

13-MAY-1996

((LABEL))

SCIENTIFIC GROWING AIDS

Plant Products

Dursban* Turf
Insecticide

- Controls Numerous Pests of Turf and Ornamental Plants, and for use by municipalities to control the Native Elm Bark Beetle.
- Controls Japanese Beetle (larvae) infesting soil in which Outdoor Ornamentals (including containerized nursery stock) are growing.
- To be applied only by or under the direct supervision of Commercial Applicators Responsible for Insect Control Programs. Not intended for sale to or for use by Homeowners. Do not formulate this product into other end use products.

COMMERCIAL

DANGER

POISON

READ THE LABEL AND BOOKLET BEFORE USING

KEEP OUT OF REACH OF CHILDREN

GUARANTEE: chlorpyrifos.....480 g/L

REGISTRATION NO. 24414 PEST CONTROL PRODUCTS ACT

10 L

Plant Products Co. Ltd.
314 Orenda Road
Brampton, Ontario
L6T 1G1

*Trademark of DowElanco
Plant Products Co. Ltd. is a licensed user

DURSBAN TURF

NOTICE TO USER:

This control product is to be used only in accordance with the directions on this label. It is an offence under the PEST CONTROL PRODUCTS ACT to use a control product under unsafe conditions.

NOTICE TO BUYER:

Seller's guarantee shall be limited to the terms set out on the label and subject thereto, the buyer assumes the risk to persons or property arising from the use or handling of this product and accepts the product on that condition.

PRECAUTIONS:

MAY BE FATAL IF SWALLOWED
HARMFUL IF ABSORBED THROUGH SKIN
DANGER - EYE IRRITANT
CAUSES SUBSTANTIAL BUT TEMPORARY EYE INJURY
CAUSES SKIN IRRITATION

Avoid contact with eyes, skin and clothing. Wash thoroughly with soap and water after handling and before eating or smoking. Wear protective clothing, impervious gloves and goggles when handling. Remove contaminated clothing and wash before reuse. This product has been shown to be a skin sensitizer in laboratory animal studies. Repeated exposure may cause allergic reaction in sensitive individuals. If this should happen, discontinue use and consult a physician. Discard contaminated leather articles, including shoes. Avoid breathing vapours and spray mist. Use with adequate ventilation. Keep away from food, feedstuffs and water supplies.

FIRST AID:

If in eyes: Irrigate with flowing water immediately and continuously for 15 minutes. Get medical attention or contact a poison control centre.

If swallowed: Contains a petroleum distillate solvent. Do not induce vomiting. Call a physician and/or transport to emergency facility immediately.

If on skin: Immediately flush skin with plenty of flowing water for at least 15 minutes while removing contaminated clothing and shoes. Call a physician or a poison control centre. Wash clothing before reuse. Destroy contaminated shoes.

If inhaled: Remove to fresh air. If not breathing, give oxygen. Call a physician or a poison control centre.

TOXICOLOGICAL INFORMATION:

Contains a petroleum distillate solvent. The decision of whether to induce vomiting or not should be made by an attending physician. If lavage is performed, suggest endotracheal and/or esophageal control. Danger from aspiration must be weighed against toxicity when considering emptying the stomach. If burn is present, treat as any thermal burn, after decontamination. Chlorpyrifos is a cholinesterase inhibitor. Treat symptomatically. If exposed, plasma and red blood cell cholinesterase tests may indicate degree of exposure (baseline data are useful). Atropine, only by injection, is the preferable antidote. Oximes, such as Pralidoxime Chloride, may be therapeutic if used early; however, use only in conjunction with atropine. Supportive care. Treatment based on judgement of the physician in response to reactions of the patient.

For further information consult the MATERIAL SAFETY DATA SHEET.

AGRICULTURAL CHEMICAL:

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

USE PRECAUTIONS/ENVIRONMENTAL HAZARDS

This product is toxic to birds and wildlife, and extremely toxic to fish and aquatic organisms. Do not apply directly to water. Drift and runoff from treated areas may be hazardous to aquatic organisms in adjacent aquatic sites. Cover or incorporate spills. Do not contaminate water by cleaning of equipment or disposal of waste. This product is highly toxic to bees exposed to direct treatment or residues on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds if bees are actively visiting the treatment area. Avoid spraying tree crown before mid-morning. Do not apply when birds are nesting in trees to be treated.

