

COMPENDIUM ON PESTICIDES  
REGISTERED FOR USE IN CANADA AGAINST  
PESTS OF FORESTS, TREES AND SHRUBS

Revised Edition - 1975

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Forestry Directorate  
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Chemical Control Research Institute

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ERRATA

Registration changes and consultations with registrants have revealed the following inaccuracies in this report. When the report is updated, the index will be changed accordingly.

- P. 8 Dosage: Should read "5 oz. in 100 gal WP"
- P. 9 The following should be added to the use pattern for *Bacillus thuringiensis* Berliner:
- ORNAMENTALS - WOODY  
bagworm, elm spanworm, fall cankerworm, fall webworm, gypsy moth, spring cankerworm, spruce budworm
- COM 4.5-9.0 billion i.u. per 100 gal WP  
HYDRAULIC SPRAYER: Apply at the first sign of infestation and repeat at intervals of 7 to 10 days as needed. Thorough coverage is essential for good control. Use the lower rate for cankerworms and fall webworm, and the higher rate for elm spanworm.  
MIST BLOWER: Mix the applicable amount per 10 gal.
- P. 11- Change all SN solution formulations to SU suspension.  
12
- P. 12 First entry: add "gypsy moth" and "oak leafminer".
- P. 12 Carbaryl is now registered for control of spruce budworm at the following rates:  
ORNAMENTALS: 8.5 - 17.0 oz. in 100 gallons WP  
FOREST: 8.0 - 16.0 oz. per acre SU  
Consult the label for full instructions (Temporary registration, 1975).
- P. 22 Other Names: delete "Amiben" and "Vegiben"; add "Ornamental Weeder".  
Guarantee: delete "chloramben (present as sodium salt)".
- P. 45 Bottom entry: before "scale insects", add "bagworm".
- P. 45- Both pages: change "DOM 1.5 oz in 10 gal." to "DOM 1.25 oz. in 10 gal".  
46
- P. 46 Opposite pulvinaria scales: change 30 oz. to 28 oz.
- P. 46 The following should be added to the use pattern for diazinon:  
ARALIA, AZALEA, ARBORVITAE, BIRCH, BOXWOOD, HOLLY, JUNIPER, OAK, PINE, YEW  
aphids, European pine shoot moth, DOM 1.0 oz. in 10 gal EC.  
caterpillars, flea beetles, leafhoppers, leafminers, mealybugs, spider mites, scale insects, thrips  
Spray plants thoroughly. Repeat as necessary.

(Continued on Reverse Side)

- P. 47 Bottom entry: add "CEDAR" to hosts and "cedar leafminer" to pests.
- P. 55 First entry, directions for use: 8th line should read "of height. Work into.."
- P. 65 Other Names: delete "Accothion"; add "Folithion"
- P. 65, 66 Directions for Use, both pages: for jack pine budworm, should be applied between 2nd and 4th instars, not 3rd and 6th.
- P. 65, 66 Fenitrothion will control spring cankerworm as well as fall cankerworm.
- P. 68 Other Names: delete "Tiguvon".
- P. 70, 71 Add "spider mites" after "thrips" on both pages.
- P. 75 First entry, directions for use: delete the line beginning "Use 10 gallons...". Check the label for instructions.
- P. 75 Second entry: Add "COM 8.0-16.0 oz in 100 gal WP".
- P. 76 Opposite GREENHOUSE ORNAMENTALS: add "COM 4.0 oz. in 100 gal WP".
- P. 79 First entry: Add the following dosages:  
 "DOM 0.1-1.0 oz. per gal EC, WP"  
 "COM 10-20 oz. per 100 gal EC, WP"
- P. 82 Other Names: Add "Methoxol".
- P. 85 Under B. SUPERIOR EMULSIVE OILS: Delete entire entry and replace by the following:
- ARBORVITAE, ASH, BARBERRY, ELM,  
 JUNIPER, LILAC, LOCUST, MAPLE (EXCEPT  
 SUGAR MAPLE AND JAPANESE MAPLE),  
 MOUNTAIN ASH, OAK, PACHYSANDRA, PINE,  
 SPRUCE (EXCEPT COLORADO BLUE SPRUCE),  
 TULIP-TREE, WILLOW, YEW  
 scale insects, spider mites
- DOM 4 fl oz in 1 gal EC  
 DORMANT: Apply in early spring when  
 danger of frost is past but before  
 leaf buds break. Spray on a sunny day  
 in the morning, so that trees dry quickly.
- P. 86 Second dosage: should read "per 100 gal".
- P. 97 Under BIRCH: delete "spider mites, thrips".
- P. 109 Under GREENHOUSE ORNAMENTALS: Add "leafrollers"
- P. 115 Other Names: delete "Vegadex"
- P. 126 Other Names: delete "Neguvon"
- P. 127 First line: should read "application, consult.....".

## PREFACE

This compendium is a revised edition of the "Compendium on Pesticides Registered for Use in Canada - 1971 - for Forests, Trees, Shrubs and Ornamentals", which was published by the Chemical Control Research Institute as Information Report CC-X-19 in February, 1972. The information contained herein has been extracted from draft pesticide use patterns supplied by the Canada Department of Agriculture. The entries have been prepared with the assistance of Canada Department of Agriculture personnel, and have been verified by the registrants prior to publication.

The Pest Control Products Act and Regulations is the federal legislation for the regulation of products used for the control of pests. Administered by the Minister of Agriculture, it gives the federal government the authority to regulate the manufacture, storage, display, distribution and use of pesticides and other control products. The Plant Products Division of the Department of Agriculture has the responsibility to ensure that the pesticides made available to the public are manufactured properly, labelled correctly, and that they are both effective and safe when used as directed.

