Compounds	0.9%
Other Ingredients:	56.5%
Total:	100.0%

AAtrex 4L contains 4 lbs. active ingredients per gallon.

Shake well before using.

KEEP OUT OF REACH OF CHILDREN.

CAUTION

See additional precautionary statements and directions for use inside booklet.

EPA Reg. No. 100-497 EPA Est. 100-LA-001

SCP 497A-L38SS 0509
295088

2.5 gallons
Net Contents

syngenta®

Danger – Highly toxic

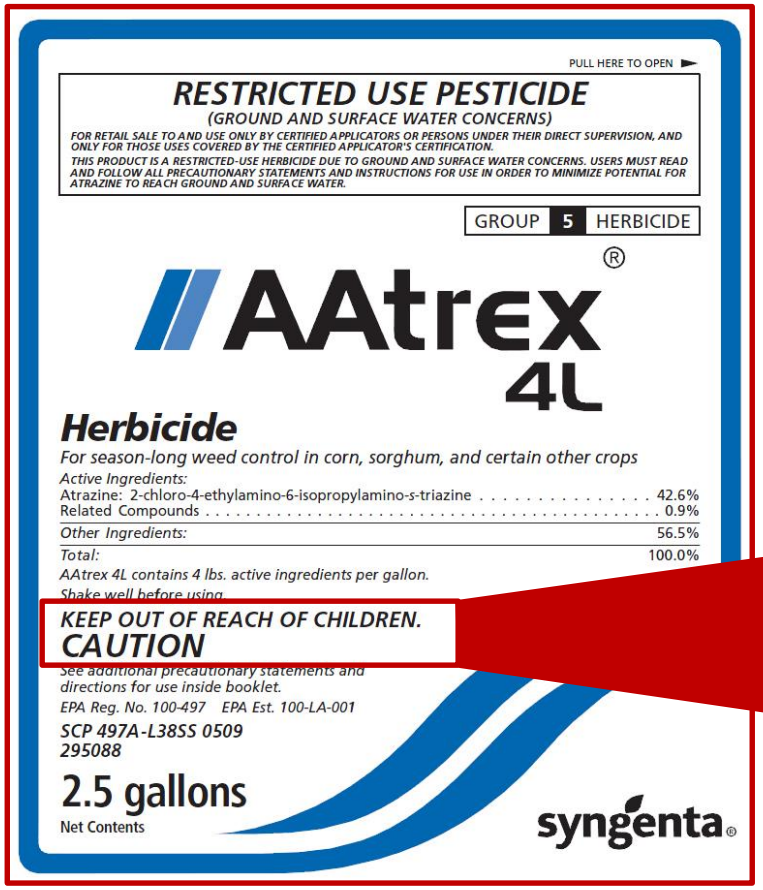
Warning – moderately toxic

Caution – slightly to relatively nontoxic

What is the relative Toxicity of AAtrex?

Ingredient Statement

Safety Information



What is the relative Toxicity of AAtrex?

First Aid Statement

Safety Information

PULL HERE TO OPEN

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FIRST AID	
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 swallowed	• 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.
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 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.
Have the product container or label with you when calling a poison control center or doctor, or going for treatment.	
HOT LINE NUMBER For 24 Hour Medical Emergency Assistance (Human or Animal) or Chemical Emergency Assistance (Spill, Leak, Fire, or Accident), Call **1-800-888-8372**	

First Aid Statement

Safety Information

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2.5 gallons
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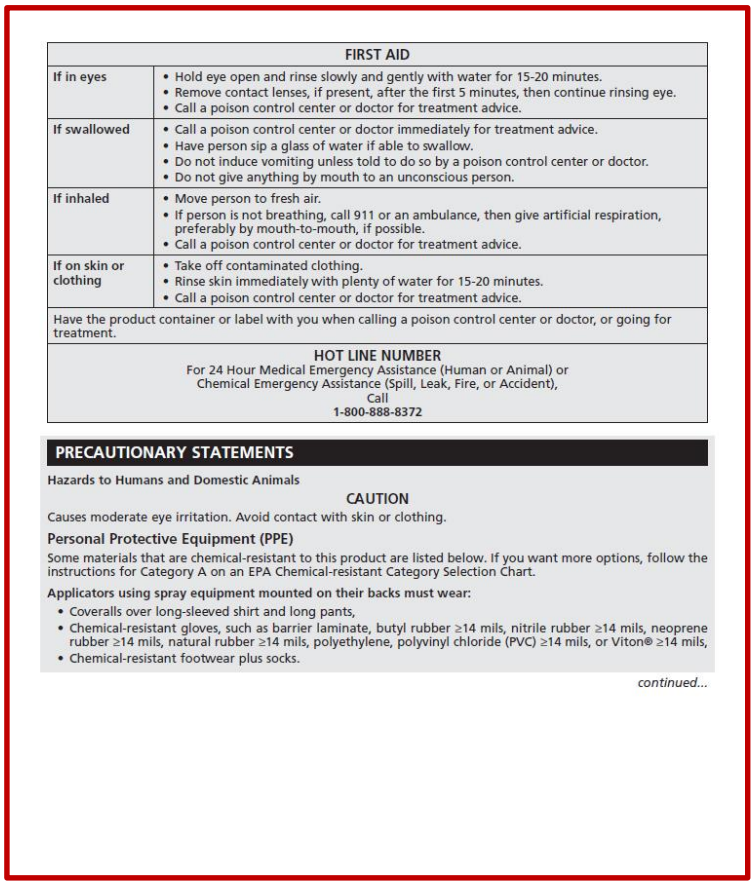
If swallowed, should you induce vomiting?

If swallowed	• 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.

Do not induce vomiting . .

PPE Statement

Safety Information



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PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

CAUTION

Causes moderate eye irritation. Avoid contact with skin or clothing.

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 A on an EPA Chemical-resistant Category Selection Chart.

Applicators using spray equipment mounted on their backs must wear:

- Coveralls over long-sleeved shirt and long pants,
- Chemical-resistant gloves, such as barrier laminate, butyl rubber ≥14 mils, nitrile rubber ≥14 mils, neoprene rubber ≥14 mils, natural rubber ≥14 mils, polyethylene, polyvinyl chloride (PVC) ≥14 mils, or Viton® ≥14 mils,
- Chemical-resistant footwear plus socks.

continued...

If all you had were neoprene rubber gloves, would you be OK regarding which gloves to wear?

PPE Statement

Safety Information

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continued...

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

CAUTION

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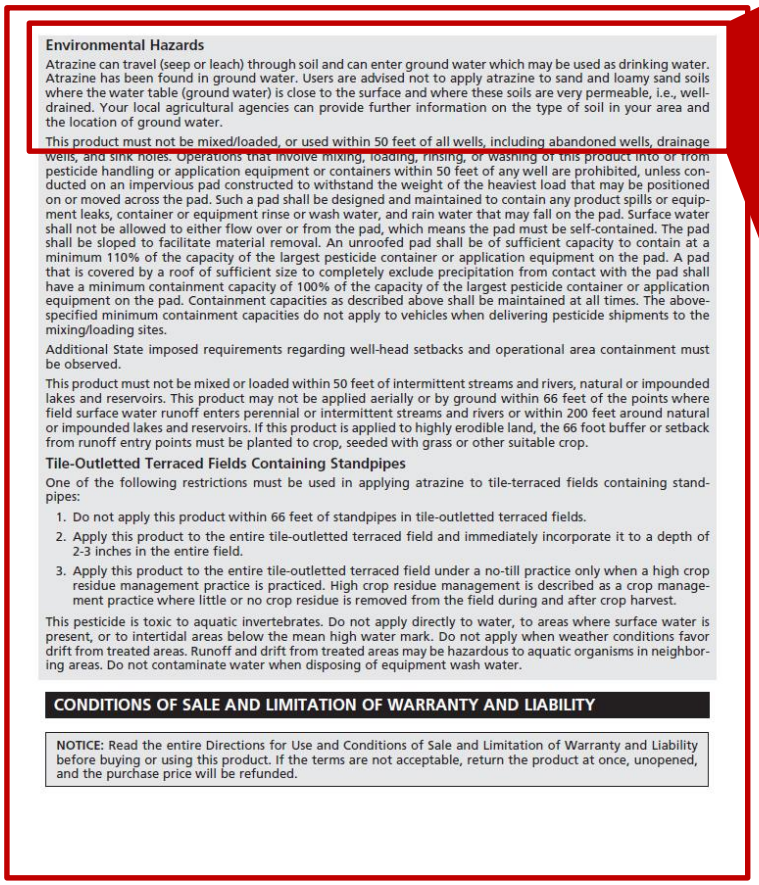
- Chemical-resistant footwear plus socks.

