

PM

04

1386-649

11/23/98

= new text page 1 of 10

Best Available Image

# DURSBAN\* 4E

## Insecticide

To Be Applied Only By Or Under The Direct Supervision Of Commercial Applicators Responsible For Insect Control Programs.

Controls Numerous Pests Of Households, Turf And Ornamental Plants. Also Recommended For Area Control Of Ticks And Chiggers.

Not for use on plants being grown for sale or other commercial use, or for commercial seed production, or for research purposes. For use on plants intended for aesthetic purposes or climatic modification and being grown in interior plantscapes, ornamental gardens or parks, or lawns and grounds.

**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.)

REFER TO INSIDE OF LABEL BOOKLET FOR ADDITIONAL PRECAUTIONARY STATEMENTS AND DIRECTIONS FOR USE, INCLUDING STORAGE AND DISPOSAL.

**ACTIVE INGREDIENT:**

Chlorpyrifos [O,O-diethyl O-(3,5,6-trichloro-2-pyridyl) phosphorothioate] .....	44.9%
---	-------

**INERT INGREDIENTS\*\***

.....	55.1%
-------	-------

<b>Total</b> .....	<b>100.0%</b>
--------------------	---------------

\*DURSBAN and the DURSBAN logo are trademarks of DowElanco.

\*\*Contains Xylene Range Aromatic Solvent. Contains 4 pounds of Chlorpyrifos per gallon.  
U.S. Patent No. 3,244,586.



### Net Contents: 2 1/2 Gallons

EPA Reg. No. 1386-649  
EPA Est. No. 1386-0H-1



**Universal Cooperatives, Inc.** **Minneapolis, MN 55448**

NOV 23 1998

Under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, for the pesticide registered under EPA Reg. No. 1386-649

# PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS

## WARNING

**MAY BE FATAL IF SWALLOWED. EXCESSIVE ABSORPTION THROUGH SKIN MAY BE FATAL. CAUSES SUBSTANTIAL BUT TEMPORARY EYE IRRITATION. CAUSES SKIN IRRITATION.**  
Do not get in eyes, on skin or clothing. Wear eye protection. Avoid breathing vapors and spray mist. Handle concentrate in a ventilated area. Wear protective clothing and chemically resistant gloves when handling. Wash thoroughly with soap and water after handling and before eating or smoking. Remove contaminated clothing and wash before reuse. Keep away from food, feedstuffs, and water supplies.

## STATEMENT OF PRACTICAL TREATMENT

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 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. Oimes, 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. For Medical Emergency information call 1-800-228-5635, extension 138.

## PHYSICAL OR CHEMICAL HAZARDS

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

## ENVIRONMENTAL HAZARDS

This pesticide is toxic to birds and wildlife, and extremely toxic to fish and aquatic organisms. For terrestrial uses, do not apply directly to water, or 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 by cleaning of equipment or disposal of waste. 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.

## DIRECTIONS FOR USE

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

Do not formulate this product into other end-use products. **NOTE:** This pesticide is to be sold only in this original unbroken package.

**GENERAL INFORMATION:** This product is an emulsifiable concentrate designed for use as a spray to control various pests injurious to trees, turf and ornamental plants. The pests controlled are listed in the accompanying tables. This product 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.

**Attention:** Do not allow adults, children or pets on treated areas until spray has dried. Keep out of fishpools 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.

**PESTS IN DOORS:** Use DURSBAK® 4E Insecticide to control the pests indicated in the areas listed below by application as a 0.25% or 0.5% chlorpyrifos spray. Use the 0.25% spray to control light infestations and the 0.5% spray to quickly reduce heavy infestations or as directed. To prepare the spray, dilute DURSBAK® 4E Insecticide with water or with a suitable base oil\* as shown in the following **SPRAY DILUTION CHART**. Repeat the treatment as needed.

\*Use only deodorized kerosene for oil-based sprays to be applied in food handling establishments.

