

62719-254

5/17/2012

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460



OFFICE OF  
CHEMICAL SAFETY AND  
POLLUTION PREVENTION

May 17, 2012

Darin W. Lickfeldt  
Dow AgroSciences  
9330 Zionsville Road  
Indianapolis, IN 46268

Dear Dr. Lickfeldt:

Subject: Amended label to revise the directions for use in nurseries  
Dursban® 4E-N  
EPA Registration No. 62719-254  
EPA Decision No. 464731  
Your submission dated April 18, 2012

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, is acceptable with the following comments:

- On page 13, under the "Ornamentals Grown in Nurseries" section, please add "trees" to the third statement in the first paragraph so it reads, "Plants, trees, fruit, vegetables, or any parts of the plants, trees, fruits, or vegetables treated with this product cannot be sold or distributed directly to consumers or the general public through retail sales."

A stamped copy of the label is enclosed for your records. Please submit one copy of your final printed labeling before you release the product for shipment. Your release for shipment of the product constitutes acceptance of these conditions. If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6(e). If you have any questions, please contact Julie Chao by phone at: (703) 308-8735, or by email at: [chao.julie@epa.gov](mailto:chao.julie@epa.gov).

Regards,

Venus Eagle, Product Manager (01)  
Insecticide-Rodenticide Branch  
Registration Division (7505P)

Enclosure



20824

(Base label):

**RESTRICTED USE PESTICIDE**

For retail sale to and use only by Certified Applicators or persons under their direct supervision and only for those uses covered by the Certified Applicator's certification.

**Dursban<sup>®</sup> 4E-N****Specialty Insecticide**

Active Ingredient:

chlorpyrifos: O,O-diethyl O-  
(3,5,6-trichloro-2-pyridinyl)

|                         |        |
|-------------------------|--------|
| phosphorothioate .....  | 44.9%  |
| Other Ingredients ..... | 55.1%  |
| Total .....             | 100.0% |

Contains 4 lb of chlorpyrifos per gallon.

Contains aromatic petroleum distillates.

**ACCEPTED**  
**With COMMENTS**  
**In EPA Letter Dated:**

**MAY 17 2012**  
**Under the Federal Insecticide, Fungicide**  
**and Rodenticide Act, As amended, for the**  
**pesticide Registered under EPA Reg. No:**

62719-254**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 the label, find someone to explain it to you in detail.)

**Precautionary Statements****Hazards to Humans and Domestic Animals**

**May Be Fatal If Swallowed • Harmful If Asorbed Through Skin • Causes Moderate Eye Irritation •**  
**Prolonged Or Frequently Repeated Skin Contact May Cause Allergic Reactions In Some**  
**Individuals**

**Avoid contact with skin, eyes or clothing.****Personal Protective Equipment (PPE)**

Materials that are chemical-resistant to this product are barrier laminate and viton (≥14 mils).

**Mixers and loaders** using a mechanical transfer loading system must wear:

- Long-sleeved shirt and long pants
- Socks and shoes

In addition to the above, **mixers and loaders** using a mechanical transfer loading system must wear:

- Chemical-resistant gloves
- Chemical-resistant apron
- A NIOSH-approved dust mist filtering respirator with MSHA/NIOSH approval number prefix TC-21C or a NIOSH-approved respirator or any R, P, or HE filter

See Engineering Controls for additional requirements.

All **other mixers, loaders, applicators and handlers** must wear:

- Coveralls over long-sleeved shirt and long pants
- Chemical-resistant gloves



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- Chemical-resistant apron when mixing or loading or exposed to the concentrate
- Chemical-resistant footwear plus socks
- Chemical-resistant headgear for overhead exposures
- A NIOSH-approved dust mist filtering respirator with MSHA/NIOSH approval number prefix TC-21C or a NIOSH-approved respirator or any R, P, or HE filter

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 exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

### Engineering Controls

When handlers use closed cab motorized ground application equipment in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides (40 CFR 170.240(d)(4-6)), the handler PPE requirements may be reduced or modified as specified in the WPS.

### User Safety Recommendations

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing/PPE 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.

### First Aid

#### Organophosphate

**If swallowed:** Immediately call a poison control center or doctor. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give **any** liquid to the person. Do not give anything by mouth to an unconscious person.

**If in eyes:** Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

**If on skin or clothing:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

**Note to physician:** Contains petroleum distillate – vomiting may cause aspiration pneumonia.

**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.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-992-5994 for emergency medical treatment information.

### Environmental Hazards

This pesticide is toxic to fish, aquatic invertebrates, small mammals and birds. 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 water adjacent to treated areas. Do not contaminate water when disposing of equipment washwaters or rinsate. 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 or Chemical Hazards**

**Combustible.** Do not use or store near heat or open flame.

**Agricultural Use Requirements**

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. Refer to the label booklet under "Agricultural Use Requirements" in the Directions for Use section for requirements about this standard.

**(Storage and Disposal for rigid containers 5 gal or less)****Storage and Disposal**

Do not contaminate water, food, or feed by storage and disposal.

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

**Container Handling:** Nonrefillable container. Do not reuse or refill this container.

Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse** as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. **Pressure rinse** as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

**(Storage and Disposal for refillable rigid containers larger than 5 gal)****Storage and Disposal**

Do not contaminate water, food, or feed by storage and disposal.

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

**Container Handling:** Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose.

Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10% full with water and, if possible, spray all sides while adding water. If practical, agitate vigorously or recirculate water with the pump for two minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Then offer for recycling if available, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

**(Storage and Disposal for nonrefillable rigid containers larger than 5 gal)**



**Storage and Disposal**

Do not contaminate water, food, or feed by storage and disposal.