An important aspect of the process for the registration of a pesticide is the review and approval of the information to appear on the product label. It is upon this labelling information that this Compendium is based. Questions relating to pesticide registration or usage in Canada should be referred to:

Chief, Control Products Section,  
Plant Products Division,  
Production and Marketing Branch,  
Canada Department of Agriculture,  
Ottawa, Ontario K1A 0C5  
(613) 994-9564

This book has been prepared as a general guide for foresters, entomologists, nurserymen, arborists, horticulturists, and pest control specialists, and to assist Canadian Forestry Service personnel in preparing recommendations for pest control in Canada; it is not intended to be an exhaustive or detailed reference source. Included in this listing are pests of forests, trees, shrubs, woody ornamentals, tree nurseries and plantations, shelterbelts, and woodlots. The following hosts have been excluded since they lie outside the expertise of the Chemical Control Research Institute: roses and other flowers, fruit trees, ivy and other ground covers, and house plants; enquiries concerning the control of pests on these plants should be addressed to the Information Division, Canada Department of Agriculture.

The present consolidation may not be regarded as a legal authority on registered pesticides in Canada. Moreover, this Compendium lists registration for use only, and does not necessarily constitute recommendation for use.

Any errors or omissions constituted in this work are solely the responsibility of the publisher (Chemical Control Research Institute).

Copies of this report and further details on the information contained herein, may be obtained by contacting:

Scientific and Technical Information Officer,  
Chemical Control Research Institute,  
Canadian Forestry Service,  
Department of the Environment,  
25 Pickering Place,  
Ottawa, Ontario.  
(613) 993-3490

Annual supplements will be provided for the purpose of updating the registrations.

## HOW TO USE THIS BOOK

The information given in this Compendium is a generalized summary of label instructions for pest control products in Canada. Pesticides are listed alphabetically according to product codes which are keyed to those in use by the Canada Department of Agriculture; the product codes identify active ingredients.

Pesticides included in this book are listed in Index A (at the back of the book) according to common name, chemical name, and other names.

Index B is a listing of insects, weeds, diseases and other pests. Because of regional discrepancies in the naming of pests, the user should search the index thoroughly when seeking information on a particular species. For example, for "spruce spider mite" the user should also consult the listings for "spider mites" and "mites".

Designated dosages are reported as active ingredient throughout this book.

For further details on the registered uses of any pest control product, the user should consult:

- the product label;
- the Chemical Control Research Institute;
- regional offices of the federal or provincial Departments of Agriculture;
- the manufacturer of the pesticide.

An explanation of the formats and terminology used in this book follows.

### PRODUCT CODE

The three-letter product code is given in the upper right-hand corner of the page. The code letters are keyed to those in use by the Canada Department of Agriculture. The product code identifies the active ingredient, and is not intended to identify formulated products or trade names.

### COMMON NAME

The common name given is, in most cases, that approved by the Committee on Common Names for Pest Control Chemicals and the Canadian Standards Association (CSA) Standards Policy Board, in liaison with The International Organization for Standardization (ISO) Technical Committee, and published in "Common Names for Pest Control Chemicals" (CSA Standard Z143-1974). For those chemicals considered by the Committee not to require common names, or where no common name has been approved, the trivial name or the most commonly used name is given.

## CHEMICAL NAME

The chemical name is that given in CSA Standard Z143-1974, and is consistent with the chemical name listed in the index of "Chemical Abstracts". Where it is not practicable to give the chemical name, the material is defined in terms of its origin.

## OTHER NAMES

These include alternative chemical names, trade names, and other names in common usage. In general, trade names begin with a capital letter.

## CATEGORY

Each pesticide is classified according to its purpose. Many chemicals serve more than one purpose and are identified accordingly. The following categories of pesticides are used in this book:

acaricide (miticide) - a pesticide used to prevent damage from or kill mites. A mite is a tiny eight-legged animal with a body divided into two parts; during the nymphal stage it has six legs, but it is not an insect. See insecticide.

animal repellent - a pesticide used to drive animals away in order to prevent damage to the plant.

bacteriocide - a pesticide used to prevent bacterial growth.

fungicide - a pesticide used to destroy or inhibit the spread of fungi or related plant diseases.

growth regulant - a pesticide used to increase, decrease or change the normal growth of an insect or mite, in this way preventing reproduction of, or damage by, that organism.

herbicide - a pesticide used to destroy or control weeds or undesirable plant growth.

insecticide - a pesticide used to control or destroy insects. See also acaricide.

nematocide - a pesticide used to destroy or control nematodes. Nematodes are microscopic round worms which cause damage and disease by feeding on the roots and other plant parts. Fungi and other pests may enter the wounds they make. They usually live in the soil.

pet repellent - see animal repellent.

plant growth regulator - a pesticide used to alter the growth and behaviour of a plant.

tree wound dressing - a pesticide used to prevent damage by pests to wounded, pruned or grafted trees by application to the exposed area.

## GUARANTEE IN TERMS OF

Every pesticide label must carry a guarantee statement indicating the amount of active ingredient contained in the product as a proportion of the weight or volume of the product. The units used vary according to the formulation. The active ingredient is identified by its common name, or by its chemical name where no common name has been established. The guarantee may also include the viscosity, pH or other property or specification determined to be necessary for guarantee purposes.

## MARKETING TYPES

Pesticides registered under the Pest Control Products Act are subject to marketing classification in the Domestic, Commercial or Restricted classes. Each product is classified according to its hazards to humans and the environment.

DOMESTIC CLASS (DOM): To fall within this class, a product must meet the following criteria:

- (a) Acute oral LD<sub>50</sub> is over 500 mg/kg;
- (b) Acute dermal LD<sub>50</sub> is over 1000 mg/kg;
- (c) Eye irritation may occur but no special precautions are necessary;
- (d) Persistence in the environment is less than one year (except for soil sterilants);
- (e) There must be no confusion with food or feed;
- (f) Disposal of product and containers can safely be done by placing in garbage;
- (g) Package should contain enough product for one year or less;
- (h) Environmental risks are minimal;

COMMERCIAL CLASS (COM): To fall within this class, a product must meet the following criteria:

- (a) Acute oral LD<sub>50</sub> is over 50 mg/kg;
- (b) Acute dermal LD<sub>50</sub> is over 100 mg/kg;
- (c) Environmental risks are minimal.



