To: J. Ellenberger
    Product Manager 12
    Registration Division (TS-747)

From: Samuel M. Creeger, Chief
    Environmental Chemistry Review Section 1
    Exposure Assessment Branch
    Hazard Evaluation Division (TS-769c)

Attached, please find the EAB review of:

Reg./File No.: 464-448 and -523

Chemical: Chlorpyrifos

Type Product: Insecticide

Product Name: LORSBAN

Company Name: Dow

Submission Purpose: Add use in citrus orchards

ZBB Code: 3(c)(7)

Date In: 3/5/84

Date Completed: 4/12/84

Deferrals To:

________ Ecological Effects Branch

________ Residue Chemistry Branch

________ Toxicology Branch

Action Code: 305

EAB No.: 4227-4228

TAIS (Level II) Days: 64 0.5
1.0 INTRODUCTION

Chemical Name and Type of Pesticide: chlorpyrifos, O,O-diethyl O-(3,5,6-trichloro-2-pyridyl)phosphorothioate, insecticide.

Trade Name: LORSBAN 15G Granular Insecticide
LORSBAN 4E Insecticide

Chemical Structure:

\[
\begin{array}{c}
\text{\includegraphics[width=0.2\textwidth]{chemicalstructure.png}}
\end{array}
\]

Dow Chemical is requesting the added use of LORSBAN 15G Granular Insecticide and LORSBAN 4E Insecticide to citrus orchard floors to control root weevil and ant species. LORSBAN 4E is currently registered on a wide variety of crops and tree fruits.

2.0 DIRECTIONS FOR USE

See attached labels.

3.0 DISCUSSION OF DATA

No new data submitted.

4.0 RECOMMENDATION

4.1 EAB notes that a previous review (31 Jan 1984) indicated our data supported use on filberts and pecans.

4.2 However, we also want to point out that the soil photolysis data gap still exists. A recent review (2 Feb 1984) found the submitted studies unacceptable.

Herbert L. Manning, Ph.D.
Review Section #1
EAB/HED
PRECAUTIONARY STATEMENTS

Hazard to Humans and Domestic Animals: FATAL IF SWALLOWED. MAY BE ABORBED IN SKIN. MAY BE INJURIOUS TO EYES AND SKIN. TAKE IMMEDIATELY. DO NOT GET ON EYES OR SKIN OR IN ALLEYS. BREATHING VENTS AND SPRAY MUST BE WASHED THROUGHLY AFTER HANDLING. 

Physical and Chemical Hazards

COMBUSTIBLE. AVOID DIRECT OR STORE NEAR FLAME OR OPEN FLAME. Do Not Cut or Scratch. 

Environmental Hazards

Toxic to fish and may remain active in aquatic environments. 

STORAGE AND DISPOSAL

Store in a cool, dry place. Keep out of reach of children. Do not contaminate water supplies. Dispose of used container and spray residuals according to state and federal instructions in this chapter. 

DIRECTIONS FOR USE

This product is highly toxic to birds and other animals. Keep out of reach of children and pets. Do not apply to water bodies or bodies of water. 

Environmental Hazards

This product is highly toxic to birds and other animals. Keep out of reach of children and pets. Do not apply to water bodies or bodies of water. 

LORSBAN 4E insecticide is toxic to livestock and other warm-blooded animals. Keep a safe distance from treated area. Do not contaminate water by discharging equipment or disposal in wastewater. Use this product only as specified in this label. 

DIRECTIONS FOR USE

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

General Information

LORSBAN 4E is a greenhouse fungicide used to control powdery mildew and other diseases caused by fungi. 

Mixing instructions

To prepare the spray, add a measured amount of water to the spray tank and mix with agitator. 

NOTE: To ensure proper mixing, add the LORSBAN 4E to the spray tank before adding water. 

LORSBAN 4E insecticide may also be used in tank mixtures with certain herbicides and/or with high pressure fertilizer solutions, as recommended under specific crop-use directions. Prepare tank mixtures in the same manner as recommended above for use of LORSBAN 4E alone. When tank mixtures of LORSBAN 4E and herbicides are involved, add wets spray solutions first, followed by Memorandum of Agreement, and aqueous concentrate last. 

Recommendations for the use of LORSBAN 4E in the greenhouse 

For Control of Various Insects Infesting Certain Field, Fruit, Nut, and Vegetable Crops 

Complete Directions for Use, Use Precautions and Restrictions, Hazards and Other Important Information for the Proper Use, Handling, Storage and Disposal of This Product. 