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

STORAGE:

Do not contaminate water, food or feed by disposal. Store in original container in secured dry storage area. Prevent cross-contamination with other pesticides and fertilizers. Do not store above 37°C for extended periods of time. Storage below 6.6°C may result in formation of crystals. If product crystallizes, store at 10 to 21°C 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.

DISPOSAL

1. Rinse the emptied container thoroughly and add the rinsings to the spray mixture in the tank.
2. Follow provincial instructions for any required additional cleaning of the container.
3. Make the empty container unsuitable for further use.
4. Dispose of the container in accordance with provincial requirements.
5. For information on the disposal of unused, unwanted product and the cleanup of spills, contact the Provincial Regulatory Agency or the Manufacturer.

((BOOKLET))

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DIRECTIONS FOR USE

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

GENERAL INFORMATION

Dursban Turf Insecticide is an emulsifiable concentrate designed for use as a spray to control various pests injurious to trees, turf and ornamental plants. The pests controlled are listed in the accompanying tables.

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

PESTS OF LAWNS AND OTHER ORNAMENTAL AND RECREATIONAL TURF GRASS AREAS

Use Dursban Turf Insecticide to control the pests listed in the following table by application at the recommended dosages and in accordance with the

directions given below. Dilute Dursban Turf Insecticide in enough water to obtain complete and uniform coverage of pest infested areas and apply as coarse, low pressure spray using suitable application equipment.

| Pest | Amount of Product per 100 m ² | Specific Directions |
|---|--|---|
| Ants, Chinch bugs, Cutworms | 22.5 mL | Spray when pests first appear, repeat when needed. |
| Crane fly larvae (Leatherjackets) | 20-25 mL | Apply as drenching spray in water in late fall after the flight of adult crane flies has ceased for the year. |
| Sod Webworms | 22.5 mL | For sod webworms delay watering or mowing the treated area for 12 to 24 hours after treatment. |
| Turfgrass (Hyperodes) Weevil (Annual and Bluegrass weevil) | 45 mL | Spray suspected problem areas in, mid-April and again in mid-May, or as recommended by your local Agricultural Representative. |
| White grubs including European Chafer (larvae) Japanese Beetle (larvae) | 45 mL | For white grubs spray when grubs are young and actively feeding near the soil surface, usually during late July, August or as recommended by your local Agricultural Representative. Immediately after spraying irrigate the treated area with 1 to 2 cm of water to wash the insecticide into the underlying soil. |

$22.5 \text{ mL}/100 \text{ m}^2 = 112.5 \text{ mL}/500 \text{ m}^2 = 225 \text{ mL}/1000 \text{ m}^2$ or 2.25 L/ha.

NOTE: Mosquitoes coming to rest on areas treated for control of turf pests will be killed for varying periods of time (1 to 3 weeks) after treatment depending on exposure of treated areas to weathering conditions and degree to which insecticide is washed into the soil.

PEST CONTROL AROUND BUILDINGS

Apply Dursban Turf Insecticide by application as a residual spray around the outside of buildings including porches, window frames, eaves, patios, garages, refuse dumps and other areas where pests congregate or have been seen. Do not allow persons or pets in the area until treatment has dried.

| Pest | Amount of Product per 100 m ² | Specific Directions |
|---|--|--|
| Ants Crickets Earwigs Millipedes Sowbugs (pillbugs) | 22.5 mL | To help prevent infestation of buildings treat a band of soil 2 to 3 metres wide around and adjacent to the building foundation to a height of 50 cm to 1 m or use as a spot treatment where pests are active and may find entrance. Dilute in enough water to obtain complete and uniform coverage and apply as a coarse spray to thoroughly wet the band area. |

| Pest | Spray Dilution | Specific Directions |
|--|---|--|
| Spiders Carpenter Ants Wasps Hornets Bees Box Elder Bugs Cluster flies | 0.48% solution (see spray dilution chart) | Close all windows (including neighbours) and remove furniture, barbeques, children's toys, bicycles, potted plants. Apply Dursban by handheld, backpack or hydraulic sprayer to nesting sites and other localized areas where pests congregate. In order to minimize drift, apply a coarse spray thoroughly wetting the surface but not allowing runoff to occur. This can best be achieved by utilizing low gun pressures to generate large droplets. Avoid repeat applications at intervals less than 50 days. |

NATIVE ELM BARK BEETLE

Prevention of Overwintering: To prevent the adult beetle from overwintering in uninfected trees and to reduce beetle populations in disease free areas, apply Dursban Turf Insecticide as a 0.48% mixture of chlorpyrifos in water to the bottom 2.5 m of the trunk. Wet the trunk

thoroughly, but do not spray to run off. Care should be taken to apply the spray right to the base of the root flare. Applications can be made with either back pack mist blower or a hydraulic pressure sprayer from spring through to the early fall. Make only one application per season.

