

DEC 06 1995

Mr. Richard A. Miller
Prentiss Incorporated
C.B. 2000
Floral Park, New York 11002-2000

Subject: Additional Sites; General Reformatting
Prentox Dursban 4E Insecticide
EPA Registration Number 655-499
Your Amendment Application Dated October 18, 1995

Dear Mr. Miller:

The amendment referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), sec. 3(c)(7)(A), is acceptable provided that you:

1. Submit and/or cite all data required for registration/reregistration of your product under FIFRA sec. 3(c)(5) when the Agency requires all registrants of similar products to submit such data.
2. Submit five (5) copies of your final printed labeling before you release the product for shipment.

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA sec. 6(e). Your release for shipment of the product bearing the amended labeling constitutes acceptance of these conditions.

A stamped copy of the labeling is enclosed for your records.

Sincerely yours,

DHE

Dennis H. Edwards, Jr.
Product Manager (19)
Insecticide-Rodenticide Branch
Registration Division (7505C)

Enclosure

BEST COPY AVAILABLE

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Prentox Dursban 4E
EPA Registration No. 655-499

Front Panel

PRENTOX[®] DURSBAN[®] 4E INSECTICIDE

To be applied only by or under the direct supervision of trained applicators responsible for insect control programs. Sale to or use by persons owning or occupying a dwelling is strictly prohibited.

CONTAINS 4 POUNDS OF CHLORPYRIFOS PER GALLON

ACTIVE INGREDIENTS:

Chlorpyrifos [O,O-diethyl O-(3,5,6-trichloro-2-pyridinyl)
phosphorothioate]

44.8%

INERT INGREDIENTS*:

55.2%

TOTAL:

100.0%

*Contains Xylene Range Aromatic Solvent

PRENTOX[®] - Registered Trademark of Prentiss Incorporated

DURSBAN[®] - Registered Trademark of DowElanco

E.P.A. Reg. No. 655-499

E.P.A. EST. NO. 655-GA-1

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 this label, find someone to explain it to you in detail.)

STATEMENT OF PRACTICAL TREATMENT ORGANOPHOSPHATE

An organophosphate insecticide/miticide.

If **swallowed**: Call a physician or Poison Control Center immediately. Do not induce vomiting. Contains an aromatic petroleum solvent. Do not give anything by mouth to an unconscious person.

If **on skin**: Immediately wash with plenty of soap and water. Get medical attention.

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

If **inhaled**: Remove victim to fresh air if symptoms of cholinesterase inhibition appear and get medical attention immediately.

Note to physician: Chlorpyrifos is a cholinesterase inhibitor. Treat symptomatically. If exposed, plasma and red blood cell cholinesterase tests may indicate significance of exposure (baseline data are useful). Atropine, only by injection, is the preferable antidote. Oximes, such as 2-PAM/protopam, may be therapeutic if used early; however, use only in conjunction with atropine. In case of severe acute poisoning, use antidote immediately after establishing an open airway and respiration.

See inside of booklet for additional precautionary statements including *Personal Protective Equipment (PPE), User Safety Recommendations, and Directions for Use including Storage and Disposal.*

Manufactured by:

PRENTISS INCORPORATED

Plant: Kaolin Road, Sandersville, GA 31082

Office: C.B. 2000, Floral Park, NY 11002-2000

ACCEPTED
with COMMENTS
in EPA Letter Dated

DEC 06 1995

Under the Federal Insecticide,
Fungicide, and Rodenticide Act
as amended, for the pesticide
registered under EPA Reg. No.

655-499

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**PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS & DOMESTIC ANIMALS
Keep Out of Reach of Children
WARNING - AVISO**

May Be Fatal If Swallowed. Absorption Through Skin May Be Fatal. Causes Substantial But Temporary Eye Injury. Causes Skin Irritation.

Do not get in eyes, on skin or clothing. Avoid breathing vapors and spray mist. Handle concentrate in a ventilated area. Keep away from food, feedstuffs and water supplies.

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 G on an EPA chemical resistance category selection chart.

WPS Uses: Applicators and other handlers who handle this pesticide for any use covered by the Worker Protection Standard (40 CFR Part 170) — in general, agricultural-plant uses are covered — must wear coveralls over short-sleeved shirt and short pants, chemical-resistant gloves, such as barrier laminate, or viton, chemical-resistant footwear plus socks, protective eyewear, chemical-resistant headgear for overhead exposure, and a chemical-resistant apron when cleaning equipment, mixing or loading. **Non-WPS Uses:** Applicators and other handlers who handle this pesticide for any use NOT covered by the Worker Protection Standard (40 CFR Part 170) — in general, only agricultural-plant uses are covered by the WPS — must wear: long-sleeved shirt and long pants, chemical-resistant gloves such as barrier laminate or viton, chemical-resistant footwear 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, use detergent and hot water. Keep and wash PPE separately from other laundry.

User Safety Recommendations

Users should 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 on clean clothing. 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 pesticide is toxic to birds and wildlife, and extremely toxic to fish and aquatic organisms. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Drift and runoff from treated areas may be hazardous to aquatic organisms in adjacent aquatic sites. Cover or incorporate spills. Do not contaminate water when disposing of equipment washwaters. 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.

PHYSICAL & CHEMICAL HAZARDS

Combustible. Do not use or store near heat or open flame. Do not cut or weld container.

DIRECTIONS FOR USE

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

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

Do not formulate this product into other end-use products.

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 the 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.

PPE required for early entry to 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 over short-sleeved shirt and short pants, chemical-resistant gloves, such as barrier laminate, or viton, chemical-resistant footwear plus socks, protective eyewear, chemical-resistant headgear for overhead exposure.

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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, nurseries, or greenhouses.

Keep *adults*, children and pets off treated areas until spray has dried. Keep out of fish pools and other bodies of water. Do not treat vegetable gardens. Do not allow livestock to graze in treated areas. Do not feed treated grass cuttings (hay) or seed screenings to livestock nor use hay for livestock bedding. Do not use in poultry houses, or greenhouses.

STORAGE & DISPOSAL

Do not contaminate water or food by storage or disposal. Open dumping is prohibited.

Storage: Store in original container in secured dry storage area. Prevent cross-contamination with other pesticides and fertilizers. Do not store above 100° F for extended periods of time. Storage below 20° F may result in formation of crystals. If product crystallizes, store at 50° to 70° F and agitate to redissolve crystals. If container is damaged or spill occurs, use product immediately or dispose of product and damaged container as indicated below.

Pesticide Disposal: Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

Pesticide Container Disposal: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities: by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

Directions For Use Cont'd.

General Information

Dursban 4E Insecticide is an emulsifiable concentrate designed for use as a spray to control various pests injurious to *fruit, nut and citrus trees*, turf and ornamental plants. The pests controlled are listed in the accompanying tables. Prentox Dursban 4E Insecticide is compatible with insecticides, miticides, and fungicides commonly recommended except for alkaline materials such as Bordeaux mixture and lime. ~~A small amount of spray mixture should be prepared to check for compatibility before a large volume of spray is mixed.~~ It is always recommended that a small jar compatibility test using proper proportions of chemicals and water be run to check for physical compatibility prior to tank mixing.

Pest Control Indoors

Use Dursban 4E Insecticide to control pests listed in the following table by applying at the recommended dosages. Use a 0.25% spray to control light infestations and a 0.5% spray to quickly reduce heavy infestations or as directed. To prepare the spray, dilute Prentox Dursban 4E Insecticide with water or with a suitable base oil. Use only deodorized kerosene for oil-based sprays in food handling establishments.

Applications may be made within residential buildings, including homes and apartment buildings. Applications may also be made within mausoleums and nonfood areas of industrial, institutional, and commercial buildings, including hospitals, stores, manufacturing plants, and warehouses. Applications may be made within food handling establishments. This includes, but is not limited to, restaurants, grocery stores, bakeries, bottling plants, canneries, and grain mills.

Apply as a coarse, low pressure spray (20 psi or less) or with a paint brush to localized areas in and around both food and non-food areas. Treat where insects are found or normally occur, including dark corners of rooms and closets; floor drains; cracks and crevices in walls; along and behind baseboards; beneath and behind sinks, stoves, refrigerators, refrigerator units, and cabinets; and around plumbing and other utility installations.