EPA Reg. No. 464-448 

LORSBAN 4E insecticide 

-Trademark of THE DOW CHEMICAL COMPANY 

45378-X483 

Do not pro.


READ ENTIRE LABEL BEFORE USING THIS PRODUCT.

ECUACIONAL USTDADO: Si usted no lee, no use este producto hasta que le haya sido explicado plenamente.

ANSIATION: (TO THE USER: If you can read English, do not use this product if the label has been fully explained to you.)

THE INGREDIENTS:
Chlorpyrifos-0.0-dicyclo-3-(5,6-di-hydro-2-pyridyl)phosphinothoate)..........................40.7%
Aromatic petroleum derivative solvent..................................................22.8%
RT INGREDIENTS..............................................................36.5%
Stains 4 pounds of chlorpyrifos per ton.

In case of an emergency endangering life or property involving this product, call collect 517-636-4400.

AGRICULTURAL CHEMICAL: Not Ship or Store with Food, Feeds, Drugs or Clothing.

Do not mix or store with commercial fungicides or other pesticides.

The use of this product by non-agricultural users could result in serious health effects.

HAZARDS

Human and Domestic Animal.........................................................5
Physical and Chemical.................................................................5
Environmental.................................................................................6

Directions for Use (Federal approved)

General Information.................................................................6
Mixing instructions...............................................................6-7

Use and Dosage Recommendations

Alfa-7.8
Citrus Fruits-8-10
Corn-10-17
Cotton-17-20
Gram Sorgum-21
Grapes-21
Mint-21-22
Nectarines-22
Onions-22
Peaches-22
Peanuts-23
Saybeans-23-24
Strawberries-24-25
Sunflowers-25-26
Sugarbeets-26
Sweet Potatoes-26-27
Tree Fruits

(Dormant-Delayed Dormant).......................................................27
Vegetables-28-29

Storage and Disposal.........................................................................30

Special Local Needs............................................................................31

HAZARDS

KEEP OUT OF REACH OF CHILDREN

WARNING

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

MAY BE FATAL IF SWALLOWED • MAY BE ABSORBED THROUGH SKIN • MAY BE INJURIOUS TO EYES AND SKIN

Do Not Take Internally • Do Not Get In Eyes, on Skin or on Clothing • Avoid Breathing Vapor and Spray Mist • Wash Thoroughly After Handling.

Statements of Practical Treatment

If Swallowed: Do not induce vomiting. Contain aromatic petroleum solvent. Call a physician immediately. If De Gastric: In case of contact, remove contaminated clothing and immediately flush skin with soap and water. Wash contaminated clothing before reuse. If In Eyes: Flush eyes with plenty of water for 15 minutes. Call a physician.

NOTE TO PHYSICIAN: Chlorpyrifos is a cholinesterase inhibitor. Treat symptomatically. Atropine may be used only by injection in an anesthetized state.

Physical and Chemical Hazards

COMBUSTIBLE

Do Not Use or Store Near Heat or Open Flame • Do Not Cut or Weld Container

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Page 5

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In California, apply as Through Coverage (TOC) using 5 to 10 lbs. of LORSAN 4E in 100 gallons of water and 2 to 5 lbs. of LORSAN 4E per acre in dilute or concentrate sprays. For dilute sprays, apply 500 to 1200 gallons of spray per acre.

In California, apply as Through Coverage (TOC) using 5 to 10 lbs. of LORSAN 4E in 100 gallons of water and 2 to 5 lbs. of LORSAN 4E per acre.

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Lorsban 15G
granular insecticide

Trademark of The Dow Chemical Company
REPLACES SPECIMEN LABEL 86-1375 PRINTED IN DECEMBER, 1982.
DISCARD PREVIOUS SPECIMEN LABELS.
REVISIONS INCLUDE: (1) Revised use directions on corn and sugar beets.
(2) Changed the U.S. Patent Number.
**PRECAUTIONARY STATEMENTS**

**Hazards to Humans and Domestic Animals**

**MAY BE HARMFUL IF SWALLOWED**

Do Not Take Internally • Avoid Contact With Eyes, Skin, and Clothing • Wash Thoroughly After Handling

Wash Contaminated Clothing Before Reuse

**NOTE TO PHYSICIAN:** Contains Isoxaben, in a chlorinated paraffin base formulation. This is a non-steroidal anti-inflammatory drug (NSAID) and may cause side effects such as stomach upset and allergic reactions in some individuals.