Neoprene will work

Environmental Protection Statement

Environmental Information



Environmental Hazards

Atrazine can travel (seep or leach) through soil and can enter ground water which may be used as drinking water. Atrazine has been found in ground water. Users are advised not to apply atrazine to sand and loamy sand soils where the water table (ground water) is close to the surface and where these soils are very permeable, i.e., well-drained. Your local agricultural agencies can provide further information on the type of soil in your area and the location of ground water.

This product must not be mixed/loaded, or used within 50 feet of all wells, including abandoned wells, drainage wells, and sink holes. Operations that involve mixing, loading, rinsing, or washing of this product into or from pesticide handling or application equipment or containers within 50 feet of any well are prohibited, unless conducted on an impervious pad constructed to withstand the weight of the heaviest load that may be positioned on or moved across the pad. Such a pad shall be designed and maintained to contain any product spills or equipment leaks, container or equipment rinse or wash water, and rain water that may fall on the pad. Surface water shall not be allowed to either flow over or from the pad, which means the pad must be self-contained. The pad shall be sloped to facilitate material removal. An unroofed pad shall be of sufficient capacity to contain at a minimum 110% of the capacity of the largest pesticide container or application equipment on the pad. A pad that is covered by a roof of sufficient size to completely exclude precipitation from contact with the pad shall have a minimum containment capacity of 100% of the capacity of the largest pesticide container or application equipment on the pad. Containment capacities as described above shall be maintained at all times. The above-specified minimum containment capacities do not apply to vehicles when delivering pesticide shipments to the mixing/loading sites.

Additional State imposed requirements regarding well-head setbacks and operational area containment must be observed.

This product must not be mixed or loaded within 50 feet of intermittent streams and rivers, natural or impounded lakes and reservoirs. This product may not be applied aerially or by ground within 66 feet of the points where field surface water runoff enters perennial or intermittent streams and rivers or within 200 feet around natural or impounded lakes and reservoirs. If this product is applied to highly erodible land, the 66 foot buffer or setback from runoff entry points must be planted to crop, seeded with grass or other suitable crop.

Tile-Outletted Terraced Fields Containing Standpipes

One of the following restrictions must be used in applying atrazine to tile-terraced fields containing standpipes:

1. Do not apply this product within 66 feet of standpipes in tile-outletted terraced fields.
2. Apply this product to the entire tile-outletted terraced field and immediately incorporate it to a depth of 2-3 inches in the entire field.
3. Apply this product to the entire tile-outletted terraced field under a no-till practice only when a high crop residue management practice is practiced. High crop residue management is described as a crop management practice where little or no crop residue is removed from the field during and after crop harvest.

This pesticide is toxic to aquatic invertebrates. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not apply when weather conditions favor drift from treated areas. Runoff and drift from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when disposing of equipment wash water.

CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

NOTICE: Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be refunded.

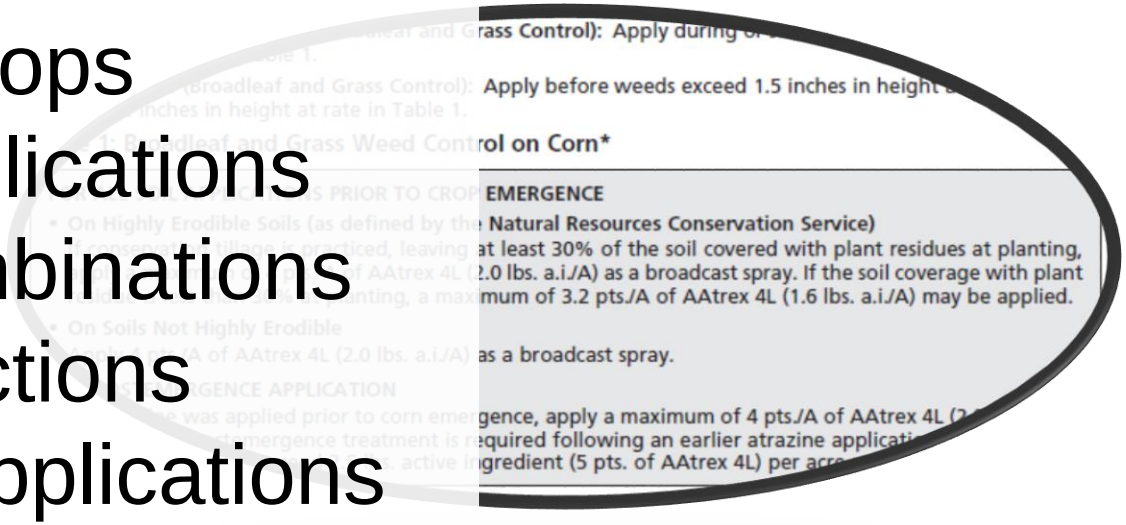
Atrazine can travel (seep or leach) through soil and can enter ground water which may be used as drinking water. Atrazine has been found in ground water. Users are advised not to apply atrazine to sand and loamy sand soils where the water table (ground water) is close to the surface and where these soils are very permeable, i.e., well drained.

State Law: advance notice to honeybee operators if it is requested

Application Instructions

Use Information

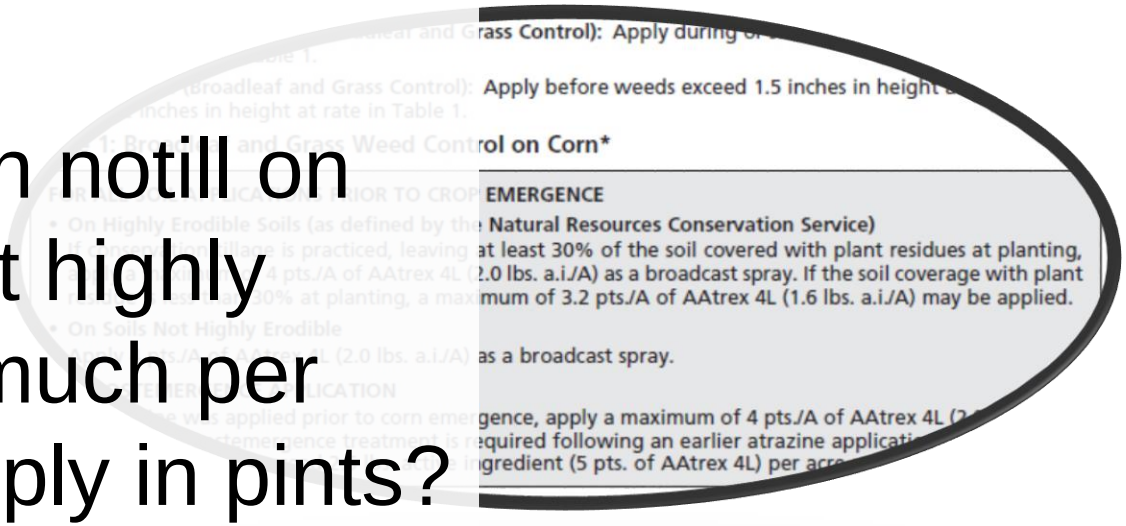
- Rates
- Registered crops
- Timing of applications
- Tank mix combinations
- Mixing instructions
- Methods of applications