RESTRICTED CLASS (RES): To fall within this class, a product will have the following characteristics:

- (a) Acute oral LD<sub>50</sub> is less than 50 mg/kg;
- (b) Acute dermal LD<sub>50</sub> is less than 100 mg/kg;
- (c) Environmental risks are significant and will be judged accordingly.

NOTE: All pest control products used for purposes of forest management in Canada are assigned to the RESTRICTED class. There is a need for strict adherence to the directions for use of any pest control product in forest situations and for the consideration of regional conditions involving water courses, wildlife populations, human habitations, and non-target organisms generally, in order that no undue detrimental effect shall result from inattention to the rules of good operating practice. Application to conduct a forest pest control project must be made to the appropriate federal or provincial authorities in the region. The conditions and limitations applying to this type of use supplement the required label instructions, and are set out in Trade Memorandum T-104 of the Control Products Section, Plant Products Division, Canada Department of Agriculture. The restrictive conditions do not apply to uses of pest control products in tree seedling nurseries, rights-of-way, or other uses not directly related to tree production on forested lands.

#### FORMULATIONS

Each active ingredient may be available in a variety of formulations. Each formulated product is subject to registration in Canada. Formulations are defined below according to their use in this book:

- AE aerosol - a fine spray produced by pressurized gas that leaves very small droplets of pesticide suspended in the air. See also PS pressurized spray.
- DU dust - a dry mixture of a finely ground material carrying an active ingredient; to be used without dilution.
- EC emulsifiable concentrate - a liquid pesticide consisting of an active ingredient, a solvent, and an emulsifier; to be mixed with oil or water to form an emulsion.
- EM emulsion - a mixture of two or more immiscible liquids, such as oil and water, in which one is suspended or dispersed in the other in the form of very minute droplets and remains suspended for a period of time.
- GR granular - an active ingredient mixed with or coating relatively coarse particles; to be applied dry using seeders, spreaders, or special equipment.
- LI liquid - a pesticide formulated as a liquid to be applied with or without dilution.

- PA paste - a pesticide formulated as a paste to be applied usually by hand, without dilution.
- PS pressurized spray - a pesticide stored as a liquid in a container under pressure; a propellant forces the chemical out of the container as a fine spray which may or may not be light enough to float on air. See also AE aerosol.
- PT paint - a pesticide formulated as a viscous liquid to be applied with a brush to the area to be protected.
- SG soluble granules - a granular pesticide to be dissolved in water or other liquid before application.
- SN solution - a preparation made by dissolving a liquid, solid, or gaseous substance into another substance (usually a liquid) without a chemical change taking place.
- SO solid - a pesticide available in solid form; it may be in the form of a soluble cartridge, bait, blocks, pellets, etc. and may be ingested directly by the pest, vaporized, or dissolved by water or other agent.
- SP soluble powder - a dust to be dissolved in water or other liquid before application.
- SU suspension - a mixture in which fine particles of a pesticide chemical are dispersed, but not dissolved, in a gas or liquid; the particles settle out after a period of time.
- TA tablet - a pesticide in solid form to be applied individually as tablets.
- WP wettable powder - a pesticide in powder form which contains a wetting agent so that it can be readily mixed with water to form a suspension.

#### CAUTIONS

In the interest of brevity, precautionary and toxicological information has been omitted from this book, except in cases where it is included in the directions for use. The Pest Control Products Act and Regulations require that precautionary information appear in a prominent place on the product label. The label should always be read carefully before any pesticide is used.

#### LIMITATIONS

Limitations comprise part of the precautionary labelling for a formulated product, and do not apply generally to an active ingredient. In most cases limitations on the use of a particular control product are given along with the Directions for Use, under REGISTERED USES. In cases where limitations are repeated or are lengthy, they are given after the CAUTIONS statement and are identified by number under Directions for Use.

## REGISTERED USES

The information given under this heading is a generalization of the instructions appearing on the product labels. It is intended only as a general guide; the label should be consulted for complete instructions. The general format used is shown below:

### HOST OR LOCATION

pests to be controlled

MARKETING TYPES Dosage FORMULATIONS  
Type of Use, directions for use,  
precautionary information, limitations,  
special instructions, etc.

The hosts or locations for which the particular control product is registered have been generalized as much as possible. In this book, ornamental trees and shrubs are grouped under the heading "ORNAMENTALS - WOODY". Where only specific varieties are covered, this is indicated. The word "including" is used to indicate that a product is for general use but is especially effective on the varieties listed.

Insects, disease, weeds and other pests to be controlled are listed alphabetically by common name or the most commonly-used name.

Dosage is in all cases reported as active ingredient. In the case of mixtures, the proportional amounts of the active ingredients are given. The actual amount of formulated product to be applied depends on the formulation, and the label should be consulted.

Marketing Types and Formulations are given in abbreviated form.

Common Name: allyl alcohol  
Chemical Name: 2-propen-1-ol  
Category: bacteriocide, fungicide, herbicide  
Guarantee in Terms of: allyl alcohol  
Marketing Types: COM commercial  
Formulations: SN solution

Cautions: Precautionary information is included on the manufacturer's label.  
 READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

Limitations:

1. Do not plant seeds in treated soil within 10 to 14 days after treatment.
2. Do not apply when temperature exceeds 30° C.
3. Do not disturb seed bed after treatment deeper than drench penetration.

