



ONLY FOR SALE TO,  
USE, AND STORAGE  
BY SERVICEPERSONS

# Dursban\* 4E

Controls Numerous Pests of Households, Turf, and  
Ornamental Plants. Also Recommended for Mosquito  
Control and Area Control of Ticks and Chiggers.

**ACTIVE INGREDIENTS**

Chlorpyrifos [O, O diethyl O-(3,5,6 trichloro 2-pyridyl)  
phosphorothioate] 44.4%

**INERT INGREDIENTS**

55.6%

Contains 4 pounds of chlorpyrifos per gallon

KEEP OUT OF REACH OF CHILDREN

**WARNING**

SEE SIDE/BACK PANEL FOR  
ADDITIONAL PRECAUTIONS!

\*Trademark of the  
Dow Chemical Company  
U.S. Patent No. 3,244,586

Manufactured By

**Van Waters & Rogers**  
division of Univar

San Mateo, CA 94403

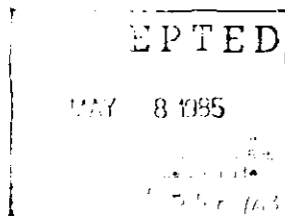
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1 Gallon (3.8 liters)

(4-84) 1P

EPA Reg. No. 550-163-AA

EPA Est. No. 550-CA-1



**DIRECTIONS FOR USE**

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

To be applied only by or under the supervision of  
pest control operators or other trained personnel  
responsible for pest control programs.

**PRECAUCION AL USUARIO:** Studied no lee inglés,  
no use este producto hasta que la etiqueta le haya  
sido explicada ampliamente.

**STORAGE AND DISPOSAL**

**General:** Do not contaminate water, food, or  
feed by storage or disposal.

**Pesticide wastes** resulting from the use of this  
product may be disposed of on-site or at an  
approved waste disposal facility.

**Containers:** 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. Alternatively, after rinsing, plastic  
containers may be disposed of by incineration,  
etc. if allowed by state and local authorities, by  
burning. If burned, stay out of smoke.

See attached pamphlet for specific  
use directions and precautions.

**SELLER MAKES NO WARRANTY, EXPRESS OR  
IMPLIED, CONCERNING THIS MATERIAL OR THE  
USE OF THIS PRODUCT OTHER THAN INDICATED  
ON THE LABEL. BUYER ASSUMES ALL RISK OF  
USE AND/OR HANDLING OF THIS MATERIAL  
WHEN SUCH USE OR HANDLING IS CONTRARY  
TO LABEL INSTRUCTIONS.**

**AGRICULTURAL CHEMICAL**

Do not ship or store with food, feeds, drugs or clothing.

05549-107

KEEP OUT OF REACH OF CHILDREN

**WARNING**

**STATEMENT OF PRACTICAL TREATMENT: FIRST AID**

**If swallowed:** Get immediate medical assistance; call a Poison Control Center or physician. Gastric lavage is indicated if material was taken internally. Do not induce vomiting; vomiting may cause aspiration pneumonia.

**If inhaled:** Remove victim to fresh air. Apply respiration if indicated.

**If on skin:** Remove contaminated clothing and other personal articles; wash thoroughly with soap and water.

**If in eyes:** Flush eyes thoroughly for at least 15 minutes with plenty of low pressure water. Get immediate medical attention.

**NOTE TO PHYSICIAN:** Chlorpyrifos is a cholinesterase inhibitor. If cholinesterase inhibition appears, atropine is antidotal. 2-PAM may also be used in conjunction with atropine but should not be used alone. Contains aromatic petroleum distillate.

**PRECAUTIONARY STATEMENTS**

**HAZARDS TO HUMANS & DOMESTIC ANIMALS**

May be fatal if swallowed. Do not swallow. May be absorbed through skin. Wash thoroughly after handling and before smoking or eating. Wash contaminated clothing before reuse. Avoid breathing vapors and spray mist. Handle concentrate in a ventilated area. Avoid contamination of food, food utensils, domestic water, or feedstuffs.