Prevention of Branch and Twig Feeding on High Value Elm Trees: To reduce the twig and branch feeding on uninfected trees deemed to be high in value apply a 0.48% chlorpyrifos 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. Make only one application per season.

The following SPRAY DILUTION CHART indicates the proper proportion of Dursban Turf Insecticide to water to give a 0.48% chlorpyrifos solution.

| Water to Make | Dursban Turf Insecticide |
|---------------|--------------------------|
| 5 L | 50 mL |
| 10 L | 100 mL |
| 100 L | 1 L |
| 1000 L | 10 L |

For best results, the use of Dursban Turf Insecticide should be incorporated into a total integrated Dutch Elm disease control program, that include chemical treatment and necessary sanitation techniques.

PESTS OF ORNAMENTALS (OUTDOOR)

Use Dursban Turf Insecticide to treat flowers, shrubs, vines, shade and flowering trees and evergreens found to be infested with the pests listed in the following table. Dilute Dursban Turf Insecticide with water according to directions given in the table and apply using suitable hand power spray equipment in a manner to provide complete and uniform coverage. For best results apply a wetting spray to both upper and lower leaf surfaces and infested limb and trunk areas. Attempt to penetrate dense foliage but avoid overspraying to the point of excessive runoff. Treat when pests appear and repeat at 7 to 10 day intervals, if needed.

NOTE: Environmental factors have significant effects on phytotoxic expression. Dursban Turf Insecticide has been tested on numerous ornamental plants without causing serious phytotoxicity. However, do not use on azaleas, camellias, poinsettias, rose bushes or variegated ivy because of possible injury to these plants.

| Pest | Amount of Product per 1000 L | Specific Host Plants |
|--|------------------------------|---|
| Spittlebugs | 88-150 mL | Various ornamental plants |
| Mealybugs | 200 mL | Various ornamental plants |
| Aphids | 375 mL | Beech, birch, elm, hickory, linden, maple, oak, pine, flowering cherry, flowering plum, spruce, tulip tree, viburnum, willow, spirea, nasturtium. |
| Clover mite, European red mite, Honey locust mite, Red oak mite, Spruce spider mite. Two-spotted spider mite | 375-500mL | Arborvitae juniper. |
| Borers such as Ash & Lilac borers | 500 mL | Locust, birch, mountain ash, willow, lilac |
| Eastern and Forest Tent Caterpillars | 500 mL | Ash, birch |
| European Pine Sawfly Red Headed Pine Sawfly | 500 mL | Conifers, mountain ash |
| Grasshoppers | 500 mL | Various ornamental plants |
| Thrips | 500 mL | Various ornamental plants |
| Whiteflies | 500 mL | Various ornamental plants |
| Leafhoppers such as Potato and Six spotted leafhoppers | 1 L | Various ornamental plants |
| Scale insects such as Lecanium, Cottony maple, San jose, Oystershell | 2 L | Various ornamental plants |
| Japanese Beetle (larvae) | 4.5 L | Various ornamental plants |

500 mL is equivalent to 240 g of chlorpyrifos per 1000 L

1 L is equivalent to 480 g of chlorpyrifos per 1000 L

2 L is equivalent to 960 g of chlorpyrifos per 1000 L

Japanese Beetle (Larvae)

Apply to the soil when grubs are young and actively feeding near the soil surface, usually during late July, August, September or as recommended by your local Agricultural Representative. Use at rates given in the previous table. Dilute Dursban Turf in enough water to obtain complete and uniform coverage of pest infested areas. Apply as a coarse, low pressure spray using suitable application equipment. Immediately after spraying irrigate the treated area with 1 to 2 cm of water to wash the insecticide into the underlying soil.

For container grown stock: spraying may also take place in April and May. Submerge the entire root ball or container in a solution of 45 mL Dursban Turf Insecticide/10 L water (4.5 L/1000 L) until all bubbling stops. Remove plants from solution and allow to drain.

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NATURE OF RESTRICTION: This product is to be used only in the manner authorized. Contact local pesticide regulatory authorities about use permits which may be required.