REGISTERED USES

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Types of Use	Dosage, Formulation and Directions
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GENERAL SEED BEDS: ORNAMENTALS,  
 NURSERY STOCK

harmful bacteria and fungi,  
 grass seed, weeds

COM 12.54 lb in 100 gal per 1000  
 sq ft. SN  
 Prepare the seed bed ready for  
 receiving the seed. The soil should  
 be finely pulverized and thoroughly  
 moistened throughout. The soil  
 temperature should be 10° to 16° C.  
 Apply the drench evenly over the  
 entire seed bed. Apply during cool  
 weather when wind movement is  
 sufficient to rapidly dissipate any  
 vapors. Sow seeds evenly, lightly  
 brush the surface and roll or pat  
 soil to cover the seed.  
 Limitations (1) (2) (3)

FOREST NURSERY BEDS

harmful bacteria and fungi,  
 grass seed, weeds

COM 66.88 lb - 133.76 lb in 3840 gal  
 per acre SN  
 Follow instructions as for general seed  
 beds. Application may be made by over-  
 head irrigation systems.  
 Limitations (1) (2) (3)

AMINOCARB

AMC

Common Name: aminocarb  
Chemical Name: 4-(dimethylamino)-m-tolyl methylcarbamate  
Other Name: Matacil  
Category: insecticide  
Guarantee in Terms of: aminocarb  
Marketing Type: RES restricted  
Formulations: SN solution

Cautions: Precautionary information is included on the manufacturer's label.  
READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

Limitations:

1. This product is to be used only in the manner authorized; contact local authorities regarding appropriate use permits that may be required.

REGISTERED USES

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Types of Use

Dosage, Formulation and Directions

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FOREST

spruce budworm

RES 0.74 - 1.23 oz in 20 fluid ounces  
oil per acre SN  
Temporary Registration 1975. Apply by  
aircraft as a low volume or ultra low  
volume spray. Dilute concentrate with a  
suitable oil such as diesel or Aerotox  
3470. Make two applications 5 to 6  
days apart, using rates within the  
above range in each application.  
Limitation (1).

Common Name: amitrole  
Chemical Name: 3-amino-s-triazole  
Other Names: aminotriazole, Amizol, Amitrol T, Cytrol, ATA  
Category: herbicide  
Guarantee in Terms of: amitrole  
Marketing Types: COM commercial  
Formulations: SN solution  
 WP wettable powder

Cautions: Precautionary information is included on the manufacturer's label.  
 READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

REGISTERED USES

Type of Use	Dosage, Formulation and Directions
SHELTERBELTS weeds	COM 4-6 lb in 100 gal per acre SN ESTABLISHED PLANTINGS ONLY: Apply as a directed spray to weed foliage. Do not allow spray to contact the trunks or foliage of shelterbelt plantings; use a hooded sprayer if necessary.

MIXTURES CONTAINING AMITROLE

1. with simazine (SMZ)

CHRISTMAS TREE PLANTATIONS, FOREST  
 PLANTATIONS, NURSERY STOCK, ORNAM-  
 ENTALS - WOODY (AMERICAN BEECH,  
 AMERICAN ELM, ARBORVITAE (THUJA),  
 CHINESE ELM, DOGWOOD, DOUGLAS FIR,  
 EASTERN HEMLOCK, JAPANESE HOLLY,  
 JAPANESE MAPLE, JUNIPER, LONDON  
 PLANE TREE, NORWAY SPRUCE, RED PINE,  
 RED SPRUCE, SCOTCH PINE, SILVER  
 MAPLE, VIBURNUM, WHITE ASH, WHITE  
 SPRUCE, YEW (TAXUS))

blue grass, Canada thistle, COM AMI: 1.05 lb SMZ: 3.15 lb in 80  
 chrysanthemum weed, crab grass, gal per acre WP

dandelion, foxtail, kochia,  
lamb's-quarters, mustard, night-  
shade, pigweed, quack grass,  
ragweed, smartweed, sow-thistle,  
plantain, poison ivy, purslane,  
velvet grass, wild oats, witch  
grass

To establish Christmas tree and forest plantations in sod, treat weeds in spring with a band spray. Plant tree seedlings into the treated band after 7 to 10 days or when weeds begin to turn white. Do not plant in furrows. For weed control in established plantings: Treat only plants which have been established one year or more. Use a directed spray to avoid contact with stems and foliage of desirable plants. Use only preplant treatment on spruce, fir and pine.

ASPHALT SOLIDS

ASP

Common Name: asphalt  
Other Names: Braco  
Category: tree wound dressing  
Guarantee in terms of: asphalt  
Marketing Types: DOM domestic  
Formulations: EM emulsion  
PS pressurized spray

Cautions: Precautionary information is included on the manufacturer's label.  
READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

REGISTERED USES

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Type of Use	Dosage, Formulation and Directions
TREES grafts, wounds	DOM ASP: 48.8 EM Treat injuries promptly to prevent infection. The surface area to be treated must be free from loose bark and dirt. If the cut, wound, break or abrasion is rough, cut clean with a sharp knife or saw. Clear away all dead or diseased portions of wood or bark; this may require cutting out diseased portions. Apply a heavy coat of asphalt emulsion. Before application, sterilize old wounds which are infected. For large cavities, remove decayed wood and insects, sterilize, and fill with a Portland-cement concrete mixture; when set, coat heavily with asphalt emulsion.
ORNAMENTALS - WOODY grafts, wounds	DOM ASP: 20 PS Treat all cuts on shrubs and cuts over 1/2 inch or more on trees. Trim rough edges of cuts before application. Spray to uniformly cover the entire cut surface.