In food-handling establishments use only as a spot treatment. Spot treatment may encompass crack and crevice treatments by applying small amounts of material directly into openings leading to voids and hollow spaces in walls, equipment legs and bases, or which occur at points between different elements of construction, or between equipment and floors. Equipment capable of delivering a pinstream of spray should be used. Repeat treatment as needed, but not more often than once every 7 days in restaurants and similar food service establishments, or more often than once every 14 days in other types of food-handling establishments. In case of emergency (call back), Dursban 4E Insecticide may be applied after 2 days from last treatment, but emergency use should be limited to once per month. Applications of this product in food-handling establishments other than as a spot and/or crack and crevice treatment are not permitted.

Note: Where quick "knockdown" and/or "flushing action" is desired, pyrethrins may be added to the spray mixture containing Dursban 4E Insecticide. For best results, use pyrethrins at 0.25% in water-based sprays and 0.05% in oil-based sprays. Consult labeling for pyrethrin products used to determine the amount needed to give the desired spray concentration. Also read and observe all use and handling precautions for the products.

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Do not apply water-based sprays of this product in conduits, motor housings, junction and switch boxes, or other electrical equipment because of possible shock hazard. If there is need to treat such areas, use only oil-based sprays. Prior to application, de-energize electrical equipment. After application allow time for oil to evaporate before starting motors or placing switches in the "on" position.

Do not allow spray to contact food, feedstuffs, or water supplies. Thoroughly wash dishes and food-handling utensils with soap and water if they become contaminated by application of this product. Do not allow children or pets to contact treated surfaces until spray has dried. Remove pets and cover fish bowls (tanks) before spraying. Do not introduce the spray into the air or allow the spray to contact food or food-contacting surfaces.

Use Dursban 4E Insecticide to control the pests listed below by application as a 0.25% or 0.5% spray.

Pest [†]	Amount of Dursban 4E to Make								Specific Directions
	1 Gallon of Water-Based Spray				1 Gallon of Oil-Based Spray				
	0.25% Spray		0.5% Spray		0.25% Spray		0.5% Spray		
	fl oz	ml	fl oz	ml	fl oz	ml	fl oz	ml	
Ants ¹ Cockroaches ² (American) (Brownbanded) (German) (Oriental) (Smokey brown) Confused flour beetles Crickets Earwigs Firebrats Indian meal moths Millipedes Red flour beetles Rice weevils Saw-toothed grain beetles Silverfish Spiders	2/3	20	1 1/3	40	1/2	15	1	30	Use the low rate (0.25%) to control light infestations and the high rate (0.5%) to quickly reduce heavy infestations or for extended residual control. 1. For ants, apply to ant trails and around doors and windows and wherever else the pest may find entrance. 2. A period of 4 to 7 days is normally required for maximum effect on cockroaches.

[†]Superscripts refer to "Specific Directions".

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Pest [†]	Amount of Dursban 4E to Make								Specific Directions
	1 Gallon of Water-Based Spray				1 Gallon of Oil-Based Spray				
	0.25% Spray		0.5% Spray		0.25% Spray		0.5% Spray		
	fl oz	ml	fl oz	ml	fl oz	ml	fl oz	ml	
Brown dog ticks ¹ Carpet beetles ² Clover mites			1 1/3	40			1	30	<ol style="list-style-type: none"> 1. For the control of brown dog ticks, thoroughly apply the spray as a spot treatment to infested areas, such as pet beds and resting quarters; nearby cracks and crevices; along baseboards, windows and door frames, and localized areas of floor and floor coverings where these pests may be present. Old bedding should be removed and replaced with clean, fresh bedding after treatment. Do not treat pets with this product. 2. For the control of carpet beetles, thoroughly apply the spray as a spot treatment along baseboards and edges of carpeting, under carpeting, rugs and furniture, in closets and on shelving and wherever else these insects are seen or suspected.

[†]Superscripts refer to "Specific Directions".

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Turf and Other Outdoor Uses

Use Dursban 4E Insecticide to control the pests listed in the following table by application at the recommended dosages. Dilute Dursban 4E Insecticide in water and apply as a coarse, low pressure spray using suitable application equipment. For best results, the lawn turf should be moist at time of treatment. Spray when pests first appear, re-treat when needed, but not more than once every 7 days.

Pest ⁺	Amount of Dursban 4E Insecticide per	
	1000 Sq Ft.	Acre
Ants Armyworms (Such as: Beet, Fall, Yellowstriped) Centipedes Chiggers ¹ Chinch bugs Crickets Cutworms Deer ticks ² Earwigs European crane fly larvae Fiery skipper Fire ants (foraging workers) Fire ants (mounds) ³ Fleas Gnats Grasshoppers Greenbug aphids Green June beetle grubs Leafhoppers Lucerne moth Millipedes Mites (Such as: Clover, Bermuda-grass stunt, Winter grain) Pillbugs Sod webworms ⁴ (lawn moths) Ticks ¹	3/4 fl. oz.	1 qt.
Bluegrass Billbugs adults (Such as: Bluegrass, Denver, Hunting) ⁵	3/4 - 1 1/2 fl. oz.	1 - 2 qts.
Turfgrass Annual bluegrass weevil (Hyperodes) ⁶ Black turfgrass ataenius adults ⁷ Mole crickets ⁸	1 1/2 fl. ozs.	2 qts.
White grubs (Such as: Black turfgrass ataenius, European chafer, Japanese beetle larvae, and Northern and Southern masked chafers) ⁹	1 1/2 - 3 fl. ozs.	2 - 4 qts.

Specific Directions:

- Use Dursban 4E for area control of ticks and chiggers infesting non-cropland areas such as turf and grassy areas, roadsides, footpaths and trails, picnic and camping sites, parks and other recreational areas where these pests are present and create a nuisance or a possible public health problem. Do not allow public use of treated areas during application or until spray has dried. Apply Dursban 4E in water at the rate of 1/2 pint per acre (equivalent to 1/6 fl. oz. per 2,700 sq. ft.) using a hydraulic sprayer, mist applicator, knapsack backpack sprayer, or other suitable hand- or power-operated spray equipment. Treat low underbrush, grassy areas, weeds and ground surface and debris, using enough spray volume to obtain thorough coverage, usually 40 to 100 gallons per acre.
- For control of deer ticks apply Dursban 4E in water at the rate of 1 quart per acre or 3/4 fl. oz. per 1000 sq. ft. Treat low underbrush, turf, grassy areas, weeds, and ground surface and debris, using enough spray volume to obtain thorough coverage.
- For individual fire ant mounds, apply Dursban 4E as a drench, diluted at the rate of Dilute 1 fl oz (30 ml) per 4 gallons of water. Gently sprinkle a total of 1 to 2 gallons of the diluted emulsion insecticide over the surface of each mound using a gentle spray (such as a sprinkler can). Thoroughly drench mound and surrounding areas to a 2 foot diameter. For best results, apply in cool weather, 65° - 80° F, or in early morning or late evening hours. Treat new mounds as they appear. Pressurized sprays may disturb the ants and cause migration, reducing product effectiveness.
- For sod webworms, delay watering or mowing the treated area for 12 to 24 hours after treatment.
- For bluegrass billbugs, spray early in the season when adults first appear. Retreat as needed. For billbugs, spray early in the season just prior to or coinciding with first appearance of adults as recommended by your local Agricultural Extension Service specialist.
- For turfgrass weevils, annual bluegrass weevil, spray suspected problem areas in mid-April and again in mid-May, or as recommended by your local Agricultural Extension Service specialist.
- For black turfgrass ataenius adults, spray early in the season as recommended by your local Agricultural Extension Service specialist. A repeat application may be needed 1 to 2 weeks later.
- For To control mole crickets in turfgrass, apply through high pressure injection or other suitable subsurface placement application equipment, such as the Cross Equipment Injectaspray™. Apply in a minimum spray volume of 50 gallons of water per acre. Depending on the application equipment used, follow the manufacturer's recommendation for calibration and the volume of spray per acre needed to provide control or as recommended by your local Agricultural Extension Service specialist. For best results, apply when young nymphs are active.
- For white grubs, spray when grubs are young and actively feeding near the soil surface, usually during late July and August or as recommended by your local Agricultural Extension Service specialist. For best results, soil should be moist prior to treatment. For best results, immediately after spraying, irrigate the treated area with 1/2 to 1 inch of water to wash the insecticide into the underlying soil.