## SPRAY DILUTION CHART

Gallons Of Spray Mixture Desired	Field Crops** Of DURSBAK® 4E Insecticide To Use	
	0.25% Spray	0.50% Spray
<b>Water-Base Spray</b>		
1	2/3	1 1/3
3	2	4
5	3 1/3	6 2/3
10	6 2/3	13 1/3
<b>Oil-Base Spray**</b>		
1	1/2	1
3	1 1/2	3
5	2 1/2	5
10	5	10 1/2

**Note:** 1 fluid ounce = 6 teaspoons  
\*\*Calculated on basis of deodorized kerosene

**NOTE:** Where quick "knockdown" and/or "flushing action" is desired, dichlorvos (DDVP) or pyrethrin may be added to the spray mixture containing DURSBAK® 4E Insecticide. For best results, use dichlorvos at a concentration of 0.25% in both water and oil-base sprays; use pyrethrin at 0.25% in oil-base sprays. Consult the labeling for the dichlorvos or pyrethrin product used to determine the amount needed to give the desired spray concentration. Also read and observe all use and handling precautions for these products. Do not use DURSBAK® 4E Insecticide in combination with dichlorvos (DDVP) or pyrethrin for treatment of food areas of food handling establishments.

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 hazards. 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.

**Application Within Food Handling Establishments (Places Other Than Private Residences In Which Food Is Held, Processed, Prepared Or Served) Including, But Not Limited To, Restaurants, Grocery Stores, Bakeries, Bottling Plants, Canneries And Grain Mills:** Use as a spot treatment in and around both food and nonfood areas to control cockroaches (including strains resistant to certain insecticides), ants, crickets, firebrats, silverfish, spiders, and stored product insects such as confused flour beetles, sawtoothed grain beetles, Indian meal moths, rice weevils, Mediterranean flour moths, and red flour beetles. Apply as a coarse, low pressure (20 psi or less) spray to localized areas. Do not introduce the spray into the air or allow the spray to contact food or food-contacting surfaces. Areas treated may include dark corners of rooms and closets, along and behind baseboards, beneath and behind stoves, refrigeration units and similar food preparation areas and equipment, floor drains, and around plumbing and other utility installations. Spiders apply to ant trails and wherever these pests may find entrance. Spot treatment may encompass crack and crevice treatment 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 equipment and floors. Equipment capable of delivering a pin stream of insecticide 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), DURSBAK® 4E Insecticide may be applied after 2 days but the best 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.**  
**Application Within Residential Buildings Including Homes And Apartment Buildings And Within Nonfood Areas Of Industrial, Institutional And Commercial Buildings, Including Hospitals, Stores, Manufacturing Plants And Warehouses:** For Spot Treatment Only - Apply as a coarse spray or with a paint brush to localized areas where cockroaches (including strains resistant to certain other insecticides), ants, clover mites, crickets, firebrats, silverfish, and spiders are found or normally occur including dark corners of rooms and closets, cracks and crevices in walls along and behind baseboards, beneath and behind sinks, stoves, refrigerators and cabinets around plumbing and other utility installations. For ants apply to ant trails, also around doors and windows and wherever else these pests may find entrance. For clover mites use a 0.5% spray only. Note: A period of 4-7 days is normally required for maximum effect on cockroaches.

## For control of carpet beetle, apply a 5% spray as a spot treatment to areas 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.

For control of brown dog ticks, thoroughly apply a 0.5% spray as a spot treatment to infested areas such as pet beds and resting quarters, nearby cracks and crevices, along and behind baseboards, window and door frames and localized areas of floor and floor covering where these pests may be present. Old bedding of pets should be removed and replaced with clean, fresh bedding after treatment. **DO NOT TREAT PETS WITH THIS PRODUCT.**

**ATTENTION (Pests Indoors):** Do not apply waterbase 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-base 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 use in poultry houses or other animal buildings. Do not allow spray to contact food, feedstuffs, and 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.

**TURF AND OTHER OUTDOOR USES:** Apply to control the pests listed in the following table by applying at the recommended dosages and in accordance with the directions given below. Dilute in water and apply as a coarse, low pressure spray using suitable application equipment. Thoroughly water immediately after treatment to wash the insecticide into the turf, except as noted. For best results, the lawn should be moist at time of treatment. Spray when pests first appear, retreat when needed.