BENOMYL

BML

Common Name: benomyl  
Chemical Name: methyl 1-(butylcarbamoyl)-2-benzimidazolecarbamate  
Other Names: Benlate  
Category: fungicide  
Guarantee in Terms of: benomyl  
Marketing Types: DOM domestic  
COM commercial  
Formulations: WP wettable powder

Cautions: Precautionary information is included on the manufacturer's label.  
READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

REGISTERED USES

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<u>Type of Use</u>	<u>Dosage, Formulation and Directions</u>
GREENHOUSE ORNAMENTALS, ORNAMENTALS- WOODY gray mold (botrytis), powdery mildew	DOM 0.05 oz in 1 gal WP COM 5 oz in 100 gal WP Apply when disease first appears and repeat at intervals of 10 to 14 days as long as needed.

BONE OIL

BON

Common Name: bone oil  
Other Names: Dippel's oil  
Category: pet repellent  
Guarantee in terms of: bone oil  
Marketing Types: DOM domestic  
Formulations: DU dust  
PS pressurized spray  
SN solution

Cautions: Precautionary information is included on the manufacturer's label.  
READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

REGISTERED USES

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Type of Use	Dosage, Formulation and Directions
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MIXTURES CONTAINING BONE OIL

1. with mustard oil (MUS) and oil of lemongrass (OAL)

ORNAMENTALS-WOODY

repels: dog

DOM BON : 8.0% MUS: 0.2% OAL: 2.0% DU  
DOM BON : 1.0% MUS: 0.5% OAL: 3.5% PS  
Apply to lower branches, tree trunks,  
and soil around plants. Use in conjunc-  
tion with training.

2. with mustard oil (MUS), paradichlorobenzene (PDB) and oil of sassafras (OAN)

ORNAMENTALS-WOODY

repels: cat, dog.

DOM BON: 0.5% MUS: 0.25% OAN: 0.25% PDB: 1.0% SN  
Spray lightly on objects to be protected.  
Do not wet plants. Repeat as necessary.  
Use in conjunction with training.

DIENOCHLOR

BPC

Common Name: dienochlor  
Chemical Name: bis(pentachloro-2,4-cyclopentadien-1-yl)  
Other Names: Pentac  
Categorization: acaricide  
Guarantee in Terms of: dienochlor  
Marketing Types: COM commercial  
Formulations: WP wettable powder

Cautions: Precautionary information is included on the manufacturer's label.  
READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

REGISTERED USES

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Type of Use	Dosage, Formulation and Directions
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ARBORVITAE, HEMLOCK, SPRUCE  
twospotted spider mite

COM 4 oz in 100 gal WP  
Apply for thorough coverage of all  
leaf surfaces.

Common Name: Bacillus thuringiensis Berliner var kurstaki

Other Names: Thuricide, Dipel

Category: insecticide

Guarantee in Terms of: Bacillus thuringiensis Berliner var kurstaki  
(international units)

Marketing Types: COM commercial  
DOM domestic  
RES restricted

Formulations: SU suspension  
WP wettable powder

Cautions: Precautionary information is included on the manufacturer's label.  
READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

REGISTERED USES

Type of Use	Dosage, Formulation and Directions
ORNAMENTALS-WOODY fall cankerworm, gypsy moth, spring cankerworm, spruce budworm, tent caterpillar	DOM 0.06-0.30 billion i.u. in 3 gal SU Apply at first sign of infestation and repeat at weekly intervals as needed to maintain control. Thoroughly cover all foliage surface. Use a hand sprayer or approved hose-end sprayer. For gypsy moth, apply when leaf expansion reaches 40 to 50% and use 0.24 to 0.30 billion i.u. in 3 gallons. If eggs hatch over a long period of time or if reinfestation occurs, spray about 14 days after first application. For spruce budworm, apply when larvae appear, about mid-May, and use a rate of 0.24 billion i.u. in 3 gallons of water.
FOREST fall cankerworm, spring cankerworm, tent caterpillar	RES 2.0-3.6 billion i.u. per acre SU AERIAL APPLICATION, LOW-VOLUME: Apply to dry foliage, using nozzle systems capable of delivering droplet sizes below 300 microns. Thorough coverage is essential.
gypsy moth	RES 8.4 billion i.u. per acre SU GROUND APPLICATION: Spray when leaf expansion reaches 40 to 50 percent. If eggs hatch over a long period of time

or if reinfestation occurs, repeat about 14 days after the first application. Apply in up to 100 gallons of water by hydraulic sprayer or in 10 gallons of water by mistblower. Wet foliage thoroughly, but not to the point of excessive runoff. To prevent washoff by rain, add a sticker.

RES 3-8.4 billion i.u. in 1-4 gal per acre # SU

AERIAL APPLICATION, LOW-VOLUME: Spray when leaf expansion reaches 40 to 50 percent. If eggs hatch over a long period of time or if reinfestation occurs, spray about 14 days after first application. Apply to dry foliage using aircraft with nozzle systems capable of delivering droplet sizes below 300 microns. Thorough coverage is essential. Some formulations require addition of evaporation retardants.

spruce budworm

RES 6.0-8.4 billion i.u. per acre # SU  
RES 3.63-7.26 billion i.u. in 0.4-4 gal per acre # WP

AIRCRAFT APPLICATION: Apply soon after the fir buds have opened, before the larvae reach the fifth instar. If the forest stand contains a significant number of spruce in addition to fir, a second application may be necessary after the spruce buds have opened. Use aircraft systems which produce a small droplet size (80 to 200 microns) and good droplet distribution (25 to 50 droplets per cm<sup>2</sup>).