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Pest Control on Outside Surfaces and Around Buildings

Apply Dursban 4E by application as a residual spray to outside surfaces of buildings including porches, window frames, eaves, patios, garages, refuse dumps and other areas where pests congregate or have been seen. Repeat treatment as needed to maintain effectiveness, but not more often than once every 7 days.

Pest ⁺	Amount of Dursban 4E In Water to Make			Specific Directions
	1 Gallon	10 Gallons	50 Gallons	
ants bees boxelder bugs carpenter ants clover mites cockroaches crickets earwigs elm leaf beetles (adults) firebrats fleas flies hornets millipedes pillbugs scorpions ² silverfish sowbugs spiders springtails ticks wasps yellowjackets	For Perimeter Treatment ¹			1. To help prevent infestation of buildings treat a band of soil 6 - 10 ft wide around and adjacent to buildings, also the building foundation to a height of 2 - 3 ft where pests are active and may find entrance. Use 4 - 16 fl oz of Dursban 4E per 50 gal of water and apply as a coarse spray at the rate of about 10 gal spray mixture per 1,000 sq ft to thoroughly and uniformly wet the band area. 2. For scorpions remove accumulations of lumber, firewood, and other materials which serve as insect harborage sites. Make a thorough perimeter treatment around the structure using directions in (1) above.
	1/12 - 1/3 fl oz	3/4 - 3 fl oz	4 - 16 fl oz	
	For Outside Surfaces			
	1 1/3 fl oz	13 1/3 fl oz	2 qt	

⁺Superscripts refer to "Specific Directions".

Pest ⁺	Amount of Dursban 4E in Water to Make		Specific Directions
	1 gal	100 gal	
Ticks ¹ (American dog) (Cattle fever) (Gulf coast) (Lone star)	1/4 fl oz	1 1/2 pt	1. For control of ticks infesting corrals, stockyards, holding pens and other outdoor livestock areas. Treat soil in corrals and pens, especially in corners, under and around fences, grassy areas, protected areas under feeders and shelters and other areas likely to serve as harborage sites for ticks that have removed themselves from their host. Spray surfaces to be treated until wet, but do not create excessive runoff. Note: This application is intended as a premise spray only. Do not use as a direct spray on livestock. Take care to avoid creating mist or drift which may come into contact with feed, water or livestock. Livestock should not be allowed in treated areas until spray deposits have dried.

⁺Superscripts refer to "Specific Directions".

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Pest ⁺	Amount of Dursban 4E per		Specific Directions
	1000 Sq Ft	Acre	
Ants (including foraging fire ants) Armyworms (Beet) (Fall) (Yellowstriped) Centipedes Chiggers ¹ Chinch bugs Clover mites Cutworms Crickets Earwigs Fiery skipper Fire ants (mounds) ² Fleas Gnats Grasshoppers Greenbugs June beetles Leathoppers Lucerne moths Millipedes Mites (Clover) (Formula grass) (Winter grain) Sod webworms ³ (lawn moths) Sowbugs Springtails Ticks ¹	3/4 fl oz	1 qt	<p>1. Use Dursban 4E for area control of ticks and chiggers infesting non-cropland areas such as roadsides, footpaths, and trails, picnic and camping sites, parks and other recreational areas where these pests are present and create a nuisance or a possible public health problem. Do not allow public use of treated areas during application or until spray has dried. Apply Dursban 4E in water at the rate of 1/2 pint/acre (equivalent to 1/2 fl oz per 2,700 sq ft) using a hydraulic sprayer, mist applicator, knapsack sprayer, or other suitable hand- or power-operated spray equipment. Treat low underbrush, grassy areas, weeds, and ground surface and debris using enough spray volume to obtain thorough coverage, usually 40 - 100 gal/acre.</p> <p>2. For individual fire ant mounds, apply Dursban 4E as a drench, diluted at the rate of 1 fl oz (30 ml) per 4 gal of water.</p> <p>Gently sprinkle a total of 1 gal of the diluted emulsion over the surface of each mound using a gentle spray (such as a sprinkler can). Thoroughly wet mound and surrounding areas to a 4 ft diameter (12 sq ft). For best results, apply in cool weather, 65°-80° F, or in early morning or late evening hours. Treat new mounds as they appear. Pressurized sprays may disturb the ants and cause migration, reducing product effectiveness.</p> <p>3. For sod webworms, delay watering and mowing the treated area for 12-24 hours after treatment.</p>

⁺Superscripts refer to "Specific Directions"

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Residential Citrus

Use Dursban 4E to treat grapefruit, lemon, orange and other citrus trees or tree fruit in residential areas. Use lower rates for light infestations, higher rates for heavy infestations. Treat when insects become a problem or in accordance with the local spray schedule recommended by your State Extension Service specialist. Do not apply to citrus if temperature exceeds 95° F. Dursban 4E is highly toxic to bees exposed to direct treatment. Do not apply to drought, heat stressed, or flowering trees.

Restrictions: Do not make more than two applications per year. Do not make a second application within 30 days of the first application. Do not pick fruit for consumption until 21 days after application.

Pest	Amount of Dursban 4E in Water to Make			Specific Directions
	1-gallon	3-gallons	100-gallons	
Aphids Katyids Lepidopterous larvae	1/10 - 1/5 fl oz	1/4 - 1/2 fl oz	1/2 - 1 pint	Use directions apply in all states.
Citrus thrips Mealybugs Scale insects (Black) (Brown soft) (California red) (Chaff) (Snow)	1/10 - 1/5 fl oz	1/4 - 1/2 fl oz	1/2 - 1 pint	Use directions apply in Florida only. In California, apply as outside foliar coverage for citrus thrips and mealybug, through coverage of entire tree for scale insects.

Fruit, Nut and Citrus Trees

Use Dursban 4E to treat almond, apple, cherry, filbert, nectarine, peach, pecan, walnut and citrus trees or tree fruit (such as: grapefruit, lemon, orange) not grown for commercial consumption of fruit by spraying to the point of runoff. When treating citrus trees only, a petroleum spray oil recommended for use on citrus trees may be added to spray mixtures only at rates of up to 1.8 gallons per 100 gallons of water to improve control of aphids, mealybugs, scale insects, and thrips. Treat when insects become a problem or in accordance with the local spray schedule recommended by your State Extension Service Specialist.

Precautions:

Do not apply as a foliar spray to sweet cherries because contact of spray solution with leaves may result in premature leaf drop. Observe local use directions for tank mix combinations especially with applications of Dursban 4E plus spray oil. Do not apply Dursban 4E in combination with oil to walnuts. Dry or cold conditions may cause Dursban 4E plus oil to injure trees resulting in bud damage or drop; do not apply until rain or irrigation has replenished soil moisture such that bark and twigs are not desiccated. Do not apply when trees are stressed by drought.

Restrictions:

Almonds, Filberts, Walnuts: Make only one dormant/delayed dormant spray application and no more than three foliar spray applications on almonds per season, one dormant/delayed dormant spray application and no more than two foliar spray applications on walnuts per season, and no more than three foliar spray applications on filberts per season. Do not apply within 14 days of harvest.

Apples: Rate applied must not exceed 1/3 fl. oz. per gallon or 1 qt. per 100 gallons. Make no more than 8 applications per season. Do not apply last treatment within 28 days before harvest or apply last two treatments closer than 21 days apart.

Citrus (Such as: Grapefruit, Lemon, Orange): Rate applied must not exceed 1/6 fl oz per gallon or 1 pt per 100 gallons. Do not apply to flowering trees. Do not apply when temperature exceeds 95° F. Do not apply more than 2 applications per fruit year. Do not make a second application within 30 days of the first application. Do not pick fruit for consumption until 21 days after application.