Pest	Amount Per		Specific Directions
	1000 Sq. Ft.	Acre	
Ants (Including foraging Fire Ants) Armyworm (Such as Beef, Fall, Yellow-striped) Centipedes Chiggers (1) Chinch Bugs Clover mites Cutworms Crickets Earwigs Fiery skipper Fire ants (mounds) (2) Fleas Gnats Grasshoppers Greenbugs June beetles Leatherjackets Lucerne moth Millipedes Mites (Such as Clover, Formula grass, Winter grain) Mosquitoes (3) Sod webworm (4) (Lawn moths) Sowbugs Springtails Ticks (1)	3/4 Fl. Oz.	1 Qt.	<ol style="list-style-type: none"> <li>Use 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 in water at the rate of 1/2 pint per acre (equivalent to 1/2 fl. oz. per 2,700 sq. ft.) using a hydraulic sprayer, mist applicator, 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.</li> <li>For individual fire ant mounds, apply as a drench, diluted at the rate of 1 fl. oz. (30 ml) per 4 gallons of water. Gently sprinkle a total of 1 gallon 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 area and cause migration, reducing product effectiveness.</li> <li>Mosquitoes coming to rest on areas treated for control of bed bugs will be killed for varying periods of time after treatment, depending on exposure of treated areas to weather conditions.</li> <li>For sod webworms delay watering or mowing the treated areas for 12 to 24 hours after treatment.</li> </ol>
European crane fly	1 Fl. Oz.	1 1/2 Ozs.	
Turfgrass weevil Hyperodes (1)	1 1/2 Fl. Oz.	2 Ozs.	<ol style="list-style-type: none"> <li>Spray suspected problem areas in mid-April and again in mid-May or as recommended by your Local Agricultural Extension Service Specialist.</li> </ol>
White grubs (Such as Black turfgrass stemweevil, European chafec, Southern masked chafec, and Japanese beetle larvae (1))	1 1/2 to 3 Fl. Oz.	2 Ozs. to 1 Gal.	<ol style="list-style-type: none"> <li>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. Immediately after spraying, irrigate the treated area with 1/2 to 1 inch of water to wash the insecticide into the underlying soil.</li> </ol>
Bluegrass billbugs (1)	3/4 to 3 Fl. Oz.	1 Qt. to 1 Gal.	<ol style="list-style-type: none"> <li>For bluegrass billbugs spray early in the season when adults first appear. Retreat as needed.</li> </ol>

\* Numbers in Parentheses Refer to Specific Directions.

### PEST CONTROL ON OUTSIDE SURFACES AND AROUND BUILDINGS

Apply as a residual spray to outside surfaces of building 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. For spot treatment only.

Pest	Amount in Water To Make			Specific Directions
	1 Gal.	10 Gals.	50 Gals.	
Ants		For Band Treatment (1)		<ol style="list-style-type: none"> <li>To help prevent infestation of buildings treat a band of soil 6 to 10 feet wide around and adjacent to buildings, also the building foundation to a height of 2 (3) 1/2 ft. In large pests are active and may find entrance. Use 4 fluid oz. per 50 gallons of water and apply as a coarse spray at the rate of about 10 gallons spray mixture per 1,000 sq. ft. to thoroughly and uniformly wet the band etc.</li> <li>For scorpions treat any known accumulations of lumber, firewood, and other materials which serve as insect harborage sites. Note: A period of 4 to 7 days is normally required for maximum effect on scorpions.</li> </ol>
Bees	1/2	3/4	4	
Carpenter ants	Fl. Oz.	Fl. Oz.	Fl. Oz.	
Clover mites		On Outside Surfaces		
Cockroaches				
Crickets	1 1/3	1 1/3	2	
Earwigs	Fl. Oz.	Fl. Oz.	Ozs.	
Fleas				
Flies				
Hornets				
Millipedes				
Mosquitoes				
Scorpions (2)				
Silverfish				
Sowbugs				
Spiders				
Ticks				
Wasps				
Yellow-jackets				

\* Numbers in Parentheses Refer to Specific Directions.

**ORNAMENTALS (OUTDOOR):** Use to treat flowers, shrubs, evergreens, vines, shade and flowering trees found to be infested with pests listed in the following table. Dilute with water according to directions given in the table 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 limbs and trunk areas. Attempt to penetrate dense foliage but avoid overspraying 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. Consult your State Agricultural Experiment Station or Extension Service specialist for application timing and other specific use information.