Do not use on humans, pets or livestock. Except for mosquito control, do not apply if unprotected persons or animals, including children or pets, are in the area to be treated. Cover aquariums. Do not contaminate ornamental fishponds. Do not allow unprotected persons or animals to re-enter treated areas until spray has dried. When used in dwellings, care should be taken to avoid deposits which could be frequently contacted by children.

**ENVIRONMENTAL HAZARDS**

This product is toxic to fish, birds, and other wildlife. Do not apply directly to water. Shrimp and crab may be killed at application rates recommended on this label. Do not apply where these are important resources. Do not contaminate water by cleaning of equipment or disposal of wastes.

This pesticide is highly toxic to bees exposed to direct treatment or to residues remaining on plants. Protective information may be obtained from your Cooperative Agricultural Extension Service.

**PHYSICAL OR CHEMICAL HAZARDS**

(COMBUSTIBLE MIXTURE) Do not use, pour, spill, or store near heat or open flame. Keep container closed.

Van Waters & Rogers  
division of Univar  
San Mateo, CA 94403

05549440

9-84-10P

EPA Reg. No. 550-163-AA

Conditions of Sale and Warranty

The Directions for Use of this product are the opinion of experts based on field use and tests. The directions are believed to be safe and should be followed carefully. However, it is impossible to eliminate all risks inherently associated with use of the product. Crop injury, pest resistance, or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use or application, all of which are beyond the control of Van Waters & Rogers. No such risks shall be assumed by the Buyer.

**SELLER MAKES NO WARRANTY EXPRESS OR IMPLIED, CONCERNING THIS MATERIAL OR THE USE OF THIS PRODUCT OTHER THAN INDICATED ON THE LABEL. BUYER ASSUMES ALL RISK OF USE AND/OR HANDLING OF THIS MATERIAL WHEN SUCH USE OR HANDLING IS CONTRARY TO LABEL INSTRUCTIONS.**

DIRECTIONS FOR USE

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

To Be Applied Only By or Under the Supervision of Pest Control Operators, Public Health Organizations, Mosquito Abatement Districts, and Other Trained Personnel Responsible for Insect Control Programs.

**PRECAUCION AL USUARIO: Si usted no lee inglés, no use este producto hasta que la etiqueta le haya sido explicada simplemente.**

STORAGE AND DISPOSAL

**General:** Do not contaminate water, food, or feed by storage or disposal.

**Pesticide Disposal:** Waste resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

**Container Disposal:** Triple rinse, or equivalent. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary land-fill, or by other procedures approved by state and local authorities. Alternatively, plastic containers may be disposed of by incineration, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

Pests Indoors

**General Information:** Use Dursban 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, as directed. To prepare the spray, dilute Dursban 4E with water or a suitable base oil. Rates shown in the following SPRAY DILUTION CHART. Repeat the treatment as needed.

Caution: If this product with a straight kerosene-type solvent may result in some settling out of the emulsifier. If the spray mixture is allowed to sit, avoid this problem by the kerosene at a 1 to 1 ratio with an aromatic hydrocarbon. Do not use the additional kerosene or oil-based sprays to be applied in food handling establishments.

SPRAY DILUTION CHART

Gallons of Spray Mixture Desired	Fluid Ounces of Dursban 4E to Use	
	0.25% spray	0.50% spray
Water based spray		
1	2 2/3	1 1/3
2	4 2/3	2 2/3
3	6 2/3	3 2/3
4	8 2/3	4 2/3
Oil based spray		
1	2 2/3	1 1/3
2	4 2/3	2 2/3
3	6 2/3	3 2/3
4	8 2/3	4 2/3

Note: Fluid ounce = 2.466666... teaspoons = 5.623333... teaspoons. \*Calculated on basis of low odor kerosene. Base: Where quick knockdown and/or staining action is desired, dichlorvos (DDVP) or pyrethrin may be added to the spray mixture containing Dursban 4E insecticide. For best results, use dichlorvos at a concentration of 0.25% in both water and oil base spray. Use pyrethrin at 0.25% in water base and 0.05% in oil base spray. Consult 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 Dursban 4E in combination with dichlorvos (DDVP) or pyrethrin for treatment of food areas or food handling establishments.