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

**Container Handling:** Nonrefillable container. Do not reuse or refill this container.

Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse** as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. **Pressure rinse** as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip. Then offer for recycling if available, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

**Refer to label booklet for Directions for Use.**

**Notice:** Read the entire label. Use only according to label directions. **Before using this product, read Warranty Disclaimer, Inherent Risks of Use, and Limitation of Remedies at end of label booklet. If terms are unacceptable, return at once unopened.**

In case of emergency endangering health or the environment involving this product, call 1-800-992-5994.

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

EPA Reg. No. 62719-254

EPA Est. \_\_\_\_\_

®Trademark of Dow AgroSciences

**Produced for**  
**Dow AgroSciences**  
**9330 Zionsville Road**  
**Indianapolis, IN 46268**

**Net Contents** \_\_\_\_



60824

(Label booklet cover):

**RESTRICTED USE PESTICIDE**

For retail sale to and use only by Certified Applicators or persons under their direct supervision and only for those uses covered by the Certified Applicator's certification.

**Dursban<sup>®</sup> 4E-N****Specialty Insecticide**

## Active Ingredient:

|                               |        |
|-------------------------------|--------|
| chlorpyrifos: O,O-diethyl O-  |        |
| (3,5,6-trichloro-2-pyridinyl) |        |
| phosphorothioate .....        | 44.9%  |
| Other Ingredients .....       | 55.1%  |
| Total .....                   | 100.0% |

Contains 4 lb of chlorpyrifos per gallon.

Contains aromatic petroleum distillates.

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

**Agricultural Use Requirements**

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. Refer to the label booklet under "Agricultural Use Requirements" in the Directions for Use section for requirements about this standard.

**Refer to inside of label booklet for additional precautionary information including Directions for Use.**

**Notice:** Read the entire label. Use only according to label directions. **Before using this product, read Warranty Disclaimer, Inherent Risks of Use, and Limitation of Remedies at end of label booklet. If terms are unacceptable, return at once unopened.**

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(page 1 through end):

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## Precautionary Statements

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### Hazards to Humans and Domestic Animals

## WARNING

**May Be Fatal If Swallowed • Harmful If Absorbed Through Skin • Causes Moderate Eye Irritation • Prolonged Or Frequently Repeated Skin Contact May Cause Allergic Reactions In Some Individuals**

**Avoid contact with skin, eyes or clothing.**

### Personal Protective Equipment (PPE)

Materials that are chemical-resistant to this product are barrier laminate and viton ( $\geq 14$  mils).

**Mixers and loaders** using a mechanical transfer loading system must wear:

- Long-sleeved shirt and long pants
- Socks and shoes

In addition to the above, **mixers and loaders** using a mechanical transfer loading system must wear:

- Chemical-resistant gloves
- Chemical-resistant apron
- A NIOSH-approved dust mist filtering respirator with MSHA/NIOSH approval number prefix TC-21C or a NIOSH-approved respirator or any R, P, or HE filter

See Engineering Controls for additional requirements.

All **other mixers, loaders, applicators and handlers** must wear:

- Coveralls over long-sleeved shirt and long pants
- Chemical-resistant gloves
- Chemical-resistant apron when mixing or loading or exposed to the concentrate
- Chemical-resistant footwear plus socks
- Chemical-resistant headgear for overhead exposures
- A NIOSH-approved dust mist filtering respirator with MSHA/NIOSH approval number prefix TC-21C or a NIOSH-approved respirator or any R, P, or HE filter

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 exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

### Engineering Controls

When handlers use closed cab motorized ground application equipment in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides (40 CFR 170.240(d)(4-6)), the handler PPE requirements may be reduced or modified as specified in the WPS.

### User Safety Recommendations

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing/PPE 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.



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**First Aid****Organophosphate**

**If swallowed:** Immediately call a poison control center or doctor. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give **any** liquid to the person. Do not give anything by mouth to an unconscious person.

**If in eyes:** Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for treatment advice.

**If on skin or clothing:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

**Note to physician:** Contains petroleum distillate – vomiting may cause aspiration pneumonia.

**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.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-800-992-5994 for emergency medical treatment information.

**Environmental Hazards**

This pesticide is toxic to fish, aquatic invertebrates, small mammals and birds. 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 water adjacent to treated areas. Do not contaminate water when disposing of equipment washwaters or rinsate. 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 or Chemical Hazards**

**Combustible.** Do not use or store near heat or open flame.

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**Directions for Use**

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**Restricted Use Pesticide**

It is a violation of federal law to use this product in a manner inconsistent with its labeling. Read all Directions for Use carefully before applying.

This product cannot be reformulated or repackaged 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 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.



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Do not enter or allow worker entry into treated areas during the restricted entry interval (REI). The REI for each crop is listed in the directions for use associated with each crop.

**Exception:** If the product is soil-injected or soil-incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

Certified crop advisors or persons entering under their direct supervision under certain circumstances may be exempt from the early reentry requirements pursuant to 40 CFR Part 170.

PPE required for early entry into 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 made out of any waterproof material
- Chemical-resistant footwear plus socks
- Chemical-resistant headgear for overhead exposure

Notify workers of the application by warning them orally and by posting warning signs at entrances to treated areas.

### Storage and Disposal

Do not contaminate water, food, or feed by storage and disposal.

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

#### Nonrefillable containers 5 gallons or less:

**Container Handling:** Nonrefillable container. Do not reuse or refill this container.

Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse** as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. **Pressure rinse** as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

#### Refillable containers 5 gallons or larger:

**Container Handling:** Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose.

Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container about 10% full with water and, if possible, spray all sides while adding water. If practical, agitate vigorously or recirculate water with the pump for two minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times. Then



offer for recycling if available, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

**Nonrefillable containers 5 gallons or larger:**

**Container Handling:** Nonrefillable container. Do not reuse or refill this container.

Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse** as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. **Pressure rinse** as follows: Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip. Then offer for recycling if available, or puncture and dispose of in a sanitary landfill, or by incineration, or by other procedures allowed by state and local authorities.