**Note:** Ornamentals: Environmental factors have significant effects on phytotoxic expression. This product has been tested on numerous ornamental plants without causing serious phytotoxicity. However, do not use on azaleas, carnations, poinsettias, rose bushes, or variegated ivy because of possible injury to these plants.

Pest	Amount Per 10 Gallons To Make:			Specific Directions
	1 Gal.	3 Gals.	100 Gals.	
Adelgids (Such as Cooley and Eastern spruce galls, Pine bark)	1/2 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 leaftrollers, spray should be applied before leaves are tightly rolled. 3. For effective control of maple leaftroller 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 to 5 days in the South or 7 to 10 days in the North after initial treatment to control newly-hatched nymphs.
Ants (including foraging fire ants)				
Aphids (Such as Apple, Chrysanthemum, Cottonwood, Elmleaf, Peach, Rose, Spruce, Woolly)				
Armyworms (Such as Fall, Yellowstriped)				
Bagworms (1)				
Bowdlerbugs				
Cankerworms, Catalpa sphinx,				
Chiggers, Citrus mealybugs,				
Cockroaches (American, Brownbanded, German, Oriental, Smokey Brown)				
Elm Spanworm, Fall webworm,				
Grasshoppers, Greenfruitworm,				
Hornworms, Jackpine budworm,				
Juniper webworm, Katydid,				
Lace bugs, Leafhoppers,				
Leafrollers (2), Maple leaftroller (3),				
Mites (Such as Clover, Red spider, Southern red) (4)				
Oleander caterpillar, Orange tortrix,				
Periodical Cicada, Plant bugs,				
Poplar tentmaker, Psyllids,				
Puss caterpillar, Rose chalcid,				
Sawflies, exposed (Such as Pine, Pin oak, Redheaded)				
Sawbugs, Spittlebugs,				
Spring elm caterpillar				
Springtails				
Spruce budworm				
Tent caterpillars (Such as Eastern, Forest, Western)				
Thornbug				
Walnut caterpillar				
Western spruce budworm				
Whiteflies				
Yellownecked caterpillar				

Pest	Amount Per 10 Gallons To Make:			Specific Directions
	1 Gal.	3 Gals.	100 Gals.	
Armyworms (Beet)	1/6 Fl. Oz.	1/2 Fl. Oz.	1 Pt.	1. To 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 trunks and foliage. 3. Blackvine weevils are night feeders. Later afternoon spraying will give control in some areas.
Beetles (Fuller rose)				
Native Elm Bark (1)				
Catworms,				
Leafhoppers,				
Mahogany webworm,				
Mealybugs,				
Mimosid webworm				
Moths (Such as				
Browntail, Cypress tip, Douglas fir				
tussock, European pine shoot,				
Gypsy (2), Holly bud, Mantucket pine tip,				
Pandora, Pitch pine tip,				
Subtropical pine tip, Tussock)				
Oakworms (Such as				
California, Orangestriped, Redhumped)				
Redhumped caterpillar				
Trips (exposed)				
Weevils (Such as Blackvine (3), Yellow				
Poplar, Pine reproduction)				
Beetles (Such as	1/6 to 1/3 Fl. Oz.	1/2 to 1 Fl. Oz.	1 Pt. to 1 Qt.	1. For cottonwood leaf beetles use in water to control larvae and adults infesting cottonwood, maple, and treatment when field counts indicate damaging beetle populations are developing or present.
Cottonwood leaf (1), Elm leaf, Flax, Willow leaf)				

Pest	Amount Per 100 Water to Make:			Specific Directions
	1 Gal.	3 Gals.	100 Gals.	
Borers (1): Clearwing moths (Such as Ash, Dogwood, Lesser peachtree, Lilac, Oak, Rhododendron) Metallic wood (Such as Bronze birch, Russetheaded appletree, Twined chestnut) Longhorned beetles (Such as Locust, Red oak) Cranberry girdler larvae (2) Leafminers Noodleminers (Such as Jeffrey pine, Ledgepole pine, Spruce) Scalecrawlers (Such as Cottony cushion, Cottony maple, Euonymus, Fletcher, Florida wax, Golden oak, Hemispherical, Locantum, Magnolia, Oak kermes, Oystershell, Pine needle, San Jose, Tea, White birch)	1/3 Fl. Oz.	1 Fl. Oz.	1 Oz.	1. For borers, apply 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 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.
Borers (Such as Cottonwood, Peachtree (1))	1 Fl. Oz.	3 Fl. Oz.	3 Ozs.	1. For peachtree borers apply 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.
Beetles (1) (Such as 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 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 in water to the bottom 9 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.