(continued on reverse)

Wood Boring Insects: Infest shrubs and trees such as Dogwood, Birch, Lilac, Birch, Ash, Sycamore and Rhododendron. Apply Dursban 4E to the trunk 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 in your area. Mix at the rate of one quart of Dursban 4E in 100 gallons of water and apply uniformly as a coarse, low pressure spray.

Apply This Insecticide to the trunk 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 in your area. Mix at the rate of one quart of Dursban 4E in 100 gallons of water and apply uniformly as a coarse, low pressure spray.

DOSAGES AND DILUTIONS FOR USE ON ORNAMENTAL PLANTS

Pests Controlled	Amount of Dursban 4E in Water to Make		
	3 gallons	10 gallons	100 gallons
Aphids			
Begonias			
Eastern tent caterpillar	0.25 fl. oz.	0.8 fl. oz.	1.2 pint*
Fall webworm			
Grasshoppers			
Cutworms			
Leafhoppers			
Mealybugs	0.5 fl. oz.	1.6 fl. oz.	1 pint**
Ash borer			
Dogwood borer			
Lilac borer	1.0 fl. oz.	3.2 fl. oz.	1 quart***
Rhododendron borer			
White peach			
Peach tree borer	2.5 fl. oz.	8.0 fl. oz.	3 quarts****

\* Equivalent to 4 ounces of chlorpyrifos per 100 gallons  
\*\* Equivalent to 8 ounces of chlorpyrifos per 100 gallons  
\*\*\* Equivalent to 1 pound of chlorpyrifos per 100 gallons  
\*\*\*\* Equivalent to 3 pounds of chlorpyrifos per 100 gallons

Note: Mosquitoes coming to rest on areas treated for control of turf and ornamental plants will be killed for varying periods of time after treatment, depending on exposure of treated areas to weathering conditions.

**Eliminate Bark Beetles:** Prevention of Overwintering: To prevent the adult beetles from overwintering in untreated trees and to reduce beetle populations in disease free areas, apply Dursban 4E insecticide as a 0.5% mixture of chlorpyrifos in water 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 with either a backpack mist blower or a hydraulic pressure sprayer from spring through to the early fall. Prevention of Branch and Twig Feeding on High Value Elm Trees: To reduce the twig and branch feeding on untreated trees deemed to be high in value, apply a 0.5% chlorpyrifos 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.

**Cottonwood Leaf Beetles:** Use Dursban 4E to control larvae and adults of the cottonwood leaf beetle infesting cottonwoods grown in nurseries and plantations by application at the rate of 4 to 6 fluid ounces per acre using sufficient water to ensure thorough and uniform coverage of treated trees but avoid excessive runoff. Make the treatment using hand or power operated ground spray equipment when field counts indicate damaging beetle populations are developing or present. For application use 8 to 20 gallons of spray volume per acre.

**Area Control of Ticks and Chiggers:** Use Dursban 4E insecticide to control 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 possible public health problem. Apply Dursban 4E in water at the rate of 1.2 pint per acre equivalent to 2 fl. oz. per 2,700 sq. ft. using a hydraulic sprayer, mist applicator, knapsack sprayer or other suitable hand or power 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.

**Attention (Area Control of Ticks and Chiggers):** Do not allow public use of treated areas during application or until spray has dried.