Application Instructions

Use Information

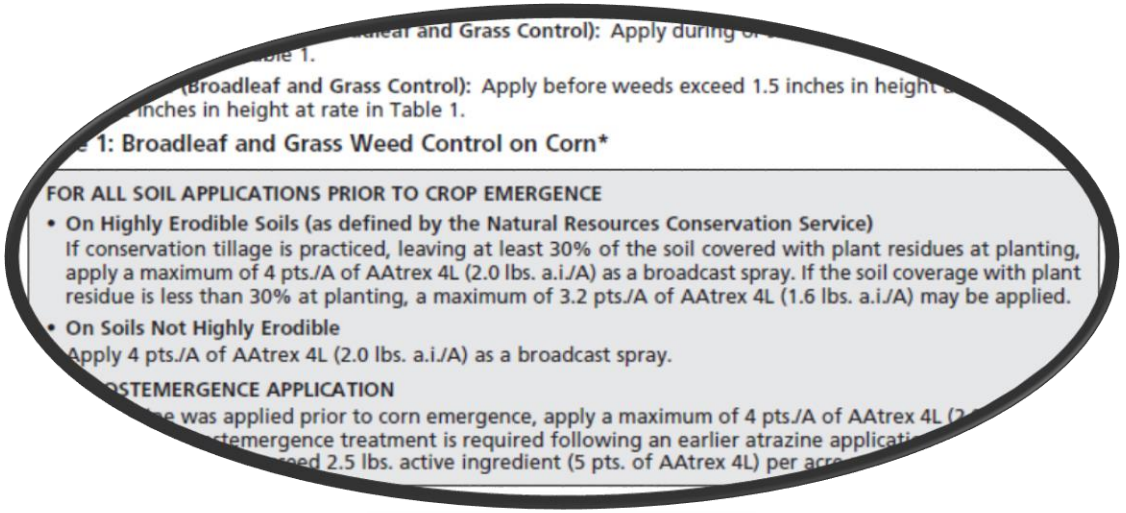
You want to control some lambsquarter preemergence in notill on soils that are not highly erodible. How much per acre can you apply in pints?



Application Instructions

Use Information

You can apply up to 4 pts of AAtrex



and Grass Control): Apply during

(Broadleaf and Grass Control): Apply before weeds exceed 1.5 inches in height

inches in height at rate in Table 1.

1: Broadleaf and Grass Weed Control on Corn*

FOR ALL SOIL APPLICATIONS PRIOR TO CROP EMERGENCE

- **On Highly Erodible Soils (as defined by the Natural Resources Conservation Service)**
  If conservation tillage is practiced, leaving at least 30% of the soil covered with plant residues at planting, apply a maximum of 4 pts./A of AAtrex 4L (2.0 lbs. a.i./A) as a broadcast spray. If the soil coverage with plant residue is less than 30% at planting, a maximum of 3.2 pts./A of AAtrex 4L (1.6 lbs. a.i./A) may be applied.
- **On Soils Not Highly Erodible**
  Apply 4 pts./A of AAtrex 4L (2.0 lbs. a.i./A) as a broadcast spray.

OSTEMERGENCE APPLICATION

e was applied prior to corn emergence, apply a maximum of 4 pts./A of AAtrex 4L (2

temergence treatment is required following an earlier atrazine applicati

eed 2.5 lbs. active ingredient (5 pts. of AAtrex 4L) per acre

Agricultural Use Requirements

Use Information

The Directions for Use of this product must be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of the product, which are beyond the control of SYNGENTA CROP PROTECTION, Inc. or Seller. To the extent permitted by applicable law, Buyer and User agree to hold SYNGENTA and Seller harmless for any claims relating to such factors.

SYNGENTA warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. To the extent permitted by applicable law: (1) this warranty does not extend to the use of the product contrary to label instructions or under conditions not reasonably foreseeable to or beyond the control of Seller or SYNGENTA, and, (2) Buyer and User assume the risk of any such use. TO THE EXTENT PERMITTED BY APPLICABLE LAW, SYNGENTA MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS WARRANTED BY THIS LABEL.

To the extent permitted by applicable law, in no event shall SYNGENTA be liable for any incidental, consequential or special damages resulting from the use or handling of this product. **TO THE EXTENT PERMITTED BY APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF SYNGENTA AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF SYNGENTA OR SELLER, THE REPLACEMENT OF THE PRODUCT.**

SYNGENTA and Seller offer this product, and Buyer and User accept it, subject to the foregoing Conditions of Sale and Limitation of Warranty and Liability, which may not be modified except by written agreement signed by a duly authorized representative of SYNGENTA.

DIRECTIONS FOR USE

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

ANY USE OF THIS PRODUCT IN AN AREA WHERE USE IS PROHIBITED IS A VIOLATION OF FEDERAL LAW. Before using this product, you must consult the Atrazine Watershed Information Center (AWIC) to determine whether the use of this product is prohibited in your watershed. AWIC can be accessed through www.atrazine-watershed.info or 1-866-365-3014. If use of this product is prohibited in your watershed, you may return this product to your point of purchase or contact Syngenta Crop Protection, Inc. for a refund.

Do not apply this product in a 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.

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 and exceptions pertaining to the statements on this label about personal protective equipment (PPE) 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 worker entry into treated areas during the restricted-entry interval (REI) of 12 hours. Exception: If the product is soil-injected or soil-incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

continued...

What is the REI for AAtrex?

Agricultural Use Requirements

Use Information

The Directions for Use of this product must be followed carefully. It is impossible to eliminate all risks inherently associated with the use of this product. Crop injury, ineffectiveness or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of the product, which are beyond the control of SYNGENTA CROP PROTECTION, Inc. or Seller. To the extent permitted by applicable law, Buyer and User agree to hold SYNGENTA and Seller harmless for any claims relating to such factors.

SYNGENTA warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. To the extent permitted by applicable law: (1) this warranty does not extend to the use of the product contrary to label instructions or under conditions not reasonably foreseeable to or beyond the control of Seller or SYNGENTA, and, (2) Buyer and User assume the risk of any such use. TO THE EXTENT PERMITTED BY APPLICABLE LAW, SYNGENTA MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS WARRANTED BY THIS LABEL.

To the extent permitted by applicable law, in no event shall SYNGENTA be liable for any incidental, consequential or special damages resulting from the use or handling of this product. **TO THE EXTENT PERMITTED BY APPLICABLE LAW, THE EXCLUSIVE REMEDY OF THE USER OR BUYER, AND THE EXCLUSIVE LIABILITY OF SYNGENTA AND SELLER FOR ANY AND ALL CLAIMS, LOSSES, INJURIES OR DAMAGES (INCLUDING CLAIMS BASED ON BREACH OF WARRANTY, CONTRACT, NEGLIGENCE, TORT, STRICT LIABILITY OR OTHERWISE) RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT, SHALL BE THE RETURN OF THE PURCHASE PRICE OF THE PRODUCT OR, AT THE ELECTION OF SYNGENTA OR SELLER, THE REPLACEMENT OF THE PRODUCT.**

SYNGENTA and Seller offer this product, and Buyer and User accept it, subject to the foregoing Conditions of Sale and Limitation of Warranty and Liability, which may not be modified except by written agreement signed by a duly authorized representative of SYNGENTA.

DIRECTIONS FOR USE

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continued...

What is the REI for AAtrex?