Nectarines, Peaches, (trunk sprays only): Do not allow spray to contact fruit. Make only one application per season. Do not apply within 14 days of harvest.

Pecans: Rate applied must not exceed 1/3 fl oz per gallon or 1 qt per 100 gallons. Make no more than 5 applications per season. Do not apply within 28 days of harvest.

Sour cherries: Make no more than 8 applications per season. Do not apply within 14 days of harvest.

Sweet cherries (trunk and lower limb sprays only): Rate applied must not exceed 1/3 fl oz per gallon or 1 qt per 100 gallons. Avoid spray contact with foliage (leaves) since premature leaf drop may result. Make only three applications per year. Do not apply within 6 days of harvest.

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Pest	Amount of Dursban 4E per			
	1 gallon	100 gallons	Acre	
<p>Aphids (Such as: Apple, Black cherry, Black pecan, Filbert, Rosy apple, Woolly apple, Yellow pecan) Apple maggot Borers (Such as: American plum, Dogwood, Lesser peachtree, Pacific flatheaded, Peach twig, Peachtree, Shot-hole) Cherry fruit fly Climbing cutworm Codling moth European apple sawfly European corn borer Eyespotted bud moth Fall webworm Filbert worm Grasshoppers (Such as: Lubber)¹ Green fruitworm Hickory shuckworm Katyids Leafrollers and tiers (Such as: Avocado leafroller, Filbert leafroller, Fruittree leafroller, Obliquebanded leafroller, Omnivorous leaf-tier, Orange tortrix, Pandemis leafroller, Redbanded leafroller, Variegated leafroller) Lepidopterous larvae Lesser appleworm Lygus sp. Mealybugs Mineola moth Mites (Such as: Citrus rust, European red, Pecan leaf scorch, Twospotted spider)² Navel orangeworm Oriental fruit moth</p>	<p>Pecan nut casebearer Pecan weevil Periodical cicada Phylloxera spp. Plum curculio Potato Leafhopper Rose chafer Scale insects (Such as: European fruit lecanium, San Jose, Walnut) Spittlebug Spotted tentiform leafminer Stinkbug Tarnished plant bug Thrips (Such as: Citrus) Tufted apple budmoth Walnut husk fly Western tussock moth White apple leafhopper Winter moth</p>	1/6 - 1/3 fl oz†	1 pt - 1 qt	1-2 qt
<p>Scale insects (Such as: Black scale, Brown soft scale, California red scale, Chaff scale, Florida red scale, Long scale, Purple scale, Snow scale)³</p>		1/3 - 2/3 fl oz†	1 - 2 qt	2-4 qt

† Note: Rate applied to citrus must not exceed 1/6 fl oz per gallon or 1 pt per 100 gallons. Rate applied to apples, pecans, or sweet cherries must not exceed 1/3 fl oz per gallon or 1 qt per 100 gallons.

Specific Directions:

1. Lubber grasshoppers must be controlled when they are small (less than 1 inch in length) by direct contact with spray.
2. For effective control of spider mites when large numbers of eggs are present, apply a second spray 3 to 5 days in the South or 7 to 10 days in the North after initial treatment to control newly hatched nymphs.
3. Time applications for control of scale insects when crawlers or first two stages of settled nymphs are present.

Prentox Dursban 4E
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Ornamentals Growing Outdoors or in Nurseries

Use Dursban 4E to treat flowers, shrubs, evergreens, vines, shade and flowering trees and non-bearing fruit, nut and citrus trees found to be infested with the types of pests listed in the following tables.

Dilute Dursban 4E with water according to directions given in the tables and apply using suitable hand- or power-operated spray equipment in a manner to provide complete and uniform coverage. For best results apply a coarse spray to thoroughly wet both upper and lower leaf surfaces and infested limb and trunk areas. Attempt to penetrate dense foliage but avoid over-spraying to the point of excessive runoff. Treat when pests appear and repeat at 7 to 10 day intervals, if needed. Do not use on fruit and nut trees that will bear fruit within 1 year of application. For nurseries: when using spray equipment delivering less than 200 gallons of finished spray per acre, use the rate recommended in the per acre column. Uniform coverage is critical for effective insect and mite control.

Consult your State Agricultural Experiment Station or Extension Service specialist for application timing and other specific use information.

Note: Ornamentals-Phytotoxicity: Environmental factors and varietal differences have significant effects on phytotoxic expression. Dursban 4E has been tested on numerous ornamental plants without causing serious phytotoxicity at recommended use rates. However, do not use on azaleas, camellias, poinsettias, rose bushes, or variegated ivy because of possible injury to these plants. Some varieties of azaleas, camellias, poinsettias, roses and variegated ivy have shown varying degrees of phytotoxicity following treatment with Dursban 4E. Before treating large numbers of plants (especially those above), it is recommended that a small block of plants be treated and observed for 7 to 10 days to determine phytotoxic potential. Note: The professional user assumes responsibility for determining if Dursban 4E is safe to treated plants under commercial growing conditions.

Pest†	Amount of Dursban 4E in Water to Make			Specific Directions
	1-gallon	3-gallons	100-gallons	
	1-12 fl-oz	1-4 fl-oz	8 fl-oz	
adelgids —(cooley-gall) —(eastern spruce-gall) —(pine bark) ants (including foraging —fire ants) aphids —(apple) —(chrysanthemum) —(cottonwood) —(elm leaf) —(f. ash) —(rose) —(spirea) —(woolly) armyworms —(fall) —(yellowstriped) bagworms† boxelder bugs cankerworms carpenter ants ⁵ catalpa sphinx chiggers citrus mealy bugs	clover mite cockroaches —(American) —(brownbanded) —(German) —(Oriental) —(smokey brown) elm spanworm fall webworms ⁶ grasshoppers green fruitworm hornworms jack pine budworm nimper webworm katydids lace bugs leafhoppers leafrollers ² maple leafcutter ³ mites ⁴ —(clover) —(red spider) —(southern red) oleander caterpillar orange tortrix	periodical cicada plant bugs poplar tentmaker Psyllids puss caterpillar rose chafer sawflies, exposed —(pine) —(pin oak) —(redheaded) scowbugs spittlebugs spring elm caterpillar springtails spruce budworm tent caterpillar —(eastern) —(forest) —(western) thornbug walnut caterpillar western spruce budworm whiteflies yellownecked caterpillar	1—For bagworms, treat when insects are in the crawler stage. 2—For effective control of leafrollers, spray should be applied before leaves tightly rolled. 3—For effective control of maple leafcutter on maple trees, apply spray to larvae as cases are being formed. Do not treat sugar maple trees intended for maple syrup production. 4—For effective control of spider mites when large numbers of eggs are present, apply a second spray 3-5 days in the south or 7-10 days in the north after initial treatment to control newly-hatched nymphs. 5—Locate carpenter ant nests, if possible, and drench thoroughly. 6—For control of fall webworm, direct spray into web and immediately adjacent foliage.	

†Superscripts refer to "Specific Directions"

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Pest+	Amount of Dursban 4E in Water to Make			Specific Directions
	1-gallon	3-gallons	100-gallons	
	1/6 fl-oz	1/2 fl-oz	1 pt	
armyworms —(beet) beetle† —(fuller-rose) —(native-elm-bark) cutworms leafhoppers mahogany-webworms mealy-bugs mimosa-webworms moths (brown-tail) (cypress-tip) —(Douglas-fir-tussock) —(European-pine-shoot) —(gypsy)2-		(holly-bud) (Nantucket-pine-tip) (Pandora) (pitch-pine-tip) (subtropical-pine-tip) (tussock) Oakworms (California) (orange-striped) (redhumped) redhumped-caterpillar thrips (exposed) weevils (blackvine)3 (yellow-poplar) (pine-reproduction)		1- To reduce twig and branch feeding by bark beetles, applications should be made in the early summer. 2- To kill migrating and invading gypsy-moth larvae, treat trunks and foliage. 3- Blackvine weevils are night feeders. Late afternoon spraying will give control in some areas.
	1/6-1/3 fl-oz	1/2-1 fl-oz	1 pt-1 qt	
foliar-feeding beetles† (blister-leaf) (cottonwood-leaf) (elm-leaf) (flea) (fuller-rose) (Japanese) (June) (willow-leaf)				†- For cottonwood leaf beetles, use Dursban 4E in water to control larvae and adults infesting cottonwoods. Make treatment when field counts indicate damaging beetle populations are developing or present.