**Product Information**

Dursban® 4E-N specialty insecticide is an emulsifiable concentrate for use in listed crops. his product resists washoff once it is dry. Target pests and application rates are provided in the accompanying tables.

**Use Precautions and Restrictions**

- **Chemigation:** Do not apply this product through any type of irrigation system.
- 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 or greenhouses.
- Do not aerially apply this product.

**Spray Drift Management**

Do not allow spray to drift from the application site and contact people, structures people occupy at any time and the associated property, parks and recreation areas, non-target crops, aquatic and wetland sites, woodlands, pastures, rangelands, or animals.

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment and weather-related factors determine the potential for spray drift. The applicator is responsible for considering all of these factors when making the decision to apply this product.

Observe the following precautions when spraying Dursban 4E-N adjacent to permanent bodies of water such as rivers, natural ponds, lakes, streams, reservoirs, marshes, estuaries, and commercial fish ponds.

The following treatment setbacks or no-spray buffer zones must be utilized for all applications around the above listed aquatic areas with the following application equipment:

| Application Method | Required Setback<br>(Buffer Zone) (feet) |
|--------------------|------------------------------------------|
| ground boom        | 25                                       |
| orchard airblast   | 50                                       |



Making applications when wind is blowing away from sensitive areas is the most effective way to reduce the potential for adverse effects.

Follow these spray drift **best management practices** to avoid off-target drift movement from applications.

### Ground Boom Application

The following mandatory spray drift **best management practices** are required to reduce the likelihood of off-target drift movement from ground applications.

- Choose only nozzles and pressures that produce a medium or coarse droplet size (255 to 400 microns volume median diameter) per ASABE Standard 572.1. See manufacturer's catalog or USDA/NAAA Applicator's Guide for spray size quality ratings.
- Apply with nozzle height no more than 2 feet above the ground or crop canopy.
- Do not apply product when wind speed exceeds 10 mph as measured by an anemometer.

### Orchard Airblast Application

The following mandatory spray drift **best management practices** are required to reduce the likelihood of off-target drift movement from airblast applications.

- Direct nozzles so spray is not projected above the canopies.
- Apply only when wind speed is 3 to 10 mph applications at the application site as measured by an anemometer outside of the orchard/vineyard on the upwind side.
- Outward pointing nozzles must be shut off when turning corners at row ends.

The applicator should take into account the following **best management practices** to reduce off-site spray drift. This section is advisory and does not supercede mandatory label requirements.

- Number of nozzles, nozzle orientation and spray volume, air speed and wind direction are key factors in adjusting airblast spray delivery to match the height and density of the crop canopy. Adjust airblast equipment to provide uniform coverage while minimizing the amount of spray movement over the top or completely through the crop canopy.
  - High air volumes deliver spray more efficiently than air at high speed. Reducing forward travel speed decreases the air speed necessary to deliver the spray to the top of the crop canopy.
  - Use air guides along with the number and orientation of spray nozzles to achieve the desired spray coverage and directional control.
- Take the following steps to minimize drift and the amount of non-target spray:
  - Orient nozzles and adjust air speed/volume/direction to force the spray through the crop canopy but not allow drift past the canopy.
  - Shut off spray delivery when passing gaps in crop canopy within rows.
  - Spray the outside rows of orchards from outside in, directing the spray into the orchard and shutting off nozzles on the side of the sprayer away from the orchard.
  - When treating smaller trees, vines or bushes, shut off top nozzles to minimize over-the-top spray movement.

## Application Directions

### Broadcast Foliar Application

Apply with conventional power-operated spray equipment using nozzles and spray pressures specified for insecticides. Apply Dursban 4E-N in a spray volume of not less than 10 gallons per acre (gpa), unless otherwise specified. Increase spray volume to ensure adequate coverage with increased density and height of crop canopy.



**Ground Application:** Orient the boom and nozzles so that uniform coverage is obtained. The swath width should not be wider than the boom. Follow nozzle manufacturer's recommendations for insecticide nozzles with respect to nozzle type, pressure, and spacing.

### Mixing Directions

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

Dursban 4E-N is compatible with insecticides, miticides, and fungicides commonly recommended except for alkaline materials such as Bordeaux mixture and lime. It is always recommended that a small jar compatibility test be run prior to tank mixing. Prepare tank mixtures in the same manner as recommended above for use of Dursban 4E-N alone. When tank mixing Dursban 4E-N with herbicides, add wettable powders first, flowables second, and emulsifiable concentrates last. Maintain constant agitation during both mixing and application to ensure uniformity of the spray mixture. Do not allow spray mixtures to stand overnight.

**Tank Mix Compatibility Test:** Test compatibility of the intended tank mixture before adding Dursban 4E-N to the spray or mix tank. Add proportional amounts of each tank mix ingredient to a pint or quart jar, cap, shake, and let set 15 minutes. Formation of precipitates that do not readily redisperse indicates an incompatible mixture that should not be used.

### Uses

#### Non-Bearing Almond, Citrus Fruits<sup>1</sup>, Filbert, Pecan, Tree Fruits<sup>2</sup>, and Walnut Trees in Nurseries

**Worker Restricted Entry Interval:** Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 5 days for citrus, 4 days for tree fruit, and 24 hours for almond, filbert, pecan, and walnut unless PPE required for early entry is worn.

<sup>1</sup>Citrus fruits including calamondin, chironja, citrus citron, citrus hybrids, grapefruit, kumquat, lemon, lime, mandarin (tangerine), pummelo, satsuma mandarin, sour orange, sweet orange, tangelo, tangor

<sup>2</sup>Apple, cherry, nectarine, peach, pear, plum, prune

Non-bearing almond, citrus fruits, filbert, pecan, tree fruits, and walnut trees are those which will not bear a crop within one year after treatment with Dursban 4E-N. Wholesale nursery operations are commercial agricultural operations which do not sell or distribute directly to consumers or the general public through retail sales. Plants, trees, fruit, vegetables, or any parts of the plants, fruits or vegetables treated with this product cannot be sold or distributed directly to consumers or the general public through retail sales.