RESTRICTED USES - MOSQUITOES
Western Canada Only

MOSQUITOES

Dursban Turf emulsifiable insecticide mixes readily with water or oil such as kerosene or No. 2 diesel fuel oil. Dursban Turf should be thoroughly mixed with the amount of water or oil required to give uniform coverage and applied to non-crop areas with suitable equipment such as hand or power sprayers, mist applicators or by aerial application. Use at rates given in the following table.

LARVAL CONTROL (MOSQUITOES)

For larval control apply uniformly to standing water such as pools, shallow ponds, marshes and swamps. Spot applications may be made to catch basins, culverts, and similar areas where mosquitoes may breed. Application should be made when larvae are first noticed. Spray equipment must be properly calibrated to deliver the required amount of Dursban Turf. Application equipment giving medium to coarse spray droplets should be used for mosquito larval control. The highest rate of Dursban Turf should be used only when the organic matter level in the water is high or where the vegetation cover is dense. The lower rate of Dursban Turf is adequate in open areas with little vegetation cover and where the water is low in organic matter. Retreat as required, not more often than every 2 weeks.

ADULT CONTROL (MOSQUITOES)

Dursban Turf should be applied to wet grassy or wooded areas when adults first become a nuisance. Application equipment giving fine sprays, mists or aerosol droplets will give best results. Retreat as required.

SPECIFIC APPLICATION EQUIPMENT

For mistblowers, calculate application rates as in this example. For mistblowers calibrated to deliver 350 L per hour covering a spray swath of 100 m at a vehicle speed of 9 km per hour, use 5 to 10 L of Dursban Turf and 350 L of water. Use the higher rate where vegetation is dense. Where vegetation is too dense to permit adequate penetration, the spray swath should be reduced to 50 m. (See table following for rate of application.)

For aircraft, calibrate application rates as in this example. For aircraft equipped to deliver 2.5 L of fuel oil or 5 L of water per hectare, mix 2.5 to 11.5 L of Dursban Turf to give 250 L of fuel oil mixture or 500 L of water emulsion and apply to 100 hectares. (See Table for rate of application). If regulations permit, spraying can be done at flight altitudes of 15 to 20 metres, covering a spray swath of 20 to 30 metres. Aerial applications should be made during early morning or evening when calm.

WARNING (Mosquito Control)

Dursban Turf is toxic to shrimp, crabs and fish. Do not apply to water containing valuable crustaceans and fish. Apply only in accordance with Federal, Provincial and local laws and regulations governing chemical treatment of bodies of water for control of mosquitoes.

AMOUNT TO USE PER HECTARE

| CONDITION OF AREA TO BE TREATED | Dursban Turf (mL) | Chlorpyrifos (g) |
|---|-------------------|------------------|
| Larval Control | | |
| None to medium vegetative cover or Low organic matter | 28-55 | 13-26 |
| Medium to heavy vegetative cover or High organic matter | 55-110* | 26-53* |
| Adult Control | | |
| Light to medium vegetative cover | 55 | 26 |
| Medium to heavy vegetative cover | 110* | 53* |

*The higher dosage of Dursban Turf should be used only where vegetative

cover is dense or where larval aquatic areas are high in organic matter. The use of this rate under conditions of little or no vegetation cover or low water organic content is harmful to fish or crustaceans and should be used where kill of these species can be tolerated.

FORESTRY-RESTRICTED USE - Western Canada Only

Mountain Pine Beetle

For ground use only to control small infestations of mountain pine beetle in lodgepole pine forest stands. Monitor stand in the period mid-June to mid-July to determine the trees which are infested. Apply treatment to infested trees within a few weeks of the expected beetle emergence, usually early July, in order to kill the adult beetles. Avoid spraying when conditions favour drift from spray area.

Use 1 L of Dursban Turf in 24 L of water (42 L in 1000 L of water) to make a spray containing 2% active ingredient by weight. Apply at a rate of 1 spray/m² bark prior to adult beetle emergence. Treat boles from ground level up to a height of at least 3 metres or until a bole diameter of 12.5 cm is reached.

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This label transcript service is offered by the Pest Management Regulatory Agency to provide efficient searching for label information. This service and this information do not replace the official hard-copy label. The PMRA does not provide any guarantee or assurance that the information obtained through this service is accurate, current or correct, and is therefore not liable for any loss resulting, directly or indirectly, from reliance upon this service.

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