ORNAMENTALS-WOODY

bagworm, elm spanworm,  
fall cankerworm, fall  
webworm, spring cankerworm,  
spruce budworm, tent  
caterpillars

COM 2.4-8.4 billion i.u. per acre # SU  
Apply in up to 100 gallons of water by hydraulic sprayer or in 10 gallons by mistblower. Apply at first sign of infestation when worms are small, and repeat as necessary. Wet foliage thoroughly, but not to the point of excessive runoff. To prevent washoff by rain, add a sticker. For bagworm, use 4.8-7.2 billion i.u. per acre; for elm spanworm or fall webworm, use 3.6-7.2 billion i.u.; for cankerworm or tent caterpillars, use 2.4-3.6 billion i.u.;

for spruce budworm, use 6.0-8.4 billion i.u. If larval densities of spruce budworm are high, repeat 3 to 5 days later.

gypsy moth

COM 8.4 billion i.u. per acre # SU  
Apply when leaf expansion reaches 40 to 50 percent. If eggs hatch over a long period of time or if reinfestation occurs, repeat about 14 days after the first application. Apply in up to 100 gallons by hydraulic sprayer or in 10 gallons by mistblower. Wet foliage thoroughly, but not to the point of excessive runoff. To prevent washoff by rain, add a sticker.

ORNAMENTALS-WOODY

bagworm, elm spanworm, fall  
cankerworm, fall webworm,  
gypsy moth, spring  
cankerworm, spruce budworm,  
tent caterpillars

COM 4.5-9.0 billion i.u. in 100 gal -  
hydraulic sprayer # WP  
COM 4.5-9.0 billion i.u. in 10 gal -  
mistblower # WP  
Apply at first sign of infestation and repeat at intervals of 7 to 10 days. A spreader-sticker may be added. Good coverage of all leaves is essential. Use the high rate for elm spanworm, the low rate for cankerworm and webworms.

Common Name: carbaryl

Chemical Name: 1-naphthyl methylcarbamate

Other Name: Sevin, Sevimol

Category: acaricide, insecticide, growth regulant

Guarantee in Terms of: carbaryl

Marketing Types: DOM domestic  
COM commercial  
RES restricted

Formulations: EC emulsifiable concentrate  
DU dust  
PS pressurized spray  
SU suspension  
WP wettable powder

Cautions: Precautionary information is included on the manufacturer's label.  
READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

Limitations:

1. Some leaf injury may occur if treatments are made when tender foliage is wet or in the presence of prolonged high humidity.
2. Do not use on Boston Ivy or Virginia Creeper.
3. Nature of Restriction: This product is to be used only in the manner authorized; contact local authorities regarding appropriate use permits that may be required.
4. May appear on Commercial classified product label as minor use.

REGISTERED USES

Type of Use	Dosage, Formulation and Directions
FOREST gypsy moth	RES 1.2 lb in 1 qt per acre SU Aerial Application: Apply as a ULV spray when larvae are in early instars and leaves of deciduous trees are at least 1/3 grown. For use only by Plant Protection Division, Canada Department of Agriculture. Limitations (3) (4).

ARBORVITAE (THUJA), AZALEA, BIRCH,  
BOXWOOD, DOGWOOD, ELM, HOLLY,  
HYDRANGEA, JUNIPER, LILAC, MAPLE,  
OAK, PINE

bagworm, birch leaf-miner, black  
vine weevil (*Taxus* weevil),  
blister beetles, boxelder bug,  
boxwood leafminer, cankerworms,  
elm leaf aphid, elm leaf beetle,  
flea beetles, gypsy moth,  
Japanese beetles, June beetles,  
lace bugs, leaf-hoppers, leaf-  
rollers, mealybugs, oak leafminer,  
pine sawflies, plant bugs,  
psyllids, scale insects  
(crawlers), tent caterpillars,  
thrips (exposed), willow leaf  
beetle

DOM 2-2.5 oz in 10 gal SU, WP  
COM 16-24 oz in 100 gal SU, WP  
Spray in the early morning or evening.  
Repeat at intervals of 7 to 14 days.  
For scale insects, apply when crawlers  
are present.

Limitations (1) (2)

DOM COM 5% Dust DU

Apply a light, even coat to both sides  
of the foliage.

Repeat as necessary.

Limitations (1) (2)

DOM 1% spray PS

Spray with slow sweeping motion 24 inches  
from foliage when insects or damage  
appears. Spray underside of leaves. Do  
not wet plants or apply a visible deposit.

Limitations (1) (2)

ASH, ARBORVITAE (THUJA), BARBERRY,  
BEECH, BIRCH, BOXWOOD, CATALPA,  
CEDAR, CYPRESS, DOGWOOD, ELM,  
EUONYMUS, GINGKO, HACKBERRY,  
HAWTHORN, HOLLY, HONEYSUCKLE,  
JUNIPER, MAGNOLIA, MAPLE, OAK,  
PINE, REDBUD, TULIP-TREE

bagworm, birch leafminer,  
boxelder bug, boxwood leafminer,  
cankerworms, Coolay spruce gall  
aphid, elm leaf beetle, elm  
spanworm, gypsy moth, Japanese  
beetle, June beetles, lace bugs,  
leafhoppers, leafrollers, mealy-  
bugs, pine sawflies, rust mites,  
scale insects (crawlers), tent  
caterpillars, thrips (exposed),  
webworms, willow leaf aphid

COM 16-24 oz in 100 gal SU

Apply when insects or their damage first  
appears. Repeat weekly or as necessary.

CHRISTMAS TREE PLANTATIONS, FARM  
WOODLOTS, MUNICIPAL PARKS, RIGHTS-  
OF-WAY

spruce budworm

COM 8.0-17.0 oz in 100 gal dilute spray WP  
Apply when most of the larvae are in the  
fourth instar. For mistblower application,  
adjust concentration to give an equivalent  
amount of active ingredient per acre.