Apply this product as a foliar spray at the dosages indicated to control pests listed in the following table in wholesale nursery operations only. Use sufficient spray volume to completely wet tree foliage, but not to point of runoff. For best results, use a petroleum spray oil when applying to citrus fruits to improve control of aphids, mealybugs, scale insects, and thrips. See precautions for use of oil below. Treat when pests appear or in accordance with the local conditions. Consult your state agricultural experiment station, certified pest control advisor, or extension service specialist for specific use information in your area.

| Pests                                                                                                                                        | Amount of Dursban 4E-N (fl oz) per |             |         |
|----------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|-------------|---------|
|                                                                                                                                              | Gallon                             | 100 Gallons | Acre    |
| aphids (such as: apple, lepidopterous larvae<br>black cherry, black pecan, lesser appleworm<br>filbert, rosy apple, woolly <i>Lygus</i> spp. | 1/6 - 1/3                          | 16 - 32     | 32 - 64 |



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|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |           |         |          |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|---------|----------|
| apple, yellow pecan) (1)<br>apple maggot<br>borers (such as: American<br>plum, dogwood, lesser<br>peachtree, pacific<br>flatheaded, peach twig,<br>peachtree, shothole)<br>cherry fruit fly<br>climbing cutworm<br>codling moth<br>European apple sawfly<br>European corn borer<br>eyespotted bud moth<br>fall webworm<br>filbert worm<br>grasshoppers (such as:<br>lubber) (2)<br>green fruitworm<br>hickory shuckworm<br>katydids<br>leafrollers and tiers (such<br>as: avocado leafroller,<br>filbert leafroller, fruittree<br>leafroller, obliquebanded<br>leafroller, omnivorous<br>leaf-tier, orange tortrix,<br>pandemis leafroller,<br>redbanded leafroller,<br>variegated leafroller) | mealybugs (1)<br>mineola moth<br>mites (such as: citrus<br>rust, European red,<br>pecan leaf scorch,<br>twospotted spider) (3)<br>navel orangeworm<br>oriental fruit moth<br>pecan nut casebearer<br>pecan weevil<br>periodical cicada<br><i>Phylloxera</i> spp.<br>plum curculio<br>potato leafhopper<br>rose chafer<br>scale insects (such as:<br>European fruit lecanium,<br>San Jose, walnut) (1)<br>spittlebug<br>spotted tentiform<br>leafminer<br>stinkbug<br>tarnished plant bug<br>thrips (such as: citrus) (1)<br>tufted apple budmoth<br>walnut husk fly<br>western tussock moth<br>white apple leafhopper<br>winter moth |           |         |          |
| scale insects (such as: black scale, brown soft scale,<br>California red scale, chaff scale, Florida red scale, long<br>scale, purple scale, snow scale) (1) (4)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 1/3 - 2/3 | 32 - 64 | 64 - 128 |

Numbers in parentheses (-) refer to Pest-Specific Use Directions.

#### Pest-Specific Use Directions:

1. **Aphids, mealybugs, scale insects, and thrips on citrus fruits only:** To improve control, add petroleum spray oil to spray mixtures at a rate of up to 1.8 gallons per 100 gallons of water.
2. **Lubber grasshoppers:** Effective control requires direct contact with spray when grasshoppers are small (less than 1 inch in length).
3. **Twospotted spider mites:** When large numbers of eggs are present at the time of the first application, a second application after 3 to 5 days in the south or 7 to 10 days in the north may be required to control newly hatched nymphs and maintain effective control.
4. **Scale insects:** Apply when scale crawlers or first two stages of settled nymphs are present.

#### Specific Use Precautions:

- Cold or dry conditions may cause Dursban 4E-N plus oil sprays to infuse into trees, resulting in bud damage or bud drop. Do not apply until winter rains or irrigation has replenished soil moisture such that bark and twigs are not desiccated.
- Avoid contact with foliage in sweet cherries as premature leaf drop may result.
- Observe local use directions for tank mix combinations, especially with applications of Dursban 4E-N plus spray oil.

#### Specific Use Restrictions:

- Do not make a second application of Dursban 4E-N or other product containing chlorpyrifos within 10 days of the first application.



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- Do not apply more than a total of 4 lb ai chlorpyrifos (8 pints of Dursban 4E-N) per acre per season as a foliar spray.
- Do not make more than two applications of Dursban 4E-N or other products containing chlorpyrifos per year (does not include citrus orchard floors).
- Do not apply when trees are stressed by drought.
- **Walnuts:** Do not apply Dursban 4E-N in combination with oil to walnuts.
- **Nectarine and peach:** Do not make more than one application of up to 3 lb ai chlorpyrifos per season.
- **Apple:**
  - Do not make more than one application of up to 2 lb ai chlorpyrifos per season.
  - Do not make more than one application of any chlorpyrifos containing product per year. The application can be either a prebloom dormant/delayed dormant spray to the canopy or the trunk, or a post-bloom application to the lower 4 feet of the trunk.

### Ornamentals Grown in Nurseries

**Worker Restricted Entry Interval:** Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 5 days for citrus, 4 days for tree fruit, and 24 hours for all other ornamentals unless PPE required for early entry is worn.

Apply to ornamentals grown only in wholesale nursery operations. Wholesale nursery operations are commercial agricultural operations which do not sell or distribute directly to consumers or the general public through retail sales. Plants, fruit, vegetables, or any parts of the plants, fruits or vegetables treated with this product cannot be sold or distributed directly to consumers or the general public through retail sales.