Pest	Amount Per 100 Water to Make			Specific Directions
	1 Gal.	3 Gals.	100 Gals.	
Beetles (Such as Ambrosia, Anobidae, Black turpentine, European elm bark, Japanese June, Southern pine, Spruce (1)) Carpenter ants	2 2/3 Fl. Oz.	8 Fl. Oz.	2 Gals.	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.

\*Numbers in Parentheses Refer to Specific Directions

### TREE AND PESTS

Use Dursban 4E to treat shade and flowering trees, and evergreens found to be infested with pests listed in the following table. Dilute Dursban 4E with water according to directions given in the table 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 to infested limb and trunk areas. Attempt to penetrate dense foliage, but avoid over-spraying to the point of excessive runoff. Do not treat bearing fruit and nut trees with Dursban 4E except as indicated in the Dormant Spray section. Treat when pests appear and repeat at 7 to 10 day intervals, if needed.

Consult your state agricultural experiment station or extension service specialist for application timing and other specific use information.

Pest	Amount Per In Water To Make:			Specific Directions
	1 Gal.	3 Gals.	100 Gals.	
Adelgids (Cooley) (Eastern spruce gall) (Pine bark)	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 leafrollers, 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.
Aphids (Apple) (Chrysanthemum) (Cottonwood) (Elm leaf) (Peach) (Rose) (Spirea) (Woolly)				
Bagworms (1)				
Boxelder bugs				
Cankarworms				
Catalpa sphinx				
Citrus mealybugs				
Elm spanworm				
Fall webworms				
Greenstriped mapeworms				
Jackpine budworms				
Juniper webworms				
Katydid				
Lace bugs				
Leafhoppers				
Leafrollers (2)				
Maple leafcutters (3)				
Mites (4) (Clover) (Red spider) (Southern red)				
Oak skeletonizers				
Poplar tentmakers				
Puss caterpillars				
Sawflies, exposed (Pine) (Pin oak)				
Spring elm caterpillars				
Spruce budworms				
Tent caterpillars (Eastern) (Forest) (Western)				
Walnut caterpillars				
Western spruce budworms				
Yellownecked caterpillars				

\*Numbers in Parentheses Refer To Specific Directions

Pest	Amount Per In Water To Make:			Specific Directions
	1 Gal.	3 Gals.	100 Gals.	
Beetles (Fuller rose) [Native elm bark (1)]	1/6 Fl. Oz.	1/2 Fl. Oz.	1 Pint	1. To reduce twig and branch feeding by bark beetles, applications should be made in the spring or early summer.
Leafhoppers				
Mahogany webworms				
Mealybugs				2. To kill migrating and invading gypsy moth larvae, treat trunk and foliage.
Mimosa webworms				
Moths				3. Blackvine weevils are night feeders. Late afternoon spraying will give control in some areas.
(Browntail)				
(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)				
(Orangestriped)				
(Redhumped)				
Redhumped caterpillars				
Thrips (exposed)				
Weevils				
[Blackvine (3)]				
(Yellow poplar)				
(Pine reproduction)				

Pest	Amount Per In Water To Make:			Specific Directions
	1 Gal.	3 Gals.	100 Gals.	
Beetles [Cottonwood leaf (1)] (Elm Leaf) (Flea) (Willow leaf)	1/6 - 1/3 Fl. Oz.	1/2 - 1 Fl. Oz.	1 Pint - 1 Quart	1. For cottonwood leaf beetles, use Dursban 4E in water to control larvae and adults infesting cottonwoods. Make the treatment when insect counts indicate damaging beetle populations are developing or present. For seedlings, use 8 - 20 gallons of spray volume per acre.