AGRICULTURAL USE REQUIREMENTS

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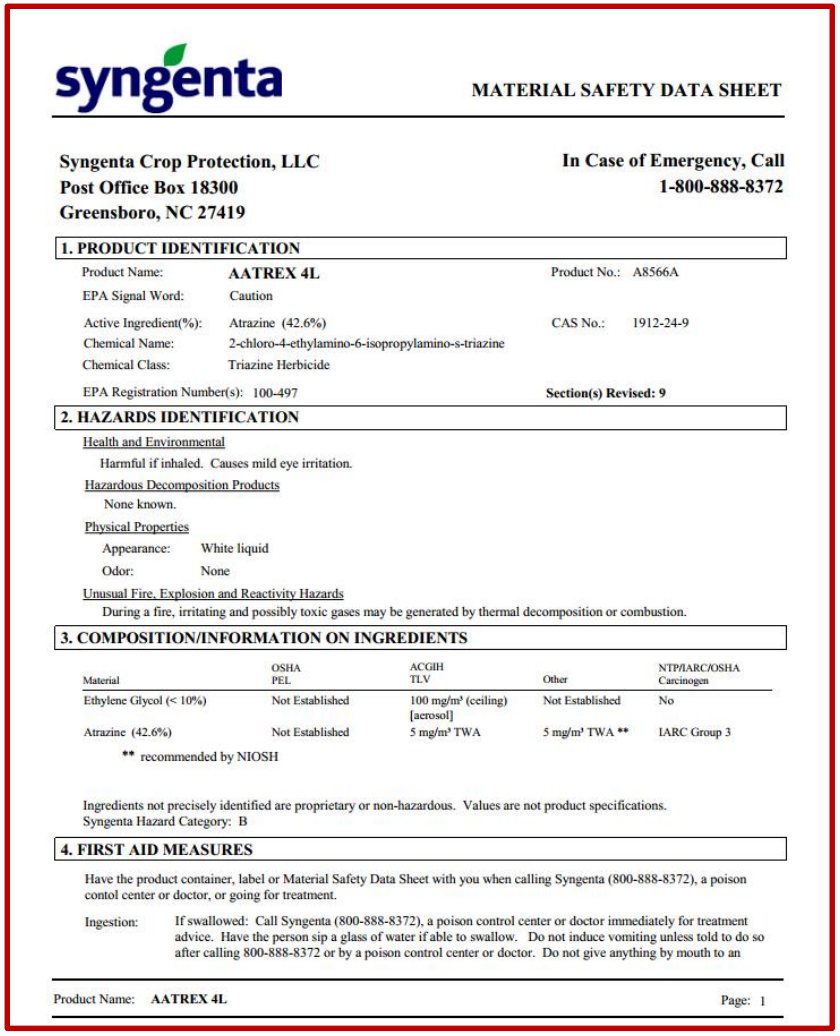
continued...

12 hours

MSDS

Use Information



syngenta

MATERIAL SAFETY DATA SHEET

Syngenta Crop Protection, LLC
Post Office Box 18300
Greensboro, NC 27419

In Case of Emergency, Call
1-800-888-8372

1. PRODUCT IDENTIFICATION

Product Name: **AATREX 4L** Product No.: A8566A
EPA Signal Word: Caution
Active Ingredient(%): Atrazine (42.6%) CAS No.: 1912-24-9
Chemical Name: 2-chloro-4-ethylamino-6-isopropylamino-s-triazine
Chemical Class: Triazine Herbicide
EPA Registration Number(s): 100-497 **Section(s) Revised: 9**

2. HAZARDS IDENTIFICATION

Health and Environmental
Harmful if inhaled. Causes mild eye irritation.
Hazardous Decomposition Products
None known.
Physical Properties
Appearance: White liquid
Odor: None
Unusual Fire, Explosion and Reactivity Hazards
During a fire, irritating and possibly toxic gases may be generated by thermal decomposition or combustion.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Material	OSHA PEL	ACGIH TLV	Other	NTP/IARC/OSHA Carcinogen
Ethylene Glycol (< 10%)	Not Established	100 mg/m³ (ceiling) [aerosol]	Not Established	No
Atrazine (42.6%)	Not Established	5 mg/m³ TWA	5 mg/m³ TWA **	IARC Group 3

** recommended by NIOSH

Ingredients not precisely identified are proprietary or non-hazardous. Values are not product specifications.
Syngenta Hazard Category: B

4. FIRST AID MEASURES

Have the product container, label or Material Safety Data Sheet with you when calling Syngenta (800-888-8372), a poison contol center or doctor, or going for treatment.

Ingestion: If swallowed: Call Syngenta (800-888-8372), a poison control center or doctor immediately for treatment advice. Have the person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so after calling 800-888-8372 or by a poison control center or doctor. Do not give anything by mouth to an

Product Name: **AATREX 4L** Page: 1

1. Company ID
2. Hazard ID
3. Composition
4. First aid
5. Fire fighting measures
6. Handling and storage
7. Exposure and protection
8. Transport information
9. Disposal considerations
10. Chemical properties

Special Local Needs Pesticides

- **Section 24c of FIFRA allows states to give Special Local Needs registration**

- **Lasts until amended or cancelled**

- **A Special Local Needs label is given to you when you buy the product**

Special Local Need Registration

SUPPLEMENTAL LABELING FOR DISTRIBUTION AND USE ONLY IN OREGON

Sencor® DF

75% Dry Flowable Herbicide

EPA Reg. No. 3125-325

For Weed Control in Established[1] Perennial Grasses Grown for Seed in Oregon West of the Cascade Mountains and in Crook, Deschutes, and Wasco Counties

Used as directed below, SENCOR 75 DF will reduce competition from volunteer seedlings of the indicated crop, annual B species, annual ryegrass, and annual bluegrass. SENCOR will control, rattail fescue, henbit, ivyleaf speedwell, chic mustards, and shepherdspurse. Control of the volunteer crop and grassy weeds may be enhanced by adding wetting containing crop oil. Follow the directions for use and rates recommended on the wetting agent label.

DIRECTIONS FOR USE

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

Do not apply this product through any type of irrigation system.

CROP	RATE SENCOR 75 DF POUNDS/ACRE	REMARKS

Section 18

- **Used for special emergency situations**
- **Emergency exemption permitted under Section 18 of FIFRA**
- **Valid for less than one year**
- **Additional label that comes with regular label**

SPARTAN

Section 18
Emergency
Exemption

FOR
DISTRIBUTION
AND USE ONLY IN
OREGON

4F Herbicide

For Agricultural or Commercial Use Only
Oregon Product ID No: 2006OR004

EMERGENCY CALLS: 800-331-3148

IT IS A VIOLATION OF FEDERAL LAW TO USE THIS PRODUCT IN A MANNER INCONSISTENT WITH ITS LABELING

THESE USE DIRECTIONS MUST BE IN THE POSSESSION OF THE USER AT THE TIME OF PESTICIDE APPLICATION.

The US Environmental Protection Agency has granted an emergency exemption under the provisions of Section 18 of the Federal Insecticide, Fungicide and Rodenticide Act as amended, to the Oregon Department of Agriculture for the use of sulfentrazone (Spartan 4F) to control broadleaf weeds in strawberries grown in Benton, Clackamas, Columbia, Lane, Linn, Marion, Multnomah, Polk, Washington and Yamhill counties.
This exemption is effective from March 15, 2006 through February 28, 2007.