Use Dursban 4E-N to treat flowers, shrubs, evergreens (including those grown in conifer seedling nurseries), vines, shade and flowering trees, and non-bearing fruit, nut and citrus trees to control the pests listed in the following tables including: (1) Sucking Insects and Mites; (2) Defoliators and Leafminers; (3) Borers, Bark Beetles and Weevils; and, (4) Ants and Other Pests.

Apply using suitable hand- or power-operated spray equipment to ensure thorough and complete coverage. Attempt to penetrate dense foliage, but avoid over spraying to the point of runoff. When using spray equipment delivering less than 200 gallons of spray per acre, use the rate specified in the per acre column. Thorough 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.

#### Specific Use Precautions:

**Phytotoxicity:** Do not apply under conditions of extreme heat or drought stress. Environmental factors and varietal differences significantly influence phytotoxic expression. Dursban 4E-N has been tested on numerous ornamental plants without causing serious phytotoxicity at specified use rates. Some varieties of azaleas, camellias, poinsettias, roses, and variegated ivy have shown varying degrees of phytotoxicity following treatment with Dursban 4E-N. Before treating large numbers of plants (especially those above), treat a small block of plants and observe them for 7 to 10 days for symptoms of phytotoxicity. **Note:** The user assumes responsibility for determining if it is safe to treat other ornamental plants with Dursban 4E-N under commercial growing conditions.

#### (1) Sucking Insects and Mites (Ornamentals Grown in Nurseries)

| Pests | Amount of Dursban 4E-N (fl oz) per |             |      |
|-------|------------------------------------|-------------|------|
|       | Gallon                             | 100 Gallons | Acre |



|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |            |        |         |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|--------|---------|
| <p>adelgids<br/> (cooley and eastern spruce galls)<br/> (pine bark)</p> <p>aphids<br/> (apple)<br/> (balsam twig)<br/> (black pecan)<br/> (chrysanthemum)<br/> (cottonwood)<br/> (crape myrtle)<br/> (elm leaf)<br/> (melon)<br/> (peach)<br/> (rose)<br/> (spirea)<br/> (white pine)<br/> (woolly)<br/> (woolly apple)<br/> (yellow pecan)</p> <p>boxelder bugs<br/> lace bugs (such as: hawthorn)<br/> periodical cicada<br/> plant bugs<br/> psyllids<br/> spittlebugs<br/> thornbug<br/> whiteflies</p> | 1/12 - 1/6 | 8 - 16 | 16 - 32 |
| <p>leafhoppers<br/> mealybugs<br/> (citrus)<br/> (taxus)</p> <p>mites (1)<br/> (clover)<br/> (red spider)<br/> (southern red)<br/> (spruce spider)<br/> (twospotted spider)</p> <p>thrips (exposed)</p>                                                                                                                                                                                                                                                                                                     | 1/6        | 16     | 32      |



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|                                                                                                                                                                                                                                                                                               |     |    |         |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----|---------|
| scale insects (2)<br>(cottoncushion)<br>(cottony maple)<br>(dearness)<br>(euonymus)<br>(fletcher)<br>(Florida wax)<br>(golden oak)<br>(hemispherical)<br>(lecanium)<br>(magnolia)<br>(oak kermes)<br>(oak lecanium)<br>(oystershell)<br>(pine needle)<br>(San Jose)<br>(tea)<br>(white birch) | 1/3 | 32 | 32 - 64 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----|----|---------|

Numbers in parentheses (-) refer to Pest-Specific Use Directions.

#### Pest-Specific Use Directions:

1. **Spider mites:** When large numbers of eggs are present at the first application, a second application after 3 to 5 days in the south or 7 to 10 days in the north may be required to control newly hatched nymphs and maintain effective control.
2. **Scale insects:** Apply when scale crawlers or first two stages of settled nymphs are present.

#### (2) Defoliators and Leafminers (Ornamentals Grown in Nurseries)

| Pests                                  |                                                       | Amount of Dursban 4E-N (fl oz) per |             |         |
|----------------------------------------|-------------------------------------------------------|------------------------------------|-------------|---------|
|                                        |                                                       | Gallon                             | 100 Gallons | Acre    |
| armyworms<br>(fall)<br>(yellowstriped) | poplar tentmaker<br>puss caterpillars<br>rose chafers | 1/12 - 1/6                         | 8 - 16      | 16 - 32 |
| bagworms (1)                           | sawflies, exposed                                     |                                    |             |         |
| cankerworms                            | (European pine)                                       |                                    |             |         |
| catalpa sphinx                         | (pine)                                                |                                    |             |         |
| elm spanworms                          | (pin oak)                                             |                                    |             |         |
| fall webworms (2)                      | (redheaded)                                           |                                    |             |         |
| grasshoppers                           | spring elm caterpillars                               |                                    |             |         |
| greenstriped mapleworms                | springtails                                           |                                    |             |         |
| green fruitworms                       | spruce budworms                                       |                                    |             |         |
| hornworms                              | (eastern)                                             |                                    |             |         |
| jackpine budworms                      | (western)                                             |                                    |             |         |
| juniper webworms                       | tent caterpillars                                     |                                    |             |         |
| katydids                               | (eastern)                                             |                                    |             |         |
| leafrollers (3)                        | (forest)                                              |                                    |             |         |
| maple leafcutters (4)                  | (western)                                             |                                    |             |         |
| oak skeletonizers                      | walnut caterpillars                                   |                                    |             |         |
| oleander caterpillars                  | yellownecked caterpillars                             |                                    |             |         |
| orange tortrix                         |                                                       |                                    |             |         |