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Pest†	Amount of Dursban 4E in Water to Make			Specific Directions
	1-gallon	3-gallons	100-gallons	
	1/3 fl oz	1 fl oz	1 qt	
borers† clearwing moths (ash) (dogwood) (hassler-peachtree) (lilac) (oak) (rhododendron) metallic wood (bronze birch) (flatheaded-appletree) (twolined chestnut) longhorned beetles (locust) (red oak) cranberry girdler larvae‡ leafminers needleminers (Jeffrey pine)	(hol'gepin-pine) (sp rose) scale crawlers (cott. magnolia) (cottonymaple) (Euonymus) (Fletcher) (Florida wax) (golden oak) (hemispherical) (iceanum) (magnolia) (oak kermes) (oystershell) (pine needle) (San Jose) (tea) (white birch)			1. For borers, apply Dursban 4E to the trunks and lower limbs of trees and shrubs when the adults begin to emerge. Consult your state agricultural experiment station or extension service specialist for proper time to treat. Apply uniformly as a coarse low-pressure spray. 2. For cranberry girdler larvae, apply 1 quart of Dursban 4E per acre. Direct spray at the base of tree using 50 gallons of water per acre. Irrigate immediately after application for soil penetration of 1-2 inches. Treat after egg laying during the summer.
	1 fl oz	3 fl oz	3 qt	
borers (cottonwood) (peachtree)†				1. For peachtree borers, apply Dursban 4E in water to flowering trees and shrubs of the genus Prunus as a trunk spray before newly hatched larvae enter the trees. Apply as a coarse, low-pressure spray. Thoroughly wet all bark areas from ground level to scaffold limbs.

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Pest ⁺	—Amount of Dursban 4E in Water to Make			Specific Directions
	1-gallon	3-gallons	100-gallons	
	1 1/3 fl-oz	4 fl-oz	1 gal	
beetles† (cottonwood-leaf) (elm leaf) (flea) (fuller-rose) (native elm bark)‡ (willow leaf)				1. For preventive treatment, apply the spray to the main trunk of trees in the early spring or when threat of attack exists from nearby infested trees. For remedial treatment apply the spray to the main trunk of infested trees or logs when damage occurs but before adult beetles begin to emerge. 2. To prevent native elm bark beetles from overwintering in uninfested trees, apply Dursban 4E in water to the bottom 9 ft of the trunk. Wet the trunk thoroughly but do not spray to runoff. Care should be taken to apply the spray right to the base of the root flare. Application can be made with either a backpack mistblower or a hydraulic pressure sprayer from spring through to early fall.

†Superscripts refer to "Specific Directions"

Pest ⁺	—Amount of Dursban 4E in Water to Make			Specific Directions
	1-gallon	3-gallons	100-gallons	
	2 2/3 fl-oz	8 fl-oz	2 gal	
wood infesting beetles† (Ambrosia) (Anobiidae) (black turpentine) (European elm bark) (Japanese) (June) (southern pine) (spruce)				1. For preventive treatment apply the spray to the main trunk of trees in the early spring or when threat of attack exists from nearby infested trees. For remedial treatment apply the spray to the main trunk of infested trees when damage occurs but before adult beetles begin to emerge.

†Superscripts refer to "Specific Directions"

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Pest*	Amount of Dursban 4E in Water to Make			Specific Directions
	1-gallon	3-gallons	100-gallons	
Adelgids —(Cooley) —(Eastern spruce-gall) —(Pine-bark) Aphids —(Apple) —(Chrysanthemum) —(Cottonwood) —(Elm-leaf) —(Peach) —(Rose) —(Spirea) —(Woolly) Bagworms† Boxelder-bugs Cankerworms Catalpa-sphinx Citrus-mealybugs Elm-spanworms Fall-wcbworms Greentriped-mapleworms Jackpine-budworms Katydid Lace-bugs Leafhoppers Leafrollers ² Maple-leafcutters ³ Mites ⁴ —(Clover) —(Red-spider) —(Southern-red) Oak-skeletonizers Poplar-tentmakers Puss-caterpillars Sawflies-exposed —(Pin-oak) —(Pine) Spring-elm-caterpillars Spruce-budworms Tent-Caterpillars —(Eastern) —(Forest) —(Western) Walnut-caterpillars Western-spruce-budworms Yellow-necked-caterpillars	1/12 fl-oz	1/4 fl-oz	8 fl-oz	1. For bagworms, treat when insects are in the crawler stage. 2. For effective control of leaf-rollers, spray should be applied before leaves are tightly rolled. 3. For maple leafcutters on maple trees, apply spray to larvae as cases are being formed. Do not treat sugar maple trees intended for maple syrup production. 4. For effective control of spider mites, when large numbers of eggs are present, apply a second spray after 3-5 days in the south or 7-10 days in the north after initial treatment to control newly-hatched nymphs.

*Superscripts refer to "Special Directions"

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Pest†	Amount of Dursban 4E in Water to Make			Specific Directions
	1-gallon	3-gallons	100-gallons	
Beetles —(Furor rose) —(Native elm bark)† Leafhoppers Mahogany webworms Mealybugs Mimosa webworms Moths —(Browntail) —(Cypress tip) —(Douglas fir tussock) —(European pine shoot) —(Gypsy)‡ —(Holly bud) —(Nantucket pine tip) —(Pandora) —(Pitch pine tip) —(Subtropical pine tip) —(Tussock) Oakworms —(California) —(Orangestriped) —(Redhumped) Redhumped caterpillars Thrips (exposed) Weevils —(Blackvine)‡ —(Pine reproduction) —(Yellow poplar)	1/6 fl oz	1/2 fl oz	1 pt	1. Reduce twig and branch feeding by bark beetles; applications should be made in the spring or early summer. 2. To kill migrating and invading gypsy moth larvae, treat trunk and foliage. 3. Blackvine weevils are night feeders. Late afternoon spraying will give control in some areas.
Beetles —(Cottonwood leaf)† —(Elm leaf) —(Flea) —(Willow leaf)	1/6 + 1/3 fl oz	1/2 + 1 fl oz	1 pt + 1 qt	1. For cottonwood leaf beetles; use Dursban 4E in water to control larvae and adults infesting cottonwoods. Make the treatment when field counts indicate damaging beetle populations are developing or present. For seedings, use 8-20 gal of spray volume per acre.

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Pest ⁺	Amount of Dursban 4E in Water to Make			Specific Directions
	1 gallon	3 gallons	100 gallons	
Borers ¹ Clearwing moths — (Ash) — (Dogwood) — (Lesser peach tree) — (Lilac) — (Oak) — (Rhododendron) Metallic wood — (Bronze birch) — (Flathead apple tree) — (Twolined chestnut) Longhorn beetles — (Locust) — (Red oak) Cranberry girdler larvae ² Leafminers Needleminers — (Jeffrey pine) — (Lodgepole pine) — (Spruce) Scale crawlers — (Cottony cushion) — (Cottony maple) — (Euonymus) — (Fletcher) — (Florida wax) — (Golden oak) — (Hemispherical) — (Locanium) — (Magnolia) — (Oak kermes) — (Oystershell) — (Pine needle) — (San Jose) — (Tea) — (White birch)	1/3 fl oz	1 fl oz	1 qt	1. For borers, apply Dursban 4E to the trunks and lower limbs of trees and shrubs when the adults begin to emerge. Consult your local state agricultural experimental station or extension service specialist for proper time to treat. Apply uniformly as a coarse low-pressure spray. 2. For cranberry girdler larvae infesting Douglas fir seedlings, apply 1 quart of Dursban 4E per acre. Direct spray at the lower crown and stems using 50 gal of water per acre. Irrigate immediately after application for soil penetration of 1-2 inches. Treat after egg laying during the summer.

