

Chlorpyrifos: Common Use Sites Generalized Application Methods



Chlorpyrifos Work Group
Oregon Department of Agriculture (ODA)
December 17, 2019

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Long Regulatory and Legal History for Chlorpyrifos

Labels and allowed uses have been amended many times. Numerous lawsuits. Impacted by numerous assessments and factors, including but not limited to:

- 2000 MOA between EPA and Registrants of Chlorpyrifos (residential, tomato, apple (post-bloom))
- 2006 Reregistration Eligibility Decision for Chlorpyrifos
- 2013/2016 Revised Human Health Risk Assessment for Registration Review (measuring impacts to human health)
- Court cases involving protections for endangered salmonids (Biological Opinions)

Chlorpyrifos

- Wide range of registered formulations, application rates, and application methods.
- Extensive Personal Protection Equipment (PPE) requirements for pesticide handlers, including applicators.
- Restricted entry intervals (REIs) range from 24 hours to 5 days.
- Pre-harvest intervals (PHIs) range from 0 days (Christmas trees) to 217 days (figs).
- Range of no-spray buffers, and other label restrictions

Chlorpyrifos has been used since 1965 in both agricultural and non-agricultural areas

Chlorpyrifos is a broad-spectrum, chlorinated organophosphate insecticide and miticide:

- Foliage insects and mites
- Boring insects (trees)
- Soil insects



Photo: Tom Cook

There are **46 products containing chlorpyrifos** registered in Oregon; 35 of these are Restricted Use Pesticides (RUP).

- The majority of registered products are labeled for use in agriculture (ag).
- Most of the ag products are RUPs, including total release foggers used in greenhouse production.

There are 7 ag products that are not RUPs:

- Water soluble packets, and
- Granular products at 15% a.i.

The remaining 4 products not classified as RUP include:

- 2 homeowner roach bait products
- 1 cattle ear tag and
- 1 public health vector (adult mosquito) control product.

Why are there General Use Chlorpyrifos Products?

In 2000, when EPA entered into a MOA with the registrants, the EC* formulation was made a RUP.

A main concern was keeping the a.i. out of the hands of residential users. Therefore, it was determined that:

All other formulations must carry the restricted use classification only if they are packaged in containers smaller than

- 15 gallons for Liquids, or
- 50 lbs. for granular formulations or
- 25 lbs. for other dry formulations

* Emulsifiable concentrate

RESTRICTED USE PESTICIDE

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.



Lorsban[®] Advanced

INSECTICIDE

®Trademark of The Dow Chemical Company ("Dow") or an affiliated company of Dow

For control of listed insects infesting certain field, fruit, nut, and vegetable crops.

Group	1B	INSECTICIDE
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Active Ingredient:

chlorpyrifos: O,O-diethyl-O-(3,5,6-trichloro-2-pyridinyl) phosphorothioate	40.2%
Other Ingredients.....	59.8%
Total.....	100.0%

Contains 3.755 lb of chlorpyrifos per gallon.
Contains petroleum distillates.

Precautionary Statements

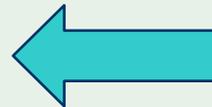
Hazard to Humans and Domestic Animals

EPA Reg. No. 62719-591

WARNING

May Be Fatal If Swallowed • Causes Skin Irritation • Causes Moderate Eye Irritation • Harmful If Inhaled • Prolonged Or Frequently Repeated Skin Contact May Cause Allergic Reactions In Some Individuals

Do not get on skin or on clothing. Avoid contact with eyes and breathing vapor or spray mist. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.



Restricted Use Box

No Restricted Use Box

GROUP	1B	INSECTICIDE
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LORSBAN[®] 75WG

Insecticide

For control of listed insects infesting certain field, fruit, nut, and vegetable crops.

ACTIVE INGREDIENT:

Chlorpyrifos: O,O-diethyl O-(3,5,6-trichloro-2 pyridinyl) phosphorothioate	75.0%
OTHER INGREDIENTS.....	25.0%
TOTAL	100.0%

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.)

Water dispersible granule
In Water soluble packets

Food or Feed Crops Sites

- Hazelnuts
- Mint
- Onions
- Cranberries
- Dry Beans
- Succulent Beans
- Wheat
- Alfalfa
- Strawberry
- Sugar beets and beets
- Corn (Field, Sweet, Seed)
- Tree Fruits (mostly dormancy / post harvest)
- Brassica (Cole) Leafy Vegetables¹, Radish, Rutabaga, and Turnip
- Certain seed crops, such as sugar beets, beets, Swiss chard, radish, carrots, grass seed and clover.

¹ Such as, broccoli, broccoli raab, Brussels sprout, cabbage, cauliflower, Chinese cabbage, collards, kale, kohlrabi, mizuna, and mustard greens

Non-Food or Non-Feed Crops / Sites

- Christmas Trees
- Nurseries*
- Non-residential Turf
 - Sod Farms
 - Golf Courses
 - Industrial building
- Warehouses
- Livestock Facilities
- Road Medians
- Food Processing Plants
- Outside surfaces of nonresidential buildings and structures, including fences, pre-construction foundations, refuse dumps, outside of walls
- Cottonwood / Poplar Trees Grown for Pulp or Wood

*greenhouse and field

Chlorpyrifos is registered for use on a wide array of crops and can be applied in numerous ways. Below are some of the more common methods.

Soil

Pre-plant incorporation; at-plant soil incorporation; broadcast and in-furrow application; and post-plant soil application. At-plant soil drench.

Banded or Broadcast Foliar

Ground application (boom or airblast)

Aerial

Chemigation

Seed Treatment

Trunk Spray

Preplant Dip



Example - Application Directions (partial) for Controlling Soil Pests

Preplant Incorporation Application for Direct Seeded or Transplanted Crops

Apply Lorsban Advanced as a broadcast spray to the soil surface using power-operated ground spray equipment. Use a total spray volume of 10 gpa or more. On the day of treatment, incorporate Lorsban Advanced into the top 2 to 4 inches of soil using a disc, field cultivator, or equivalent equipment.

Crop	Target Pests	Lorsban Advanced (pints/acre)
cauliflower	billbugs	4
broccoli broccoli raab Brussels sprout cabbage cavalo broccolo	cutworms grubs root maggot symphylans wireworms	4.5

Based on the professional judgment* of ODA Pesticides Program Staff, crops in Groups A and B are considered to possibly be more likely treated with chlorpyrifos, than some other listed crops.

Crops listed in Group A are believed to be more likely treated than crops listed in Group B.

More likely to be treated does not imply critical or not critical use.

Group A

- Christmas Trees
- Grass grown for seed
- Corn (Sweet)
- Tree Fruits

Group B

- Nurseries, Ornamental
- Legume Vegetables
- Corn (Field)

Group B (continued)

- Onion (Dry Bulb)
- Mint
- Wheat
- Alfalfa
- Sugarbeets
- Strawberry
- Brassica (Cole) Leafy Vegetables, Radish, Rutabaga, and Turnip
- Vegetable Seed Crops
- Turf: Golf Courses and Sod Farms

* Oregon does not collect pesticide use data

Thank you

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