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|                                                                                                                                                                                                                                        |                                                                                                                                                                                                                        |           |         |         |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------|---------|---------|
| balsam gall midge<br>beet armyworms<br>beetles (5)<br>(fuller rose)<br>browntail moth<br>cutworms<br>cypress tip moth<br>Douglas fir tussock moth<br>European pine shoot moth<br>gypsy moth (6)<br>holly bud moth<br>mahogany webworms | mimosa webworms<br>Nantucket pine tip moth<br>oakworms<br>(California)<br>(orangestriped)<br>(redhumped)<br>pandora moth<br>pitch pine tip moth<br>redhumped caterpillars<br>subtropical pine tip moth<br>tussock moth | 1/6       | 16      | 32      |
| beetles<br>(cottonwood leaf) (7)<br>(elm leaf)<br>(flea)<br>(willow leaf)                                                                                                                                                              |                                                                                                                                                                                                                        | 1/6 - 1/3 | 16 - 32 | 32      |
| leafminers<br>needleminers<br>(Jeffrey pine)<br>(lodgepole pine)<br>(spruce)<br>pine needle midge<br>rhododendron gall midge                                                                                                           |                                                                                                                                                                                                                        | 1/3       | 32      | 32 - 64 |

Numbers in parentheses (-) refer to Pest-Specific Use Directions.

#### Pest-Specific Use Directions:

1. **Bagworms:** Treat when larvae are small and actively feeding.
2. **Fall webworms:** Direct spray into web and immediate surrounding foliage.
3. **Leafrollers:** Apply spray before leaves are tightly rolled.
4. **Maple leafcutter:** On maple trees, spray larvae as cases are formed. Do not treat sugar maple trees intended for maple syrup production.
5. **Beetles:** To reduce twig and branch feeding, apply in the spring or early summer.
6. To control migrating and invading **gypsy moth larvae**, treat trunks and foliage.
7. **Cottonwood leaf beetles:** Apply to control larvae and adults infesting cottonwoods. Treat when field counts indicate damaging beetle populations are developing or present.

#### (3) Borers, Bark Beetles, and Weevils (Ornamentals Grown in Nurseries)

| Pests                                                                                           | Amount of Dursban 4E-N (fl oz) per |             |         |
|-------------------------------------------------------------------------------------------------|------------------------------------|-------------|---------|
|                                                                                                 | Gallon                             | 100 Gallons | Acre    |
| weevils<br>(blackvine) (1)<br>(cranberry girdler) (2)<br>(pine reproduction)<br>(yellow poplar) | 1/6                                | 16          | 32 - 64 |



|                                                                                                                                                                                                                                                                                                                                  |       |     |   |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|-----|---|
| borers: (3)<br>clearwing moths<br>(ash)<br>(dogwood)<br>(lesser peachtree)<br>(lilac)<br>(oak)<br>(peachtree)<br>(rhododendron)<br>longhorned beetles<br>(cottonwood)<br>(locust)<br>(red oak)<br>metallic wood<br>(bronze birch)<br>(flatheaded appletree)<br>(twolined chestnut)<br>pales weevil adults<br>zimmerman pine moth | 1/3   | 16  | - |
| northern pine weevil (4)<br>pales weevil (4)                                                                                                                                                                                                                                                                                     | 1     | 96  | - |
| beetles (5)<br>(ambrosia)<br>(anobiidae)<br>(black turpentine)<br>(blister)<br>(cottonwood leaf)<br>(elm leaf)<br>(European elm bark)<br>(fuller rose)<br>(Japanese)<br>(june)<br>(mountain pine)<br>(native elm bark) (6)<br>(southern pine)<br>(spruce)<br>(western pine)<br>(willow leaf)                                     | 2 2/3 | 256 | - |
| weevils (7)<br>(northern pine)<br>(pitch eating)<br>(twig)                                                                                                                                                                                                                                                                       | 5 1/3 | 512 | - |

Numbers in parentheses (-) refer to Pest-Specific Use Directions.

#### Pest-Specific Use Directions:

1. **Blackvine weevils** are night feeders. Late afternoon spraying will give control in some areas.
2. **Cranberry girdler larvae:** For larvae infesting Douglas fir seedlings, direct spray at lower crown and stems following egg laying during summer. 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. **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. 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.



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4. **Northern pine and pales weevil larvae:** Apply as a cut stump spray or drench in winter or early spring.
5. **Beetles:** For **preventive treatment**, spray the upper half of the tree trunk and into the lower 1/3 of the crown 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 when damage occurs, but before adult beetles begin to emerge.
6. **Native elm bark beetles:** To prevent from over-wintering in uninfested trees, apply a dilution of 1 gallon 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. Apply the spray directly to the base of the root flare from spring to early fall. To reduce twig and branch feeding on high value trees, apply a dilution of 1 gallon per 100 gallons of water (1 1/3 fl oz per gallon) as a spray to the tree crown. Apply in the spring or early summer using a sprayer that will give thorough coverage to the tree crown.
7. **Pine seedlings:** Treat immediately after transplanting with enough spray to thoroughly wet the foliage and stems to the point of runoff. Do not use more than 6 gallons of spray per acre.

#### (4) Ants and Other Pests (Ornamentals Grown in Nurseries)

| Pests                              | Amount of Dursban 4E-N (fl oz) per |             |      |
|------------------------------------|------------------------------------|-------------|------|
|                                    | Gallon                             | 100 Gallons | Acre |
| ants (1)<br>sowbugs<br>springtails | 1/6                                | 16          | 32   |

Numbers in parentheses (-) refer to Pest-Specific Use Directions.

#### Pest-Specific Use Directions:

1. Excludes ants of significant public health importance such as fire ants, harvester ants, carpenter ants, and pharaoh ants.

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

| Pests                                        | Amount of Dursban 4E-N (fl oz) per Acre |
|----------------------------------------------|-----------------------------------------|
| garden symphylans (1)                        | 64 - 128                                |
| white fringed beetles (2)<br>white grubs (2) | 128                                     |

Numbers in parentheses (-) refer to Pest-Specific Use Directions.