BALSAM FIR AND SPRUCE FORESTS  
spruce budworm

RES 8.0-16.0 oz per acre SU  
Temporary registration 1976.  
AERIAL APPLICATION: Apply in finished  
volume of spray of 20 to 64 ounces per  
acre. For best results, spray when  
majority of larvae are fourth instar.  
Limitation (3)

MIXTURES CONTAINING CARBARYL

1. with endosulfan (ESF)

ORNAMENTALS - WOODY

boxelder bug, caterpillars,  
elm leaf beetle, fall webworm,  
juniper webworm, lace bugs,  
leafhoppers, willow leaf  
beetle

DOM CAB: 4% ESF: 2% DU  
Apply when insects are first noticed  
and repeat as necessary. Do not apply  
to plants in flower, as this product is  
extremely poisonous to bees.

BIRCH

birch leafminer

DOM CAB: 4% ESF: 2% DU  
Apply when first leaves are fully  
expanded and repeat in the first week  
of July.

SPRUCE

spruce gall aphid

DOM CAB: 4% ESF: 2% DU  
Apply in spring before the buds burst.

2. with malathion (MAL)

ORNAMENTALS - WOODY (INCLUDING  
AZALEA, BOXWOOD, DOGWOOD, EUONYMUS,  
HOLLY, LILAC, RHODODENDRON)

aphids, black vine weevil,  
caterpillars, cankerworms,  
lace bugs, leafhoppers,  
leafminers, sawflies, scale  
insects, spider mites

DOM CAB: 5% MAL: 4% DU  
DOM CAB: 5% MAL: 10% WP  
Use 8 level tablespoons of the WP per  
gallon of water and apply as a medium  
fine spray. As a dust, apply a thin  
even coat to the foliage. Apply when  
air is still. Time of application  
as below:  
for chewing insects and aphids, when  
they first appear; for leafminers, when  
leaves start opening and again 3 and 6  
weeks later; for scale insects, when  
crawlers are present; for mites, every  
7 to 10 days; and for black vine weevil  
in late June and early July. Do not  
use on Boston Ivy, Virginia creeper,  
or juniper. Do not apply when plants  
are in flower as this product is  
extremely poisonous to bees.

3. with oxydemeton-methyl (ODM) and dicofol (DCF)

ORNAMENTALS - WOODY (INCLUDING  
AZALEA, BOXELDER, CAMELLIA,  
DOGWOOD, HIBISCUS, LILAC,  
PRIVET)

aphids, armyworms, boxelder  
bug, caterpillars, cucumber  
beetles, earwigs, elm leaf  
beetle, flea beetles, grass-  
hoppers, leafminers, leaf-  
rollers, meadow spittlebug,  
mealybugs, plant bugs,  
psyllids, rust mites, sawfly  
larvae, scale insects (crawlers),  
spider mites, thrips (exposed),  
woolly aphids

DOM CAB: 0.45 oz ODM: 0.45 oz DCF:  
0.18 oz in 10 gal EC

Spray thoroughly to wet both sides of  
foliage. Repeat at 2-week intervals  
as necessary. Do not use inside  
buildings.

CAPTAN

CAP

Common Name: captan  
Chemical Name: N-[(trichloromethyl)thio]-4-cyclohexene-1,2,-dicarboximide  
Category: fungicide  
Guarantee in Terms of: captan  
Marketing Types: DOM domestic  
COM commercial  
Formulations: DU dust  
SU suspension  
WP wettable powder

Cautions: Precautionary information is included on the manufacturer's label.  
READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

REGISTERED USES

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Type of Use	Dosage, Formulation and Directions
ORNAMENTALS - WOODY damping-off, root rot	DOM COM 2-3.5 oz. per 1000 sq ft DU, SU, WP SOIL TREATMENT: Work into the upper 3 to 4 inches of soil before planting.
CAMELLIA gray-mold blight	DOM 1.6 oz. in 10 gal WP DOM 16 oz. in 100 gal WP Apply to foliage and soil around plants. Spray weekly or bi-weekly before and during flowering season, especially following rain or damp weather.
LILAC gray-mold blight	DOM COM 7.5% dust DU Apply when disease first appears and repeat at intervals of 7 to 10 days as necessary.
AZALEA stem rot of cuttings	DOM COM 0.38-0.64 oz per gal WP Dip cuttings for 20 to 30 minutes. Drain before planting.

MIXTURES CONTAINING CAPTAN

1. with sulphur (SUL)

LILAC

downy mildew, powdery mildew

DOM CAP: 1.6 oz SUL: 6.4 oz in 10 gal WP  
COM CAP: 16 oz SUL: 64 oz in 100 gal WP  
DOM COM CAP: 5% SUL: 20% DU  
Apply at intervals of 7 to 14 days.

QUINCE (FLOWERING), HAWTHORN  
leaf spot

DOM COM CAP: 5% SUL: 20% DU  
Dust thoroughly at frequent intervals.

2. with dinocap (DIN)

HYDRANGEA

gray-mold blight, powdery  
mildew

DOM CAP: 2 oz DIN: 0.25 oz in 10 gal WP  
COM CAP: 20 oz DIN: 2.5 oz in 100 gal WP  
Apply when the disease is first noticed  
and repeat at intervals of 5 to 10 days or  
as necessary.

3. with carbathiin (VIT)

TREE SEEDLINGS

Pythium, Rhizoctonia

COM CAP: 0.96 oz VIT: 0.24 oz in 100 gal  
per 1000 sq ft WP  
SOIL DRENCH: Apply immediately before or  
after seeding and at intervals of 7 to 14  
days thereafter.

CAPSAICIN

CAS

Common Name: capsaicin  
Chemical Name: 8-methyl-N-vanillyl-6-nonenamide  
Other Name: oleoresin of capsicum  
Category: animal repellent  
Guarantee in Terms of: capsaicin  
Marketin Type: DOM domestic  
Formulations: SO solid  
Cautions: Precautionary information is included on the manufacturer's label.  
READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

REGISTERED USES

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Type of Use	Dosage, Formulation and Directions
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MIXTURES CONTAINING CAPSAICIN

1. with paradichlorobenzene (PDB)

ORNAMENTALS - WOODY  
repels: cat, dog

DOM CAS: 0.175% PDB: 99% SO  
Water thoroughly to remove odours left by animals, and then hang the units 10 to 15 inches from the ground on the object to be protected. Place units at intervals of 2 to 3 feet. For gardens and flower borders, attach to stakes or plant markers. Use in conjunction with training.