Crop	Weeds Controlled		Rate of Application
Strawberry	Common groundsel Common lambsquarters Corn spurry Ladysthumb Mayweed	Redroot pigweed Pineapple weed Prostrate knotweed Wild buckwheat	4 to 8 ounces per acre 0.125 to 0.25 lb ai per acre

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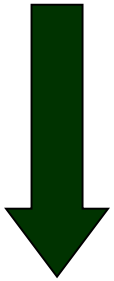
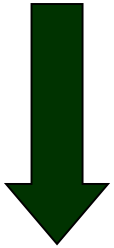
Pesticide Hazards and Your Health

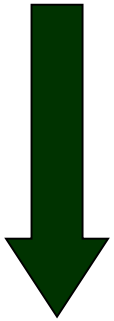
HAZARD = Toxicity x Exposure



risk; the potential for injury



the capacity of a pesticide to cause injury



the risk of a pesticide contacting or entering the body

- **Higher toxicity = greater hazard**
  - **Lower toxicity = less hazard**

- **Higher exposure = greater hazard**
  - **Lower exposure = less hazard**

Code 279

RESTRICTED USE PESTICIDE

Due to acute oral and inhalation toxicity. For retail sale to and application only by certified applicators or personnel under their direct supervision.

Net Contents

Furadan 4f

insecticide/nematicide

EPA Reg. No. 279-2676 EPA Est. 279-

Active Ingredient:
*Carbofuran 44.0%
Inert Ingredients: 56.0%
100.0%

*2,3-Dihydro-2,2-dimethyl-7-benzofuranyl methylcarbamate.

This product contains 4 lbs. of carbofuran per gallon.

KEEP OUT OF REACH OF CHILDREN

DANGER-POISON

PELIGRO

STATEMENT OF PRACTICAL TREATMENT

If swallowed: Drink 1 or 2 glasses of water and induce vomiting by touching back of throat with finger. Do not induce vomiting or give anything by mouth to an unconscious person. Get medical attention.

If inhaled: Remove to fresh air. Call a physician immediately.

If in eyes: Flush with plenty of water for at least 15 minutes. Get medical attention.

If on skin: Wash skin immediately with soap and water.

Antidote

Note to Physician: Carbofuran is an N-methyl carbamate and a reversible cholinesterase inhibitor. Do not use oximes such as 2-PAM. Start by giving 2 mg. atropine intramuscularly. According to clinical response, continue until signs of atropinization occur (dry mouth or dilated pupils). If in eye, install one drop of homatropine.

For Emergency Assistance Call (800) 331-3148.

PRECAUTIONARY STATEMENTS

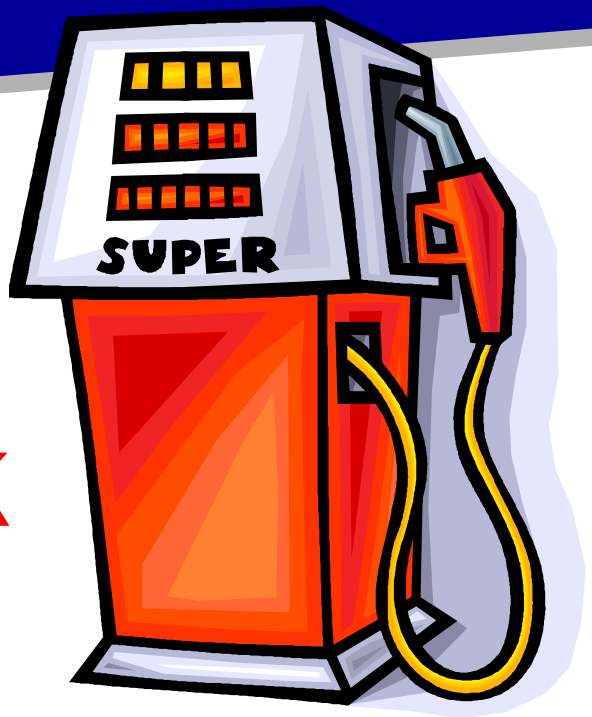
Hazards to Humans (and Domestic Animals)

Danger

Poisonous if swallowed or inhaled. May be fatal or harmful as a result of skin or eye contact or by breathing spray mist. Causes cholinesterase inhibition. Warning symptoms of poisoning include weakness, headache, sweating, nausea, vomiting, diarrhea, tightness in chest, blurred vision,

North Carolina Dept. of Agriculture and Consumer Services

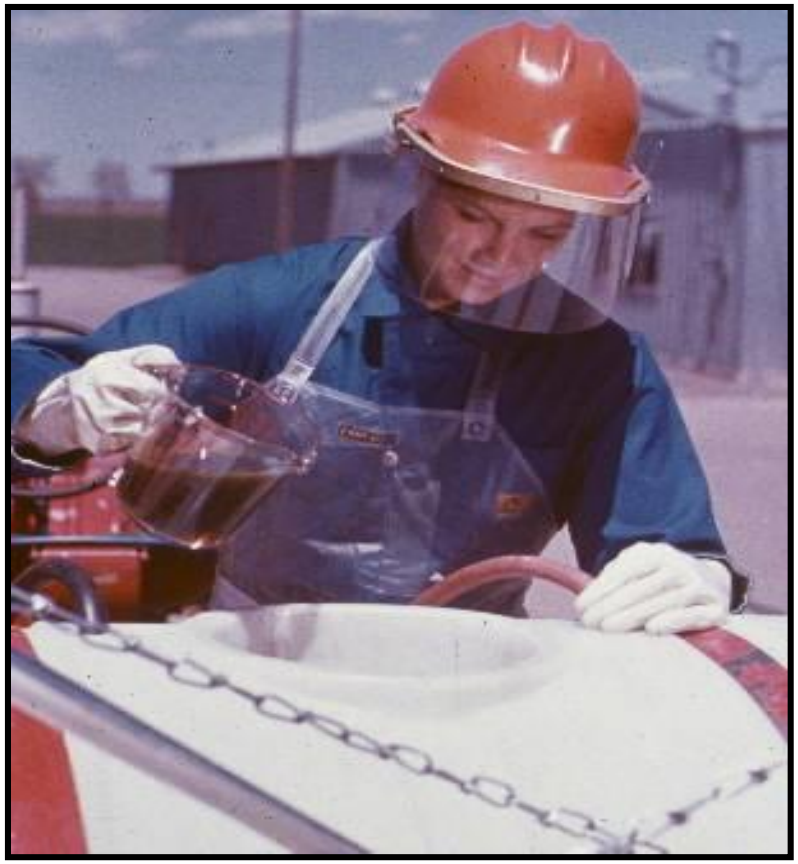
High toxicity, Low exposure risk



Low toxicity, High exposure risk

Hazards Increase…

- when mixing and loading the concentrate
- with a very high single exposure
- after many exposures over time



How do pesticides enter the body?

- Skin (dermal)
- Lungs (inhalation)
- Mouth (oral)
- Eyes

97% of all body exposure during spraying is by skin contact!

Where oh! Where? Do those dirty hands (gloves) go?