#### Pest-Specific Use Directions:

1. **Garden symphylans:** Apply to the soil surface as a broadcast spray in at least 10 gpa of water. On the same day of treatment, incorporate the insecticide to a depth of up to 8 inches of the soil using a disc, rotovator, or equivalent incorporation equipment. Use the higher rate in the rate range for longer residual or where deeper incorporation is necessary.
2. **White fringed beetles and white grubs:** Apply and incorporate before transplanting or planting to control insects during transplant or seedling establishment. Apply to the soil surface as a broadcast spray using sufficient water to obtain adequate coverage. On the same day of 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.

#### Specific Use Precautions:

**Phytotoxicity:** Do not apply under conditions of extreme heat or drought stress. Environmental factors and varietal differences significantly influence phytotoxic expression. Dursban 4E-N has been tested on numerous ornamental plants and loblolly pine without causing serious phytotoxicity at specified use rates. Before treating large numbers of plant, treat a small block of plants, seed or transplant the test species or variety, and observe them for a minimum of 14 days following emergence or transplanting for symptoms of phytotoxicity. Do not blend Dursban 4E-N with dry bulk fertilizer materials. **Note:** The user assumes



responsibility for determining if it is safe to treat other ornamental plants with Dursban 4E-N under commercial growing conditions.

### Ornamentals [Soil Treatment of Containerized (Potted) or Balled and Burlapped Nursery Stock]

**Worker Restricted Entry Interval:** Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours unless PPE required for early entry is worn.

Use in nurseries is permitted for USDA quarantine purposes only.

Completely submerge the container with drain holes or root ball stabilized by burlap in a tank containing diluted Dursban 4E-N. Do not remove burlap wrap or containers prior to submerging. Keep the container or root ball submerged about 30 seconds until the soil is completely saturated.

| Pests            | Amount of Dursban 4E-N (fl oz) per |             |
|------------------|------------------------------------|-------------|
|                  | Gallon                             | 100 Gallons |
| Japanese beetles | 2/3                                | 32          |

#### Specific Use Precautions:

**Phytotoxicity:** Do not apply under conditions of extreme heat or drought stress. Environmental factors and varietal differences significantly influence phytotoxic expression. Dursban 4E-N has been tested on numerous ornamental plants without causing serious phytotoxicity at specified use rates. Before treating large numbers of plants, treat a small block of plants and observe them for at least 7 days for symptoms of phytotoxicity. **Note:** The user assumes responsibility for determining if it is safe to treat other ornamental plants with Dursban 4E-N under commercial growing conditions.

### Tree Fruits<sup>1</sup> and Almond (Dormant/Delayed Dormant Sprays)

**Worker Restricted Entry Interval:** Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 4 days for tree fruits and 24 hours for almond unless PPE required for early entry is worn.

<sup>1</sup>Apple, cherry, nectarine, peach, pear, plum, prune

Apply as a dormant or delayed dormant spray. While Dursban 4E-N may be used without oil, for best results, use oil to control additional pests, such as European red mite. See precautions for use of oil below. Apply as a concentrate or dilute spray using conventional, power-operated spray equipment. For dilute sprays (greater than 200 gpa), use sufficient spray volume to completely wet tree foliage, but not to point of runoff. For concentrate sprays (less than 200 gpa), uniformly apply an equivalent amount of Dursban 4E-N per acre.

Use a higher rate in the rate range when there is increased pest pressure.

#### Use Precautions for Tree Fruits and Almond:

- Cold or dry conditions may cause Dursban 4E-N plus oil sprays to infuse into trees, resulting in bud damage or bud drop. Do not apply until winter rains or irrigation has replenished soil moisture such that bark and twigs are not desiccated.

#### Use Restrictions for Tree Fruits and Almond:

- Make only one application of chlorpyrifos during the dormant season except for control of the apple ermine moth.
- For apple, do not make more than one application of Lorsban-4E to the apple tree trunk per year as either a prebloom or post-bloom application



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- Do not apply more than a total of 2 lb ai chlorpyrifos (4 pints of Dursban 4E-N) per acre per season as a dormant/delayed dormant application.
- Do not allow meat or dairy animals to graze in treated orchards.

**Almond, Cherry, Nectarine, Peach, Pear, Plum, Prune**

| Pests                                                    | Amount of Dursban 4E-N (fl oz) per |                 |
|----------------------------------------------------------|------------------------------------|-----------------|
|                                                          | Gallon                             | 100 Gallons (1) |
| apple ermine moth (2)                                    | 1/12                               | 8               |
| aphids<br>(mealy plum)<br>(rosy apple)<br>(woolly apple) | 1/12 - 1/6                         | 8 - 16          |
| borers<br>(peach twig)                                   |                                    |                 |
| cutworms<br>(climbing)                                   |                                    |                 |
| dioryctria spp                                           |                                    |                 |
| leafrollers<br>(obliquebanded)<br>(pandemis)             |                                    |                 |
| pear psylla adults                                       |                                    |                 |
| scale insects<br>(San Jose)                              |                                    |                 |
| sequoia pitch moth                                       |                                    |                 |

Numbers in parentheses (-) refer to Pest-Specific Use Directions.

**Pest-Specific Use Directions:**

1. Application rate is based upon 200 to 600 gpa as a dilute spray depending on the size of the trees.
2. **Apple ermine moth** (*Malus* species): Make two applications, 7 to 14 days apart, in combination with a petroleum spray oil at the rate of 2 to 4% (volume:volume). 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 trees or control will be compromised.

**Specific Use Precautions for Almond, Cherry, Nectarine, Peach, Pear, Plum, Prune:**

- Avoid contact with foliage in sweet cherries as premature leaf drop may result.