⁺Superscripts refer to "Special Directions"

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Pest ⁺	Amount of Dursban 4E in Water to Make			Specific Directions
	1-gallon	3-gallons	100-gallons	
Borers (Cottonwood) (Peachtree) [†]	1 fl oz	3 fl oz	3 qt	1. For peachtree borers, apply Dursban 4E in water to flowering trees and shrubs of the genus Prunus as a trunk spray before newly-hatched larvae enter the trees. Apply as a coarse spray. Thoroughly wet all bark areas from ground level to scaffold limbs.
Beetles [†] (Cottonwood leaf) (Elm leaf) (Flea) (Fuller rose) (Native elm bark) ² (Willow leaf)	1 1/3 fl oz	4 fl oz	1 gal	1. For preventive treatment, apply the spray to the main trunk trees in the early spring or or when threat of attack exists from nearby infested trees. For remedial treatment, apply the spray to the main trunk of infested trees or logs when damage occurs. It before adult beetles begin to emerge. 2. To prevent native elm bark beetles from overwintering in uninfested trees, apply Dursban 4E in water to the bottom 2 feet of the trunk. Wet the trunk thoroughly but do not spray to runoff. Care should be taken to apply the spray right to the base of the root flare. Application can be made with either a backpack mistblower or a hydraulic pressure sprayer from spring through to early fall. To reduce the twig and branch feeding on uninfested trees deemed to be of high value, apply a water spray to the tree crown. Application should be made in the spring or early summer using a sprayer that will give thorough coverage to the tree crown.

⁺Superscripts refer to "Specific Directions"

Pest ⁺	Amount of Dursban 4E in Water to Make			Specific Directions
	1-gallon	3-gallons	100-gallons	
Beetles [†] (Ambrosia) (Anobiidae) (Black turpentine) (Blister) (European elm bark) (Japanese) (June) (Southern pine) (Spruce) Carpenter ants Termites	2 2/3 fl oz	8 fl oz	2 gal	1. For preventive treatment, apply the spray to the main trunk of trees in the early spring or when threat of attack exists from nearby infested trees. For remedial treatment, apply the spray to the main trunk of infested trees or logs when damage occurs or before adult beetles begin to emerge.

⁺Superscripts refer to "Specific Directions"

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Sucking Insects and Mites

Pest	Amount of Dursban 4E per		
	1 gallon	100 gallons	Acre
<i>Adelgids (Such as: Cooley and Eastern spruce galls, Pine bark)</i> <i>Aphids (Such as: Apple, Balsam twig, Black pecan, Chrysanthemum, Cottonwood, Crape myrtle, Elm leaf, Melon, Peach, Rose, Spirea, White pine, Woolly, Woolly apple, Yellow pecan)</i> <i>Boxelder bugs</i> <i>Lace bugs (Such as: Hawthorn)</i> <i>Periodical cicada</i> <i>Plant bugs</i> <i>Psyllids</i> <i>Spittlebugs</i> <i>Thornbug</i> <i>Whiteflies</i>	1/2 - 1/6 fl oz	8 fl oz - 1 pt	1 pt - 1 qt
<i>Leafhoppers</i> <i>Mealybugs (Such as: Citrus, Taxus)</i> <i>Mites (Such as: Clover, Red spider, Southern red, Spruce spider, Twospotted spider)¹</i> <i>Thrips (exposed)</i>	1/6 fl oz	1 pt	1 qt
<i>Scale insects (Such as: Cottony cushion, Cottony maple, Dearness, Euonymus, Fletcher, Florida wax, Golden oak, Hemispherical, Lecanium, Magnolia, Oak kermes, Oak lecanium, Oystershell, Pine needle, San Jose, Tea, White birch)²</i>	1/3 fl oz	1 qt	1 - 2 qt

Specific Directions:

1. For effective control of *spider mites* when large numbers of eggs are present, apply a second spray 3 to 5 days in the South or 7 to 10 days in the North after initial treatment to control newly hatched nymphs.
2. Time applications for control of *scale insects* when crawlers or first two stages of settled nymphs are present.

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Defoliators and Leafminers

Pest	Amount of Dursban 4E per			
	1 gallon	100 gallons	Acre	
<i>Armyworms (Such as: Fall, Yellow-striped)</i> <i>Bagworms¹</i> <i>Cankerworms</i> <i>Catalpa sphinx</i> <i>Elm spanworms</i> <i>Fall webworms²</i> <i>Grasshoppers</i> <i>Greenstriped mapleworms</i> <i>Green fruitworms</i> <i>Hornworms</i> <i>Jackpine budworms</i> <i>Juniper webworms</i> <i>Katydid</i> <i>Leafrollers³</i> <i>Maple leafcutters⁴</i> <i>Oak skeletonizers</i> <i>Oleander caterpillars</i>	<i>Orange tortrix</i> <i>Poplar tentmaker</i> <i>Puss caterpillars</i> <i>Rose chafers</i> <i>Sawflies, exposed (Such as: European pine, Pine, Pin oak, Redheaded)</i> <i>Spring elm caterpillars</i> <i>Springtails</i> <i>Spruce budworms (Such as: Eastern, Western)</i> <i>Tent caterpillars (Such as: Eastern, Forest, Western)</i> <i>Walnut caterpillars</i> <i>Yellownecked caterpillars</i>	1/4 - 1/6 fl oz	8 fl oz - 1 pt	1 pt - 1 qt
<i>Balsam gall midge</i> <i>Beet armyworms</i> <i>Beetles (Such as: Fuller rose)⁵</i> <i>Browntail moth</i> <i>Cutworms</i> <i>Cypress tip moth</i> <i>Douglas-fir tussock moth</i> <i>European pine shoot moth</i> <i>Gypsy moth⁶</i> <i>Holly bud moth</i> <i>Mahogany webworms</i>	<i>Mimosa webworms</i> <i>Nantucket pine tip moth</i> <i>Oakworms (Such as: California, Orangestriped, Redhumped)</i> <i>Pandora moth</i> <i>Pitch pine tip moth</i> <i>Redhumped caterpillars</i> <i>Subtropical pine tip moth</i> <i>Tussock moth</i>	1/6 fl oz	1 pt	1 qt
<i>Beetles (Such as: Cottonwood leaf⁷, Elm leaf, Flea, Willow leaf)</i>		1/6 - 1/3 fl oz	1 pt - 1 qt	1 qt
<i>Leafminers</i> <i>Needleminers (Such as: Jeffrey pine, Lodgepole pine, Spruce)</i> <i>Pine needle midge</i> <i>Rhododendron gall midge</i>		1/3 fl oz	1 qt	1 - 2 qt

Specific Directions:

1. For bagworms, treat when larvae are small and actively feeding.
2. For effective control of fall webworms, direct spray into web and immediately surrounding foliage.
3. For effective control of leafrollers, spray should be applied before leaves are tightly rolled.
4. For maple leafcutter on maple trees, apply spray to larvae as cases are being formed. Do not treat sugar maple trees intended for maple syrup production.
5. To reduce foliar feeding on twigs and branches by beetles, applications should be made in the spring or early summer.
6. To control migrating and invading gypsy moth larvae, treat trunks and foliage.
7. For cottonwood leaf beetles, spray larvae and adults infesting cottonwoods. Applications should be made when damaging beetle populations are developing or present.