Pesticide Absorption Differences

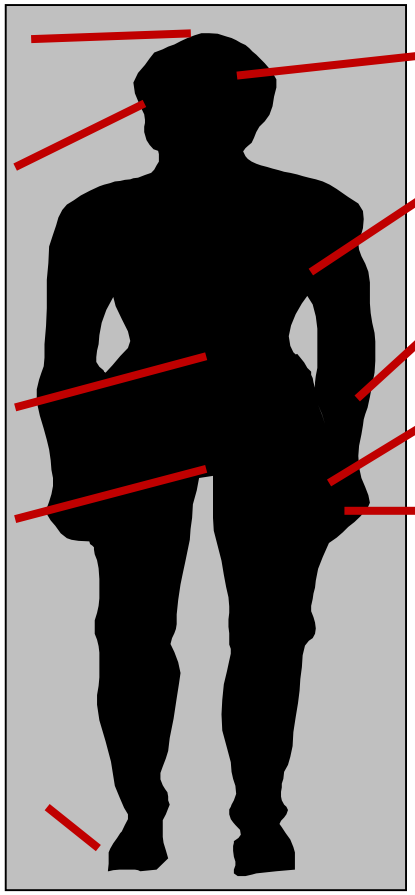
Scalp 32%

Ear Canal 40%

Abdomen 18%

Genital Area 100%

Ball of Foot 13%



Forehead 36%

Armpit 64%

Forearm 9%

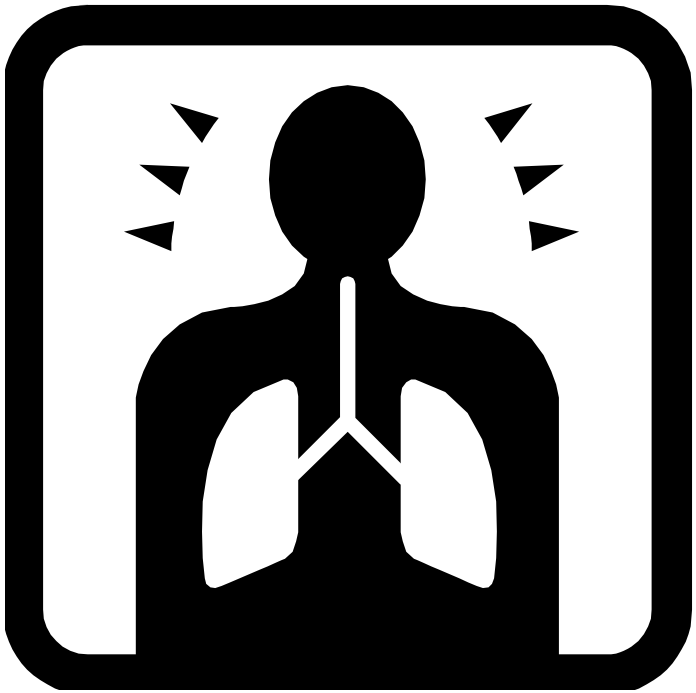
Palm 12%

Back of Hand 21%

Percent Dose Absorbed
Chemical -parathion
Maibach 1974

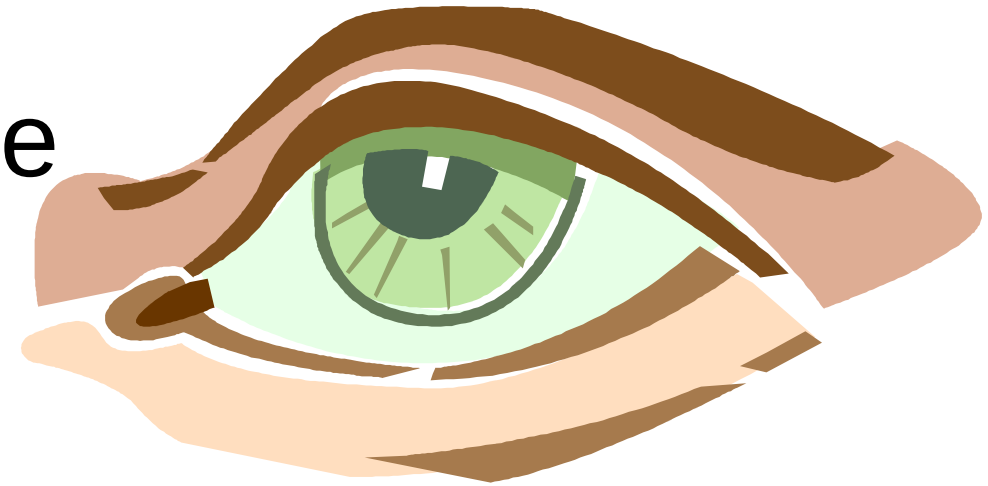
Inhalation exposure can occur:

- When using
  - Wettable powders
  - Dusts
  - Gases, vapors
  - Sprays
- While mixing and loading
- During applications



Routes of Entry: Eyes

Eyes are able to absorb surprisingly large amounts of chemical



Possible Harmful Effects from Pesticides

- Acute effects
- Chronic effects
- Delayed effects

Acute effects…

- Occur from a single exposure
- Develop within 24 hrs of exposure
- Any effect is measured
- Toxicity expressed as signal word on labels

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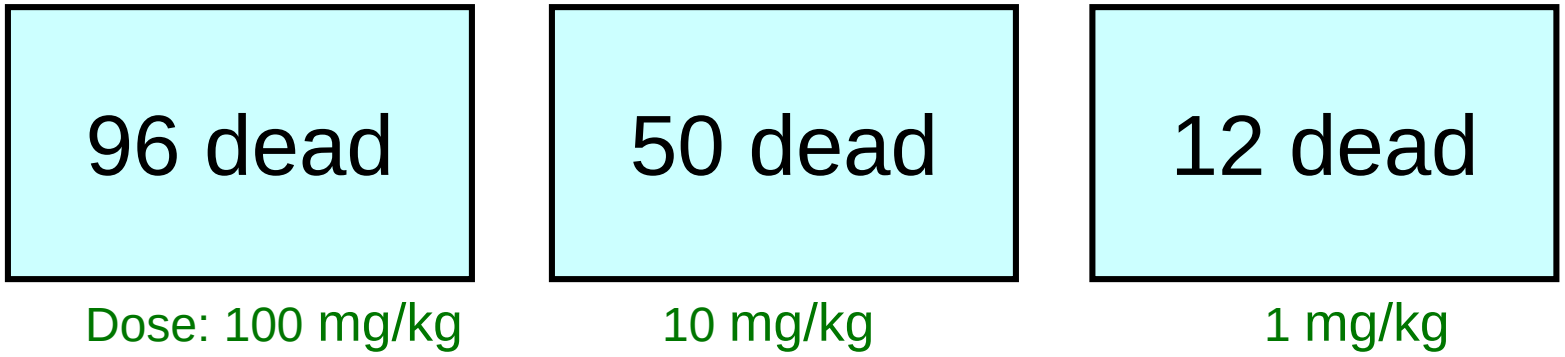
Pesticide Toxicity

	TOXICITY CATEGORY (Signal Word)[3]			
	High Toxicity (DANGER/Danger-Poison) Category I	Moderate Toxicity (WARNING) Category II	Low Toxicity (CAUTION) Category III	Very Low Toxicity (Optional Signal Word = CAUTION) Category IV
Acute Oral LD_{50}	Up to and including 50 mg/kg (≤ 50 mg/kg)	Greater than 50 through 500 mg/kg (> 50 – 500 mg/kg)	Greater than 500 through 5000 mg/kg (> 500 – 5000 mg/kg)	Greater than 5000 mg/kg (> 5000 mg/kg)
Inhalation LC_{50}	Up to and including 0.05 mg/L (≤ 0.05 mg/L)	Greater than 0.05 through 0.5 mg/L (>0.05 – 0.5 mg/L)	Greater than 0.5 through 2.0 mg/L (> 0.05 – 2.0 mg/L)	Greater than 2.0 mg/L (> 2.0 mg/L)
Dermal LD_{50}	Up to and including 200 mg/kg (≤ 200 mg/kg)	Greater than 200 through 2000 mg/kg (> 200 - 2000 mg/kg)	Greater than 2000 through 5000 mg/kg (>2000 – 5000 mg/kg)	Greater than 5000 mg/kg (> 5000 mg/kg)
Primary Eye Irritation	Corrosive (irreversible destruction of ocular tissue) or corneal involvement or irritation persisting for more than 21 days	Corneal involvement or other eye irritation clearing in 8 – 21 days	Corneal involvement or other eye irritation clearing in 7 days or less	Minimal effects clearing in less than 24 hours
Primary Skin Irritation	Corrosive (tissue destruction into the dermis and/or scarring)	Severe irritation at 72 hours (severe erythema or edema)	Moderate irritation at 72 hours (moderate erythema)	Mild or slight irritation at 72 hours (no irritation or erythema)

- **LD_{50} = the *dose* of a substance that kills 50% of a population of test animals**
  - **measured in milligrams of toxicant per kilogram of body weight (mg/kg)**