**Specific Use Restrictions for Almond, Cherry, Nectarine, Peach, Pear, Plum, Prune:**

- Do not make a soil or foliar application of Dursban 4E-N or product containing chlorpyrifos within 10 days of a dormant/delayed dormant application of chlorpyrifos to the orchard.

**Apple**

| Pests                 | Amount of Dursban 4E-N (fl oz) per |                 |
|-----------------------|------------------------------------|-----------------|
|                       | Gallon                             | 100 Gallons (1) |
| apple ermine moth (2) | 1/12                               | 8               |



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|                                                          |            |        |
|----------------------------------------------------------|------------|--------|
| aphids<br>(mealy plum)<br>(rosy apple)<br>(woolly apple) | 1/12 - 1/6 | 8 - 16 |
| borers<br>(peach twig)                                   |            |        |
| cutworms<br>(climbing)                                   |            |        |
| dioryctria spp                                           |            |        |
| leafrollers<br>(obliquebanded)<br>(pandemis)             |            |        |
| pear psylla adults                                       |            |        |
| scale insects<br>(San Jose)                              |            |        |
| sequoia pitch moth                                       |            |        |

Numbers in parentheses (-) refer to Pest-Specific Use Directions.

#### Pest-Specific Use Directions:

1. Application rate is based on 200 to 600 gpa as a dilute spray depending on the size of the trees.
2. **Apple ermine moth** (*Malus* species): Make two applications, 7 to 14 days apart, in combination with a petroleum spray oil at the rate of 2 to 4% (volume:volume). 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 trees or control will be compromised.

#### Specific Use Restrictions for Apple:

- Only one application of any chlorpyrifos containing product can be made per year. The application can be either a prebloom dormant/delayed dormant spray to the canopy or the trunk, or a post-bloom application to the lower 4 feet of the trunk.

#### Turfgrass

**Worker Restricted Entry Interval:** Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 24 hours unless PPE required for early entry is worn.

Dilute Dursban 4E-N in water and apply to turfgrass grown for sod or seed using suitable application equipment. For best results, turfgrass should be moist at time of treatment.

| Pests                     |                           | Amount of Dursban 4E-N (fl oz) per |      |
|---------------------------|---------------------------|------------------------------------|------|
|                           |                           | 1000 sq ft                         | Acre |
| ants (7)                  | green june beetle grubs   | 3/4                                | 32   |
| armyworms                 | leafhoppers               |                                    |      |
| (beet)                    | lucerne moth              |                                    |      |
| (fall)                    | millipedes                |                                    |      |
| (yellowstriped)           | mites                     |                                    |      |
| chinch bugs               | (Bermudagrass stunt)      |                                    |      |
| crickets                  | (clover)                  |                                    |      |
| cutworms                  | (winter grain)            |                                    |      |
| earwigs                   | pillbugs                  |                                    |      |
| European crane fly larvae | sod webworms (lawn moths) |                                    |      |
| fiery skipper             | (1)                       |                                    |      |
| gnats                     | sowbugs                   |                                    |      |
| grasshoppers              |                           |                                    |      |
| greenbug aphids           |                           |                                    |      |



230424

|                                                                                                                                          |             |          |
|------------------------------------------------------------------------------------------------------------------------------------------|-------------|----------|
| billbug adults (2<br>(bluegrass<br>(Denver)<br>(hunting)                                                                                 | 3/4 - 1 1/2 | 32 - 64  |
| annual bluegrass weevil ( <i>Hyperodes</i> ) (3)<br>black turfgrass ataenius adults (4)<br>mole crickets (5)                             | 1 1/2       | 64       |
| white grubs (6)<br>(black turfgrass ataenius)<br>(European chafer)<br>(Japanese beetle larvae)<br>(northern and southern masked chafers) | 1 1/2 - 3   | 64 - 128 |

Numbers in parentheses (-) refer to Pest-Specific Use Directions.

#### Pest-Specific Use Directions:

1. **Sod webworms:** Delay watering or mowing of the treated area for 12 to 24 hours after treatment.
2. **Billbugs:** Spray early in the season just prior to or coinciding with the first appearance of adults as recommended by your local Agricultural Extension Service Specialist.
3. **Annual bluegrass weevil:** To control, spray suspected problem areas in mid-April and again in mid-May, or as recommended by your local Agricultural Extension Service Specialist.
4. **Black turfgrass ataenius adults:** Spray early in the season as recommended by your local Agricultural Extension Service Specialist. Re-treat as needed 1 to 2 weeks later.
5. **Mole crickets:** Apply through high pressure injection or other suitable subsurface placement application equipment. Depending upon the application equipment used, follow the manufacturer's directions for calibration and the volume of spray per acre needed to provide control or as recommended by your local Agricultural Extension Service Specialist. Apply when young nymphs are active. Efficacy may be enhanced by spraying late in the afternoon or early evening and irrigating the turfgrass prior to treatment to move mole crickets to the soil surface.
6. **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 thatch and underlying soil.
7. Excludes ants of significant public health importance such as fire ants, harvester ants, carpenter ants, and pharaoh ants.

**Certification Period:** 42 days from day of application.

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#### Terms and Conditions of Use

If terms of the following Warranty Disclaimer, Inherent Risks of Use, and Limitation of Remedies are not acceptable, return unopened package at once to the seller for a full refund of purchase price paid. Otherwise, use by the buyer or any other user constitutes acceptance of the terms under Warranty Disclaimer, Inherent Risks of Use and Limitation of Remedies.

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#### Warranty Disclaimer

Seller 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. TO THE EXTENT PERMITTED BY LAW, SELLER MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR ANY OTHER EXPRESS OR IMPLIED WARRANTY.

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#### 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



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label instructions (including conditions noted on the label, such as unfavorable temperature, 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 the Seller. All such risks shall be assumed by buyer.

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**Limitation of Remedies**

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To the extent permitted by law, 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 Seller's 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

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