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Borers, Bark Beetles, and Weevils

Pest	Amount of Dursban 4E per		
	1 gallon	100 gallons	Acre
Weevils (Such as: Black vine ¹ , Pine reproduction, Yellow poplar)	1/6 fl oz	1 pt	1 - 2 qt
Cranberry girdler ²	1/6 fl oz	1 pt	-
Borers: Clearwing moths (Such as: Ash, Dogwood, Lesser peachtree, Lilac, Oak, Peachtree, Rhododendron), Longhorned beetles (Such as: Cottonwood, Locust, Red oak), Metallic wood (Such as: Bronze birch, Flatheaded appletree, Twolined chestnut ³)	1/3 fl oz	1 qt	-
Pales weevil adults Zimmerman pine moth			
Northern pine weevil ⁴ Pales weevil ⁴	1 fl oz	3 qt	-
Beetles ⁵ : (Such as: Ambrosia, Anobildae, Black turpentine, Blister, Cottonwood leaf, Elm leaf, European elm bark, Fuller rose, Japanese, June, Mountain pine, Native elm bark ⁶ , Southern pine, Spruce, Western pine, Willow leaf)	2 2/3 fl oz	2 gal	-
Weevils (Such as: Northern pine, Pitch eating, Twig) ⁷	5 1/3 fl oz	4 gal	-

Specific Directions:

1. Black vine weevils are night feeders. Late afternoon spraying will maximize control.
2. For cranberry girdler larvae infesting Douglas-fir seedlings, direct spray at lower crown and stems following egg laying during summer. For nurseries: apply a minimum of 50 gallons of dilute spray per acre and irrigate immediately after application to move the insecticide into the top 1 to 2 inches of soil.
3. For borers, spray trunks and lower limbs of trees and shrubs when adults begin to emerge. For peachtree borers, spray flowering trees and shrubs of the genus *Prunus* as a trunk spray before newly-hatched larvae enter the trees and thoroughly wet all bark areas from ground level to scaffold limbs. Pheromone traps may aid in detection of adult clearwing moths. Consult your State Agricultural Experiment Station or Extension Service specialist for proper time to treat.
4. For control of northern pine and pales weevil larvae, apply as a cut stump spray or drench in winter or early spring.
5. For preventive treatment, spray the main trunk of trees in the early spring or when threat of attack exists from nearby infested trees. For remedial treatment, spray the main trunk of infested trees or logs before adult beetles begin to emerge.
6. To prevent native elm bark beetles from over-wintering in uninfested trees, apply using a dilution of 1 gal per 100 gallons of water (1 1/3 fl oz per gallon) as a spray to the bottom 9 feet of trunk. Wet the trunk thoroughly but do not spray to runoff. Care should be taken to apply the spray right to the base of the root flare. Applications can be made from spring to early fall. To reduce twig and branch feeding on trees deemed to be of high value, apply as a spray to the tree crown using a dilution of 1 gal per 100 gallons of water (1 1/3 fl oz per gallon). Applications should be made in the spring or early summer using a sprayer that will give thorough coverage to the tree crown.
7. For pine seedlings, treat immediately after transplanting. Treat each seedling with enough spray to thoroughly wet the foliage and stem to the point of runoff. For nurseries: do not use more than 6 gallons of spray dilution per acre.

Ants, Termites, and Miscellaneous Pests

Pest	Amount of Dursban 4E per		
	1 gallon	100 gallons	Acre
Ants Cockroaches (Such as: American, Asian, Brownbanded, German, Oriental, Smokybrown, Wood) Fire ants (foraging workers) Fire ants (mounds) ¹ Sowbugs Springtails	1/6 fl oz	1 pt	1 qt
Carpenter ants ² Termites	2 2/3 fl oz	2 gal	-

Specific Directions:

1. For individual fire ant mounds apply Dursban 4E as a drench. Dilute 1 fl oz per 4 gallons of water. Gently sprinkle 1 to 2 gallons of the diluted insecticide over the surface of each mound and surrounding areas to a 2 foot diameter. For best results, apply in cool weather, 65-80° F, or in early morning or late evening hours. Treat new mounds as they appear. Pressurized sprays may disturb the ants and cause migration, reducing product effectiveness.
2. If possible, locate carpenter ant nests and drench thoroughly.

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Dormant Spray Ornamentals (Dormant Spray of Tree Pests)

Use Dursban 4E as a dormant or delayed dormant spray at the rates indicated to control the listed insects. Spray the entire tree to runoff using suitable ground spray equipment. Use the higher dosage of Dursban 4E for severe infestations. Use oil as recommended by your state agricultural experiment station or extension service specialist. While Dursban 4E may be used without oil, oil is recommended to control additional pests such as European red mite.

For high volume (dilute) sprays (200 to 600 gallons of spray mixture per acre), tank mix the specified dosage with 1 to 2 gallons of a petroleum spray oil recommended for dormant use per 100 gallons of water. Spray the entire tree to runoff using suitable ground spray equipment.

For low volume (concentrate) sprays (less than 200 gallons of spray mixture per acre), use the same amount of Dursban 4E as for a dilute spray and apply in a manner that will ensure thorough coverage of the trees. Use oil as recommended by your State Agricultural Experiment Station or Extension Service Specialist.

Precautions: Because cold dry conditions may cause Dursban 4E plus oil to injure trees resulting in bud damage or drop, do not apply until rain or irrigation has replenished soil moisture such that bark and twigs are not desiccated. For nurseries: do not use more than 4 pints of Dursban 4E Insecticide per acre.

Restrictions: Make only one application during the dormant season except for control of the apple ermine moth. Do not allow meat or dairy animals to graze in treated areas.

Pest*	Amount of Dursban 4E in Water to Make			Specific Directions
	1-gallon	3-gallons	100-gallons	
Aphids —(Mealy plum) —(Rosy apple) —(Woolly apple) Borers —(Peach twig) Cutworms —(Climbing) Leafrollers —(Pandemis) Pear psylla adults Plant bugs Scale —(San Jose)	1/12 - 1/6 fl oz	1/4 - 1/2 fl oz	1/2 - 1 pt	Tank mix with 1 - 2 gallons of a petroleum spray oil recommended for dormant use in 100 gallons of water.

Pest	Amount of Dursban 4E per	
	1 gallon	100 gallons
Apple ermine moth ¹	1/12 fl oz	1/2 pt
Aphids (Such as: Mealy plum, rosy apple, Woolly apple) Borers (Such as: Peach twig) Cutworms (Such as: Climbing) Leafrollers (Such as: Obliquebanded, Pandemis) Pear psylla adults Scale insects (Such as: San Jose)	1/12 - 1/6 fl oz	1/2 - 1 pt

Specific Directions:

1. For control of apple ermine moth on Malus species, make 2 applications at a 7-14 day interval of Dursban 4E Insecticide in combination with a petroleum spray oil at the rate of 2 - 4% (volume:volume) in a spray to wet application to ensure thorough coverage of all stems and branches. When using tank mixtures, also follow all label directions for the mixing partner (oil). Use appropriate application equipment and spray volumes to ensure complete coverage of the plant(s) or control will be compromised.

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Ornamentals (Soil Treatment of Containerized or Balled and Burlapped Nursery Stock)

Use Dursban 4E to treat ~~potted~~, containerized (*potted*) or balled and burlapped nursery stock to control soil insects, ~~in the soil attached to the roots of these plants:~~

Pest	Amount of Dursban 4E per	
	1 gallon	100 gallons
Fire ants ¹	1/25 fl oz	4 fl oz
Coffee root mealybug ²	1/6 fl oz	1 pt
Weevils (Such as: Black vine ²) White grubs ³	2/3 fl oz	2 qt

General Use Directions

Completely submerge the ~~ball of soil~~ container with drain holes or root ball stabilized by burlap in a tank containing diluted Dursban 4E. Do not remove burlap wrap or plastic containers with drain holes prior to submerging. Keep ~~soil~~ the container or root ball submerged until complete soil saturation has occurred, normally about 30 seconds.