**Environmental Hazards**

This product is toxic to wildlife and fish. Use with care when applying in areas frequented by wildlife or adjacent to any body of water. Keep out of lakes and ponds. Treated granules are not soil surface so may be hazardous to livestock and wildlife. Cover or incorporate granules which are spilled during loading or transport. Should granules come in contact with the soil surface in the turn row, use a hoe to cover them.

**DIRECTIONS FOR USE**

Citrus Orchard Flooding: Use LORSAN 15G to control the root weevil complex, red imported fire ants, and other ant species by ground application using a suitable granular applicator, such as a cyclone fertilzer spreader, that will uniformly broadcast the granules over the orchard floor. For control of the root weevil complex, apply LORSAN 15G to the orchard floor directly below the tree canopy at the rate of 70 pounds per treated acre once weevils begin emerging in late spring or early summer. For weevil species with two generations per year (sugarcane rootstalk borer weevil and little leaf hoppers), two applications of LORSAN 15G at the rate of 33 pounds per acre may be applied with the first application in late spring or early summer when weevils begin emerging and the second application in late summer or early fall when weevil numbers begin to increase. Consult your State Agricultural Experiment Station or Extension Service Specialist for additional information concerning proper time of application. To control foraging ants and suppress broods, apply LORSAN 15G to the orchard floor at the rate of 6.7 pounds per acre. Retreat as needed. For best insect control, uniform coverage of the orchard floor is necessary. Do not apply where weed growth or other obstructions would impede uniform coverage of the orchard floor.

**RESTRICTIONS:** Do not spread more than 67 pounds of LORSAN 15G per acre, and do not apply wettable dust or spray treatment more than 50 days before harvest. Do not allow treated soil to enter on or through drains.

| Pest | Amount of LORSAN 15G Per Acre for Planting | Amount of LORSAN 15G Per 1,000 Feet of Row
<table>
<thead>
<tr>
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<th></th>
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<tbody>
<tr>
<td>Turnip Greens</td>
<td>6.75 to 13.5 lb</td>
<td>6 oz to 12 oz</td>
</tr>
<tr>
<td>Potatoes</td>
<td>8 oz</td>
<td>8 oz</td>
</tr>
<tr>
<td>Apple Trees</td>
<td>8 oz</td>
<td>8 oz</td>
</tr>
<tr>
<td>Sweet Corn</td>
<td>13.5 lb</td>
<td>8 oz to 16 oz</td>
</tr>
<tr>
<td>Beet</td>
<td>8 oz to 16 oz</td>
<td>8 oz to 16 oz</td>
</tr>
<tr>
<td>Onion</td>
<td>8 oz to 16 oz</td>
<td>8 oz to 16 oz</td>
</tr>
<tr>
<td>Lettuce</td>
<td>8 oz to 16 oz</td>
<td>8 oz to 16 oz</td>
</tr>
</tbody>
</table>

Vegetables: Do not apply to vegetables at any time. Do not allow treated soil to enter on or through drains. Do not allow treated soil to enter on or through drains.

Broccoli, Brussels Sprouts, Cabbage, Cauliflower, Chinese Cabbage, Rutabagas, Turnips, and Others: Apply LORSAN 15G to the soil surface only. Do not allow treated soil to enter on or through drains. Do not allow treated soil to enter on or through drains.

Restrictions: Do not contaminate water sources and/or ditches with treated material. Do not contaminate water sources and/or ditches with treated material. Do not contaminate water sources and/or ditches with treated material.

Radishes: The 5 to 10 day old radish seedlings are very sensitive to LORSAN 15G. Do not apply LORSAN 15G to radish seedlings or radish seedlings in the field. Do not apply LORSAN 15G to radish seedlings or radish seedlings in the field.

Restrictions: Do not contaminate water sources and/or ditches with treated material. Do not contaminate water sources and/or ditches with treated material. Do not contaminate water sources and/or ditches with treated material.

**STORAGE AND DISPOSAL**

Prohibitions: Do not contaminate water sources and/or ditches with treated material. Do not contaminate water sources and/or ditches with treated material. Do not contaminate water sources and/or ditches with treated material.

Pesticide Disposal: Pesticide that cannot be used must be disposed of properly. Bait and baits containing LORSAN 15G should be disposed of properly. Do not contaminate water sources and/or ditches with treated material.

Container Disposal: Do not contaminate water sources and/or ditches with treated material. Do not contaminate water sources and/or ditches with treated material. Do not contaminate water sources and/or ditches with treated material.

General Disposal: Use approved safer alternatives.

**NOTICE:**

This product is a pesticide and should be used according to the instructions on the label.