

Shaughnessy No.: 059101

Date out of EAB: 16 APR 1984

To: J. Ellenberger
Product Manager 12
Registration Division (TS-767)

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

COPY

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)

Action Code: 305

Date In: 3/5/84

EAB No.: 4227-4228

Date Completed: 4/12/84

TAIS (Level II) Days

Deferrals To:

64

0.5

Ecological Effects Branch

Residue Chemistry Branch

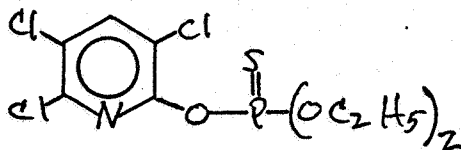
Toxicology Branch

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:



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

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SPECIMEN LABEL
REDUCED TO 55%



Lorsbloom
4E insecticide

chlorpyrifos = 40.7%
Solvent = 22.8% ai

WARNING

Read the entire label carefully before using this product. Do not use this product if the label is damaged or if the instructions are not followed. This product is a pesticide and should be used only by trained personnel. It is highly flammable and should be stored in a cool, dry place. It is also highly toxic to aquatic life and should be kept away from water. It is also highly toxic to birds and should be kept away from them. It is also highly toxic to bees and should be kept away from them. It is also highly toxic to fish and should be kept away from them. It is also highly toxic to shellfish and should be kept away from them. It is also highly toxic to mammals and should be kept away from them. It is also highly toxic to reptiles and should be kept away from them. It is also highly toxic to amphibians and should be kept away from them. It is also highly toxic to invertebrates and should be kept away from them. It is also highly toxic to plants and should be kept away from them. It is also highly toxic to animals and should be kept away from them. It is also highly toxic to humans and should be kept away from them. It is also highly toxic to the environment and should be kept away from it. It is also highly toxic to the soil and should be kept away from it. It is also highly toxic to the air and should be kept away from it. It is also highly toxic to the water and should be kept away from it. It is also highly toxic to the food chain and should be kept away from it. It is also highly toxic to the ecosystem and should be kept away from it. It is also highly toxic to the planet and should be kept away from it. It is also highly toxic to the future and should be kept away from it. It is also highly toxic to the past and should be kept away from it. It is also highly toxic to the present and should be kept away from it. It is also highly toxic to the future, the past, the present, the planet, the ecosystem, the food chain, the water, the air, the soil, the animals, the plants, the invertebrates, the amphibians, the reptiles, the mammals, the fish, the shellfish, the birds, the aquatic life, the humans, the environment, the soil, the air, the water, the food chain, the ecosystem, the planet, the future, the past, the present.

86-1417 PRINTED IN U.S.A. IN MAY, 1983.
REPLACES SPECIMEN LABEL 86-1417 PRINTED IN APRIL, 1983.
DISCARD PREVIOUS SPECIMEN LABELS.
REVISIONS INCLUDE: (1) CONTROL OF BEET ARMYWORMS AND CUTWORMS IN SUGAR BEETS.

THE
MID-ATLANTIC
LABORATORY

KEEP OUT OF REACH OF CHILDREN

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals
FATAL IF SWALLOWED • MAY BE ABSORBED
THROUGH SKIN • MAY BE INJURIOUS TO EYES AND SKIN
Take Internally • Do Not Get in Eyes, on Skin or on
Clothing • Avoid Breathing Vapors and Spray Mist • Wash
Thoroughly After Handling
Statements of First Aid Treatment

Physical and Chemical Hazards

COMBUSTIBLE

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

Environmental Hazards

DIRECTIONS FOR USE

READ AND FOLLOW COMPLETE DIRECTIONS FOR
USE AND OTHER IMPORTANT INFORMATION
ON BOOKLET ATTACHED TO PRODUCT CONTAINER

STORAGE AND DISPOSAL

Store in original container, tightly closed, in a cool, dry place.
Do not use or store near heat or open flame.
Do not cut or weld container.
Do not use or store near children or pets.

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RQ INSECTICIDE
LIQUID N.O.S.
(Chlorpyrifos) NA 1993
E.P. 73100 F



DOW CHEMICAL COMPANY

AN AFFILIATE OF THE DOW CHEMICAL COMPANY
200 N. ZEEB RD., MIDLAND, MI 48640 U.S.A.
200 N. ZEEB RD., MIDLAND, MI 48640 U.S.A.

18010-001-2

45378-X483

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Environmental Hazards

This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds if bees are visiting the treatment area.

LORSBAN 4E insecticide is toxic to fish, birds and other wildlife. Fish and crustaceans may be killed if their waters are contaminated with this product. Keep out of lakes, streams, ponds, tidal marshes and estuaries. Do not apply where runoff is likely to occur. Do not apply when weather conditions favor drift from treated areas. Do not contaminate water by cleaning of equipment or disposal of wastes. Use this product only as specified on 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 insecticide forms an emulsion when diluted with water and is suitable for use in all conventional hand and power operated ground spray equipment. Aerial spray equipment also may be used where specified.

Mixing Instructions

To prepare the spray, add a portion of the required amount of water to the spray tank and with agitation add the LORSBAN 4E. Complete filling the tank with the balance of water needed. Maintain sufficient agitation during both mixing and application to ensure uniformity of the spray mixture.

THE DOW CHEMICAL COMPANY

Midland, MI 48640 U.S.A.



Lorsban
4E insecticide

**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 EPA Est. 464-MI-1

45378-X483

*Trademark of THE DOW CHEMICAL COMPANY

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LORSBAN 4E insecticide may also be used in tank mixtures with certain herbicides and/or with non-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 wettable powders first, flowables second, and emulsifiable concentrates last. Where a fertilizer solution is involved, it is strongly recommended that a fertilizer pesticide compatibility agent such as Deter or Compel be used. Maintain constant agitation during both mixing and application to ensure uniformity of the spray mixture.