~~Note: Wear chemically resistant gloves, boots, and apron during this operation. Application should be made in a well-ventilated area.~~

~~Precautions: During all operations (submerging, drenching, injecting), wear chemical resistant apron in addition to other PPE listed for applicators and other handlers. Application should be made in a well-ventilated area.~~

~~Note: Environmental factors significantly affect phytotoxicity. Dursban 4E has been tested on numerous ornamental plants without causing serious phytotoxicity. However, because of the numerous varieties grown, it is recommended that a small group of plants be treated at the recommended rate under the anticipated growing conditions and observed for phytotoxic symptoms for at least 7 days, before a large number of plants are treated.~~

~~Note: The professional user assumes responsibility for determining if Dursban 4E is safe to treat plants under commercial growing conditions.~~

Pest ⁺	Amount of Dursban 4E In Water to Make		Specific Directions
	1 gallon	100 gallons	
Fire Ants (†)	1/4 fl oz	1 fl oz	†. An alternate treatment to submerging potted plants is to dilute 4 oz. of Dursban 4E in 100 gals. of water. This dilution should be applied to the point of runoff on a twice-daily schedule for three consecutive days. Do not remove burlap wrap or container from plants prior to treatment.
Grubs Weevils	2/3 fl oz	2 qt	

Specific Directions:

1. An alternative treatment to submerging containerized or balled and burlapped plants is to drench the soil ball or container with the diluted insecticide solution to the point of runoff on a twice-daily schedule for three consecutive days. Do not remove burlap wrap or container from plants prior to treatment.
2. An alternative treatment to submerging containerized plants is to drench the container with the diluted insecticide solution applying approximately 10 to 12 fl oz of diluted insecticide solution per gallon of container size (4 - 5 fl oz/100 cubic inches of container). The container media should be premoistened by irrigation or rainfall before drenching. Do not remove container from plants prior to treatment.
3. An alternate treatment to submerging balled and burlapped plants is to inject Dursban 4E Insecticide into the root ball. Equally distribute 1 to 3 quarts of the dilute solution of Dursban 4E per cubic foot of soil volume through an injection rod inserted into the soil ball surrounding the plant roots. Uniform distribution of the insecticide throughout the soil of the root ball is critical for effective control. It is recommended that the injection rod be inserted in at least four equally spaced locations around the stem of the plant at a 30 - 45 degree angle from the plant between the stem and the upper outer perimeter of the ball. This technique has been shown to be most effective with small root balls (up to 1.5 ft diameter). Larger root balls may require more injection points to ensure thorough soil distribution of the insecticide. The injection rod should be coupled to a flow meter to monitor the correct volume applied per root ball using an injection pressure of at most 30 psi. The application should be made such that splash-back and runoff are minimized.

Ornamentals (Pre-Plant Incorporation Treatment of Field Grown Nursery Stock)

White Grubs and White Fringed Beetles

Apply Dursban 4E Insecticide to soil and incorporate before transplanting or planting to control white grubs and white fringed beetles during transplant or seedling establishment. Apply to the soil surface as a broadcast spray at a rate of 4 quarts per acre using sufficient water to obtain adequate coverage. Do not aerially apply. On the same day of the treatment, incorporate the insecticide into the top 2 to 4 inches of the soil using a tandem disc, field cultivator or equivalent incorporation equipment capable of thorough soil mixing.

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Prentox Dursban 4E
EPA Registration No. 655-499

Precaution: Environmental factors and varietal variation can significantly affect the potential for phytotoxicity from pesticide use. Dursban 4E Insecticide has been evaluated at the above indicated rate on loblolly pine without phytotoxic effects. Growers should prepare and observe a small test plot as above in order to determine the potential phytotoxicity in species or varieties other than loblolly pine. The following procedure should be used: 1) Treat a small test block as above; 2) Seed or transplant the test species or variety and observe for symptoms of phytotoxicity for a minimum of 14 days following emergence or transplanting. **Note:** The professional user assumes responsibility for determining if Dursban 4E is safe to treated plants under commercial growing conditions.

Garden Symphylans

Apply Dursban 4E Insecticide as a preplant incorporated treatment to suppress garden symphylans on land to be planted to field grown ornamentals. Apply as a broadcast application to the soil surface at the rate of 2 - 4 quarts per acre in at least 10 gallons of water per acre. On the same day of treatment incorporate the insecticide to a depth of up to 8 inches using a disc, rotovator or other suitable equipment. Use the higher rate range for longer residual or where deeper incorporation is necessary.

Precaution: Environmental factors significantly affect phytotoxicity. Dursban 4E Insecticide has been tested on numerous ornamental plants without causing serious phytotoxicity. However, because of the numerous varieties grown, it is recommended that a small group of plants be treated at the recommended rate under the anticipated growing conditions and observed for phytotoxic symptoms for at least 7 days, before a large number of plants are treated. Do not blend Dursban 4E Insecticide with dry bulk fertilizer materials. **Note:** The professional user assumes responsibility for determining if Dursban 4E is safe to treated plants under commercial growing conditions.

Warranty Disclaimer

Prentiss Incorporated warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the label when used in strict accordance with the directions, subject to the inherent risks set forth below. Prentiss Incorporated **MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER EXPRESS OR IMPLIED WARRANTY.**

Inherent Risks of Use

It is impossible to eliminate all risks associated with use of this product. Plant injury, lack of performance, or other unintended consequences may result because of such factors as use of the product contrary to label instructions (including conditions noted on the label, such as unfavorable temperatures, soil conditions, etc.), abnormal conditions (such as excessive rainfall, drought, tornadoes, hurricanes), presence of other materials, the manner of application, or other factors, all of which are beyond the control of Prentiss Incorporated or the seller. All such risks shall be assumed by buyer.

Limitation of Remedies

The exclusive remedy for losses or damages resulting from this product (including claims based on contract, negligence, strict liability, or other legal theories), shall be limited to, at Prentiss' election, one of the following:

- (1) Refund of purchase price paid by buyer or user for product bought, or
- (2) Replacement of amount of product used

Prentiss Incorporated shall not be liable for losses or damages resulting from handling or use of this product unless Prentiss is promptly notified of such loss or damage in writing. In no case shall Prentiss be liable for consequential or incidental damages or losses.

The terms of the Warranty Disclaimer above and this Limitation of Remedies cannot be varied by any written or verbal statements or agreements. No employee or sales agent of Prentiss Incorporated or the seller is authorized to vary or exceed the terms of the Warranty Disclaimer or this Limitation of Remedies in any manner.

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EPA Registration No. 655-499

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ADHESIVE PANEL

PRENTOX® DURSBAN® 4E
INSECTICIDE

To be applied only by or under the direct supervision of trained applicators responsible for insect control programs. Sale to or use by persons owning or occupying a dwelling is strictly prohibited.

CONTAINS 4 POUNDS OF CHLORPYRIFOS PER GALLON

ACTIVE INGREDIENTS:

Chlorpyrifos [O,O-diethyl O-(3,5,6-trichloro-2-pyridyl) Phosphorothioate] 44.8%

INERT INGREDIENTS* 55.2%

TOTAL: 100.0%

*Contains Xylene Range Aromatic Solvent

PRENTOX® - Registered Trademark of Prentiss Incorporated

DURSBAN® - Registered Trademark of DowElanco

E.P.A. Reg. No. 655-499

E.P.A. Est. No. 655-GA-1

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 this label, find someone to explain it to you in detail.)

STATEMENT OF PRACTICAL TREATMENT
ORGANOPHOSPHATE

An organophosphate insecticide/miticide.

If swallowed: Call a physician or Poison Control Center immediately. Do not induce vomiting. Contains an aromatic petroleum solvent. Do not give anything by mouth to an unconscious person. If on skin: Immediately wash with plenty of soap and water. Get medical attention. If in eyes: Flush with plenty of water for 15 minutes. Get medical attention. If inhaled: Remove victim to fresh air if symptoms of cholinesterase inhibition appear and get medical attention immediately. Note to physician: Chlorpyrifos is a cholinesterase inhibitor. Treat symptomatically. If exposed, plasma and red blood cell cholinesterase tests may indicate significance of exposure (baseline data are useful). Atropine, only by injection, is the preferable antidote. Oximes, such as 2-PAM/protopam, may be therapeutic if used early; however, use only in conjunction with atropine. In case of severe acute poisoning, use antidote immediately after establishing an open airway and respiration.

STORAGE AND DISPOSAL

Do not contaminate water or food by storage or disposal. Open dumping is prohibited.

STORAGE: Store in original container in secured dry storage area. Prevent cross-contamination with other pesticides and fertilizers. Do not store above 100° F for extended periods of time. Storage below 20° F may result in formation of crystals. If product crystallizes, store at 50° to 70° F and agitate to redissolve crystals. If container is damaged or spill occurs, use product immediately or dispose of product and damaged container as indicated below. PESTICIDE DISPOSAL: Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or residue is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance. PESTICIDE CONTAINER DISPOSAL: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities, by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

See Additional Precautionary Statements And Directions For Use Inside Booklet

Manufactured by:
PRENTISS INCORPORATED

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