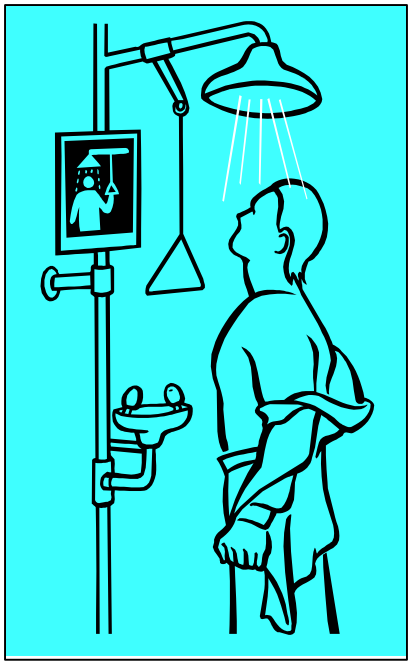
Aldicarb	1 mg/kg
Parathion	10 mg/kg
Paraquat - human	20 mg/kg
Nicotine	50 mg/kg
Chlopyrifos	92 mg/kg
Caffeine	200 mg/kg

Malathion	1375 mg/kg
Aspirin	1750 mg/kg
Table salt	3750 mg/kg
Glyphosate	3400 mg/kg
Picloram	8200 mg/kg
Benomyl	10,000 mg/kg

If Exposure Occurs, Administer First Aid

- **Dilute the pesticide**

- **On skin:** remove contaminated clothing, wash skin, gently dry and loosely cover
- **In eyes:** wash *across* eyes for 15 minutes
- **If inhaled,** get victim to fresh air and laid down



Seek medical attention

Take the label

Questions:

- **Can you apply a greater amount of pesticide per acre than is on the label?**

  No you cannot

- **Can you use the pesticide on a PEST that is not on the label?**

  Yes you can (rodenticides and antimicrobials are exceptions)

- **Can you use the pesticide on a CROP that is not on the label?**

  No you cannot

- **When do you look at the label?**

  1st, when you buy it

  2nd, before you use it

  3rd, before you dispose of it

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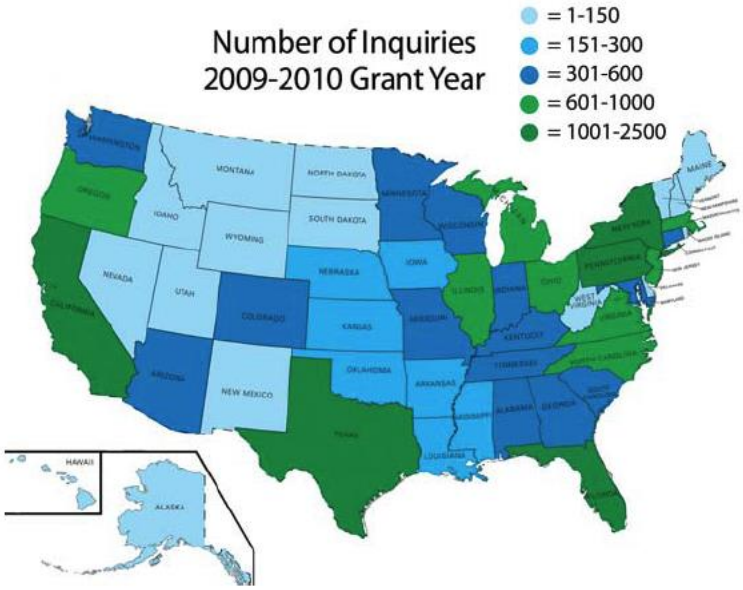
Resources

National Pesticide Information Center

- An information service for the general public and professionals
- Toll-free phone service available 7 days/week, 10 hours/day
- Provides science-based objective information about:
  - recognition and management of pesticide poisonings
  - environmental fate and effects of pesticides
  - products, labels, regulations and more



nt Variety Protecte | WSU CAHNRS & WSI | Education & CEUs | C | Gifts for Valentine's D | Jobs at CSIRO | Hort Innovation | Aus | Card Account S

- WSDA Home
- Pesticide Management
- Pesticides
- Compliance Activities
- Enforcement Actions
- Laws & Rules
- Licensing & Education »
- Pesticide Sensitive Registry
- Pesticide Storage
- Pesticide Registration
- Waste Pesticide Program
- Worker Protection

Get Social With Us!

Page updated/verified: Mar 02, 2018

Pesticide Registration

e-mail: pestreg@agr.wa.gov Phone (360) 902-2025

To view PDF files, download Acrobat Reader

WSDA has a fact sheet that summarizes Pesticide Registration in Washington State.

- Federal Pesticide Registration
- WSDA Pesticide Registration Requirements
  - Section 3 Products
  - Section 25(b) Products
  - Spray Adjuvants
  - Section 24(c) Special Local Need (SLN) Registration
  - Section 18 Emergency Exemption from Registration
  - Washington State Experimental Use Permit (WSEUP) Terrestrial/Aquatic Sites
  - Pesticide Registration CSF Portal
  - Electronic Label and Document Submission Guidance
- WSDA Contact Information for Pesticide Registration
- How To get an EPA Company Number
- Discontinuation Period for Fertilizers and Pesticides

Related Topics

Pesticide and Fertilizer Use on Marijuana

Pesticide Registration CSF Portal

WSDA's Guidance on Globally Harmonized System (GHS) Implementation for Spray Adjuvants and Section 25(b) Pesticides

Spray Adjuvant Consistency, Clarity And Compliance Policy

Section 2(ee) Fact Sheet

[External Sites]

Ecology Permits

Aquatic Pesticide

Fresh Fruit Packing

Department of Revenue

https://agr.wa.gov/pestfert/pesticides/productregistration.aspx

http://pesticidestewardship.org

Pesticide Environmental Stewardship

Homeowner Section

Pesticide Environmental Stewardship > **Homeowner**

- Recordkeeping
- Disposal
- Drift
- Surface and Groundwater
- Wildlife and Pollinators
- Storage
- Handling Containers
- Spills
- Terms/Acronyms
- Calibration
- Homeowner
  - Understanding Pest Management
  - Selecting a Pesticide
  - Reading the Label
  - Using Pesticides Safely and Correctly
  - Transporting Pesticides.aspx
  - StoringPesticides.aspx

Introduction

Pesticides are used to kill a p
storing, and disposing of pesticide
You can click any tab for specific
Pesticides should be considered t
pest management.

One way that pesticides are categ
organism. The most common pests are weeds, some insects and
insecticides, but a whole realm of different products and pesticide

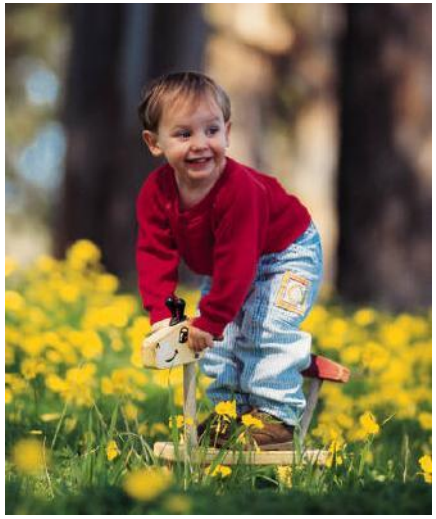
Disinfectants--*kill bacteria*
bleach, ammonia, kitchen/bathroon cleaners, toilet bowl cleaner

Fungicides--*kill fungi and mildew*
rose and flower sprays, treated seeds, paint additives that prev

Herbicides--*kill unwanted plants*
weed killers, cut-stump treatments, weed-and-feed lawncare pr

Web Resources

- **Hortsense:**
  http://hortsense.cahnrs.wsu.edu/Home/HortsenseHome.aspx
  Pestsense:
  http://pestsense.cahnrs.wsu.edu/Home/PestsenseHome.aspx
- **NPIC: npic.orst.edu**
- **Stewardship: pesticidestewardship.org**



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Extension WSU Urban IPM and Pesticide Safety Education

Class Calendar
Register for Classes
Order Study Materials

Home
IPM Workshops
Recertification
Pre-License
Classes in Spanish
Internet Courses
Structural Pest IPM
Hortsense
Pestsense
School and Home IPM
Resources

WSU IPM
WA Pesticide Database
WSDA Pesticide Division
WSDA Pesticide Licensing

WSU Urban IPM and Pesticide Safety Education Program:
Education with an emphasis on personal safety, environmental protection, and effective integrated pest management.