**Imported Fire Ant:** Treatment of potted, containerized and balled and burlapped nursery stock. Use Dursban 4E to control imported fire ants in soil attached to roots of these plants by completely submerging the ball of soil in a tank containing Dursban 4E diluted at the rate of 4 fl. oz. per 100 gallons of water. Do not remove burlap wrap or plastic containers with drain holes prior to submerging. Keep soil submerged until complete saturation has occurred, normally about 30 seconds. Wear rubber gloves, boots and apron during this operation. An alternate treatment to submerging potted plants is to apply a solution containing Dursban 4E (4 fl. oz. per 100 gallons of water) as a substitute for plain water during routine watering activities. The solution 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. Application should be made in a well ventilated area.

**Treatment of Fire Ant Mounds:** Apply Dursban 4E as a trench drench at the rate of 1.2 fl. oz. (16 cc) per 2 gallons of water. Thoroughly wet a 10" diameter circle of the diluted solution over the surface of each mound using a sprayer can. Thoroughly wet mound and surrounding area to a 4 ft. diameter (12 sq. ft.). For best results apply in cool weather, 35-60° F. in early morning or late evening hours. Treat new mounds as they appear. Pre-saturated sprays may disturb the ants and cause migration reducing product effectiveness.

**Mosquitoes:** Apply Dursban 4E to mosquito infested non-crop areas according to the conditions and rates shown in the following table. Mix Dursban 4E with water or oil such as kerosene or No. 2 fuel oil using sufficient spray volume to give uniform coverage of areas treated. Apply the spray using suitable application equipment such as hand and power ground sprayer, mist applicator, and aerial spray equipment. Note: Use a low odor oil or water as the diluent where odor would be a concern.

**Warning (Mosquito Control):** Read complete Environmental and Use Precautions and consult your State Fish and Game Department before using this product for mosquito control.

**Waste Water (High in Organic Content):** Use Dursban 4E insecticide for control of mosquito larvae in agricultural, industrial and urban waste waters that contain high levels of organic matter including sewage drains, ponds and lagoons, industrial waste water impoundments, cesspools and septic tanks, catch basins. Consult the following table for dosage and application details.

CONDITIONS AND RATES TO USE FOR MOSQUITO CONTROL

Condition of Area to be Treated	Amount to Use per Acre		No. Acres 1 Gallon of Dursban 4E Will Treat
	Dursban 4E (fluid ounces)	Chlorpyrifos (pounds)	
Larval Control			
None to medium vegetative cover	0.4 to 0.8	0.0125 to 0.025	320 to 160
Medium to heavy vegetative cover	0.8 to 1.6†	0.025 to 0.05†	160 to 80
Adult Control			
Light to medium vegetative cover	0.8	0.025	160
Medium to heavy vegetative cover	1.6†	0.05†	80

†The higher dosage will also give faster knockdown and longer residual control where there is little or no vegetative cover.

DOSAGE FOR MOSQUITOES IN WASTE WATER

Area to be Treated	Dosage of Dursban 4E	Use Directions
Sewage drain	1 fl. oz. per 5000 cu. ft. of water or	Pour the required amount of undiluted Dursban 4E into the flowing water or apply to the water surface as a coarse, low pressure spray. Treat stagnant waters by diluting Dursban 4E with sufficient water or oil to obtain uniform distribution.
Waste disposal ponds and lagoons	0.7 fl. oz. per acre foot of water†	
Industrial waste water impoundments		
Cesspools	1 fl. oz. per 1000 cu. ft. of water	
Septic tanks		Apply directly or flush the required amount down a toilet.
Catch basins	0.04 fl. oz. per catch basin	Dilute 2 fl. oz. of Dursban 4E with 3 gallons of water to make 0.25% chlorpyrifos spray and apply 1/2 pint of the mixture per catch basin as a coarse, low pressure spray. Uniformly cover the exposed walls (sides) of the basin and the water surface.

†Equivalent to 0.1 part per million of chlorpyrifos in the total volume of water treated.

\*Trademark of THE DOW CHEMICAL COMPANY