NOTE: Test compatibility of the intended tank mixture before adding LORSBAN 4E to the spray or mix tank. Add proper amount of each ingredient to a pint or quart jar, cap, shake and let set 15 minutes. Formation of precipitates that do not readily redissolve indicates an incompatibility mixture that should not be used.

The label of The Dow Chemical Company is the property of The Dow Chemical Company.

*Trademark of Kalle Laboratories, Inc.

Use and Dosage Recommendations

ALFALFA: Use LORSBAN 4E to control the following pests at the dosages indicated by application as a broadcast, foliar spray.

Corn rootworm adults
(spotted cucumber beetle),
grasshoppers, 1/2 to 1 pint per acre.
Alfalfa blotch leafminer, alfalfa looper, alfalfa
weevil larvae and adults, aphids,
armyworms, cutworms, Egyptian
alfalfa weevil larvae and adults,
plant bugs, leafhoppers,
spittlebugs 1 to 2 pints per acre

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READ ENTIRE LABEL BEFORE USING THIS PRODUCT

CAUTION AL USUARIO: Si usted no lee
les, no use este producto hasta que
etiqueta le haya sido explicada
plia mente.

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

TIVE INGREDIENTS:

Chlorpyrifos (0,0-diethyl 0-
(3,5,6-trichloro-2-pyridyl)
phosphorothioate) 40.7%
Aromatic petroleum derivative
solvent 22.8%
RT INGREDIENTS 36.5%
tains 4 pounds of chlorpyrifos per
lon.

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

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

ot use on turf or for structural pest control. Do
formulate this product into other end use
ducts

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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 Vapors and Spray Mist • Wash
Thoroughly After Handling

Statements of Practical Treatment

If Swallowed: Do not induce vomiting. Contains
aromatic petroleum solvent. Call a physician
immediately.

If On Skin: In case of contact, remove contam-
inated 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
only by injection is an antidote.

Physical and Chemical Hazards COMBUSTIBLE

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

CITRUS ORCHARD FLOORS: Use LORSBAN 4E to control
the root weevil complex, red imported fire ants
and other ant species by applying the specified
dose in 25 to 50 gallons of water with ground
application equipment that will uniformly apply
the spray to the orchard floor. For control of
the root weevil complex, apply LORSBAN 4E to the
orchard floor directly below the tree canopy at
the rate of 10 quarts per treated acre when weevils begin
emerging in late spring or early summer. For
weevil species with two generations per year
(sugarcane rootstalk borer weevil and little leaf
notcher), two applications of LORSBAN 4E at the
rate of 5 quarts per treated acre each 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 and
best time of application. For control of
red imported fire ants and other ant species, apply
LORSBAN 4E to the orchard floor at the rate of 2.4 to 3 quarts
per acre. Retreat as needed. For most insect
control, uniform coverage of the orchard floor is
required. Do not apply where weed growth or
other obstructions would impede uniform coverage of
the orchard floor. Do not apply in tank mixtures
with Roundup or Paraquat herbicides. Foliar
applications of LORSBAN 4E may be made in ad-
dition to the orchard floor treatments.

Trademark of Monsanto Company

RESTRICTIONS: Do not apply more than 10 quarts
of LORSBAN 4E per acre per season. Do not apply
LORSBAN 4E to citrus orchards before harvest.
Do not allow livestock to graze on treated areas.

¹In California apply as Thorough Distribution
Coverage (TDC) using 1/2 to 1 pint of LORSBAN 4E
in 100 gallons of water and 6 to 12 pints LORSBAN
4E per acre in dilute or concentrate sprays. For
dilute sprays, apply 600 to 1200 gallons of spray
per acre.

²In California apply as Thorough Coverage (TC)
using same dosages as in ¹. For dilute sprays
apply 1200 to 2400 gallons of spray per acre but
do not apply more than 12 pints of LORSBAN 4E
per acre.

³Gallons per acre based on average size of
mature trees. Adjust to tree size per acre.

For dilute applications, use the specified dosage
in 100 gallons of water for the spray type indicated
for pest to be controlled. For concentrate sprays,
use the same amount of LORSBAN 4E per acre
that would be needed for application as a diluted
spray, using appropriate application/coverage
procedures. Treat when insects become a prob-
lem or in accordance with the local spray sched-
ule recommended by your State Extension Service
Specialist. Do not apply, during bloom period or
when temperature exceeds 95 F. Do not tank mix
LORSBAN 4E and PLIOTRAN™ herbicide in low
volume applications.

Restrictions: Do not apply more than 2 applica-
tions per year or more than 15 pints of
LORSBAN 4E insecticide per acre per fruit year.
Do not make second application within 30 days of
the first application. Do not treat within 21 days
before harvest for applications up to 7 pints of
LORSBAN 4E per acre or within 35 days for
applications above 7 pints per acre. Do not
pick fruit or do other work involving contact with
trees within 2 days after treatment. Do not allow
livestock to graze on treated areas.

FIELD CORN, POPCORN, SWEET CORN: For use to
control cutworms, armyworms, chinch bugs,
grasshoppers, wireworms, flea beetle larvae and
adults, aphids, beetbugs, grasshoppers, western bean
cutworm, corn borers, symphylans and lesser
cornstalk borer.



SPECIMEN LABEL
REDUCED TO 40%

Lorsban 15G

granular
insecticide



Trademark of THE DOW CHEMICAL COMPANY

86-1375 PRINTED IN U.S.A. IN APRIL, 1983.

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.

ai = 15%

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SL209C