Pest	Amount Per In Water To Make:			Specific Directions
	1 Gal.	3 Gals.	100 Gals.	
Borers (1) Clearwing moths (Ash) (Dogwood) (Lesser peachtree)	1/3 Fl. Oz.	1 Fl. Oz.	1 Quart	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

- (Lilac)
- (Oak)
- (Rhododendron)
- Metallic wood
  - (Bronze birch)
  - (Flatheaded appletree)
  - (Twolined chestnut)
- Longhorned beetles
  - (Locust)
  - (Red oak)
- Cranberry girdler larvae (2)
- Leafminers
- Needleminers
  - (Jeffrey pine)
  - (Lodgepole pine)
  - (Spruce)
- Scale crawlers
  - (Cottonycushion)
  - (Cottony maple)
  - (Euonymus)
  - (Fletcher)
  - (Florida wax)
  - (Golden oak)
  - (Hemispherical)
  - (Lecanium)
  - (Magnolia)
  - (Oak kermes)
  - (Oystershell)
  - (Pine needle)
  - (San Jose)
  - (Tea)
  - (White birch)

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 gallons of water per acre. Irrigate immediately after application for soil penetration of 1 - 2 inches. Treat after egg laying during the summer.

Pest	Amount Per In Water To Make:			Specific Directions
	1 Gal.	3 Gals.	100 Gals.	
Borers (Cottonwood) [Peachtree (1)]	1 Fl. Oz.	3 Fl. Oz.	3 Quarts	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.

Pest	Amount Per In Water To Make:			Specific Directions
	1 Gal.	3 Gals.	100 Gals.	
Beetles (1) (Cottonwood leaf) (Elm leaf) (Flea) (Fuller rose)	1 1/3 Fl. Oz.	4 Fl. Oz.	1 Gallon	1. For preventives, 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



[Native elm bark (2)]  
 (Willow leaf)

remedial treatment, apply the spray to the main trunk of infested trees or logs when damage occurs but before adult beetles begin to emerge.

- To prevent native elm bark beetle from overwintering in uninfested trees, apply Dursban 4E in water to the bottom 9 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.

Pest	Amount Per 1% Water To Make:			Specific Directions
	1 Gal.	3 Gals.	100 Gals.	
Beetles (1)	2 2/3	3	2	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.
(Ambrosia)	Fl. Oz.	Fl. Oz.	Gallons	
(Anobididae)				
(Black turpentine)				
(Blister)				
(European elm bark)				
(Japanese)				
(June)				
(Southern pine)				
(Spruce)				
Carpenter Ants				
Termites				

**\*Numbers In Parentheses Refer To Specific Directions**

**DORMANT SPRAY (TREE PESTS)**

Use 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 for severe infestations. Use all as recommended by your State Agricultural Experiment Station or Extension Service specialist.  
 Restrictions: Make only one application during the dormant season. Do not allow meat or dairy animals to graze in treated areas.

Pest	Amount Per 1% Water To Make:			Specific Directions
	1 Gal.	3 Gals.	100 Gals.	
Aphids (Such as Mealy plums, Rosey apple, Woolly apple)	1/2 to 1/6 Fl. Oz.	1/4 to 1/2 Fl. Oz.	1/2 to 1 Pt.	1. Tank mix with 1 to 2 gallons to petroleum spray oil recommended for dormant use in 100 gallons of water.
Borer (Such as Peach twig)				
Cutworms (Such as Climbing)				
Leafrollers (Such as Pandemics)				
Pearpsylla adults				
Plantbugs				
Scale (Such as San Jose)				

STORAGE AND DISPOSAL

(Do not contaminate water, food or food by storage or disposal.)

**STORAGE:** Store in original container in secured dry storage area. Prevent cross contamination with other pesticides and herbicides. 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.

**PLASTIC CONTAINER DISPOSAL:** Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

**DRUM DISPOSAL:** Triple rinse (or equivalent). Then offer for recycling or reconditioning or dispose of by procedures approved by state and local authorities.

WARRANTY AND LIMITATION OF DAMAGES

Seller warrants that this material conforms to its chemical description and is reasonably fit for the purposes stated on the label when used in accordance with directions under normal conditions of use and Buyer assumes the risk of any use contrary to such directions. Seller makes no other express or implied warranty, including any other express or implied warranty of fitness or of merchantability, and no agent of Seller is authorized to do so except in writing with a specific reference to this warranty. In no event shall Seller's liability for any breach of warranty exceed the purchase price of the material as to which a claim is made.