Search Site

WSDA Pesticide License Credit Information
Find out how many recertification credits you have.

Washington Poison Center
National Hotline: 1-800-222-1222

News & Updates

- **CLASSES THAT ARE FULL:**
  - Seattle IPM - Feb. 9-10
  - Pasco Pre-License
- WWA Recertification Program Handouts
- Class Calendar—UPDATED
  Find out what courses are available for 2011.
- Online Registration all courses available.
- Pre-License Internet Courses
  Training curricula available online for specific exams.

pep.wsu.edu

Common Cultural Problems

Common Diseases

Common Insects & Mites

Herbicide Damage

Lawn and Turf

Ornamentals

Small Fruits

Tree Fruits

Vegetables

Weeds

Urban IPM Home

WASHINGTON STATE UNIVERSITY *World Class. Face to Face.* CAMPUSES WSU HOME WSU SEARCH myWSU

WSU Extension Presents

Hortsense

Home gardener fact sheets for managing plant problems with IPM or Integrated Pest Management.
Cultural controls and Washington-registered pesticides are included.

Hortsense Home | Pestsense Home | UPEST | Acknowledgements | Disclaimer

Hortsense web site created by Carrie Foss, Pesticide Education, and Art Antonelli, Extension Entomology, WSU Puyallup
Pesticide information review provided by Catherine Daniels, Washington State Pest Management Resource Service
Database programs developed for *Hortsense* by Kathleen Duncan, Computer Resources, WSU Pullman
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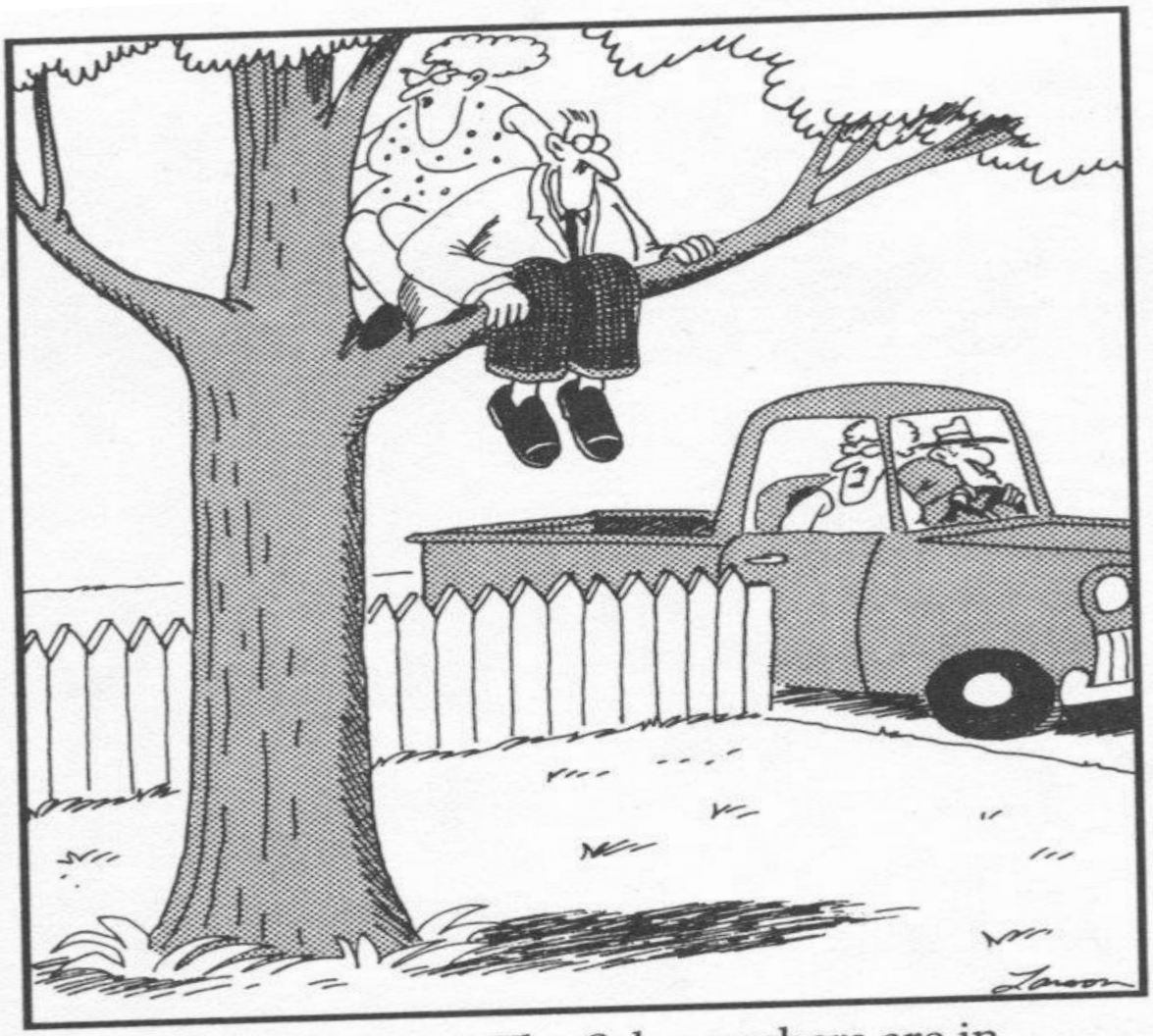
http://hortsense.cahnrs.wsu.edu/Home/HortsenseHome.aspx

Policies for Master Gardeners

- All MGs must have a Pest Management Agreement form on file
- Writing MG material – use home & garden references only
- Hortsense and Pestsense for recommendations
- Licensed (pesticide) MG county leads are able to recommend general use commercial pesticides, limited to products previously approved by WSU
- Volunteers cannot provide pesticide information, unless they are certified MGs

Policies for Master Gardeners Applications on WSU property

- Only home & garden products may be used
- Use licensed applicators when needed
- Adhere to posting regulations
- Pay attention to public access when scheduling applications



"Uh-oh, Vern! The Schumachers are in the tree again. We'll have to spray."

QUESTIONS
12.99
HOT BUY
$3
rebate
25% MORE
THAN 32 OZ. SIZE
ORTHO
WEED B GON
MAX
KILLS WEEDS, NOT LAWNS
25% MORE
VALUE SIZE
Roundup
ACE
WEED &GRASS
KILLER
Kills
the root
ACE
WEED &GRASS
KILLER
Kills
the root
Roundup
3 PRE-MEASURED BOTTLES
ORTHO
ORTHENEX
Spectracide
TRIAZICIDE
INSECT KILLER
10.49
10.99
4.99
18.99
3.99
22.99
9.49
13.49
33%
MORE COVERAGE
Spectracide
Weed Stop
For Lawns
ORTHO
GROUNDCLEAR
NO WEEDS
1 YEAR
KILLS THE ROOT!
25% MORE
Spectracide
Weed & Grass
Killer
Lilly Miller
MOSS OUT!
ROOFS & WALKS
Lilly Miller
MOSS OUT!
FOR
ROOFS
AND STRUCTURES
ORTHO
ROSEPRIDE
Insect Killer
ACE
Flower &
Vegetable
Insect Spray
Insecticide
ORTHO