Common Name: chlorobenzilate  
Chemical Name: ethyl 4,4'-dichlorobenzilate  
Category: acaricide  
Guarantee in Terms of: chlorobenzilate  
Marketing Type: COM commercial  
Formulations: EC emulsifiable concentrate  
 SN solution

Cautions: Precautionary information is included on the manufacturer's label.  
 READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE

REGISTERED USES

Type of Use	Dosage, Formulation and Directions
ARBORVITAE, HEMLOCK, SPRUCE spruce spider mite	COM 4.8 - 7.2 oz in 100 gal EC Apply when mites first appear. Repeat as necessary.
AZALEA, YEW (TAXUS) twospotted spider mite	COM 4.8 - 7.2 oz in 100 gal EC Apply when mites first appear. Repeat as necessary.
HOLLY southern red mite	COM 4.8 - 7.2 oz in 100 gal EC Apply when mites first appear. Repeat as necessary.
GREENHOUSE ORNAMENTALS spider mites	COM .025 oz per 1000 cu ft SN Close all ventilators and windows, turn off misting systems, and be certain foliage and blossoms are dry. Post warning signs and prevent entry of people and animals. Apply by thermal fogger, from a distance of at least 4 feet from the plants. Keep room closed for at least 1 1/2 hours after fogging. Ventilate at least 1 hour before re-entering. Make five applications at intervals of 3 days. Do not apply to edible crops.

CHLORFLURECOL-METHYL WITH DICHLORFLURECOL-METHYL  
AND FLURECOL-METHYL

CFM

Common Names: chlorflurecol-methyl (CFM)  
dichlorflurecol-methyl (DFM)  
flurecol-methyl (FCM)

Chemical Names: methyl-2-chloro-9-hydroxyfluorene-9-carboxylate (CFM)  
methyl-2,7-dichlor-9-hydroxyfluorene-9-carboxylate (DFM)  
methyl-9-hydroxyfluorene-9-carboxylate (FCM)

Other Name: Maintain CF-125

Categorization: plant growth regulator

Guarantee in Terms of: chlorflurecol-methyl, dichlorflurecol-methyl,  
and flurecol-methyl.

Marketing Type: COM commercial

Formulation: EC emulsifiable concentrate

Caution: Precautionary information is included on the manufacturer's label.  
READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

REGISTERED USES

Type of Use

Dosage, Formulation and Directions

ORNAMENTALS - WOODY (AMERICAN ELM,  
ASH, ASPEN POPLAR, BALSAM POPLAR,  
BASSWOOD, FIR, NORWAY MAPLE, OAK,  
PINE, SUGAR MAPLE, SYCAMORE-MAPLE,  
WHITE POPLAR)

to retard growth of brush  
and trees

COM CFM: 0.57 - 5.16 oz DFM: 0.14-1.26  
oz FCM: 0.12 - 1.08 oz in 100 gal (50-  
450 ppm) EC  
GENERAL INSTRUCTIONS: For use adjacent  
to highways, in hedge rows and parks,  
and under utility lines. Apply as a  
foliage spray after a flush of growth,  
or after pruning and the new leaves have  
fully developed so that the plant is in  
the desired density, size, and shape.  
Tender new growth may curl or twist.  
Flowering species treated before bud  
expansion may have a blossom reduction.  
Woody plant growth will be retarded for  
2 months; and deciduous hardwoods, up to  
a year or more. Gymnosperms (conifers,  
etc.) must be treated before buds expand  
in order to prevent distortion of new  
growth. Treatment when candles are tender  
often causes developing branches to droop.

CHLORFLURECOL-METHYL WITH DICHLORFLURECOL-METHYL  
AND FLURECOL-METHYL

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CFM

AMERICAN ELM, OAK:

COM CFM: 1.72 oz DFM: 0.42 oz FCM: 0.36  
oz in 100 gal (150 ppm) EC

ASH, ASPEN POPLAR, BALSAM POPLAR,  
BASSWOOD, WHITE POPLAR:

COM CFM: 1.72 - 5.16 oz DFM: 0.42 - 1.26 oz  
FCM: 0.36 - 1.08 oz in 100 gal (150 - 450  
ppm) EC

FIR, NORWAY MAPLE, SYCAMORE-MAPLE:

COM CFM: 0.57 oz DFM: 0.14 oz FCM: 0.12  
oz in 100 gal (50 ppm) EC

PINE:

COM CFM: 0.57 - 1.72 oz DFM: 0.14 - 0.42 oz  
FCM: 0.12 - 0.36 oz in 100 gal (50- 150 ppm) EC

SUGAR MAPLE:

COM CFM: 3.44 oz DFM: 0.84 oz FCM: 0.72  
oz in 100 gal (300 ppm) EC



Common Name: chloramben

Chemical Name: 3-amino-2,5-dichlorobenzoic acid

Other Names: Amiben, Vegiben

Category: herbicide

Guarantee in Terms of: chloramben (present as ammonium salt),  
chloramben (present as sodium salt)

Marketing Types: DOM Domestic  
COM Commercial

Formulations: GR granular  
SN solution

Cautions: Precautionary information is included on the manufacturer's label.  
READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

REGISTERED USES

Type of Use

Dosage, Formulation and Directions

ARBORVITAE (THUJA), ASH, AZALEA,  
IVY, JUNIPER, PRIVET, RHODODENDRON,  
SPIREA, YEW (TAXUS)

annual weeds (barnyard grass,  
carpetweed, chickweed, crab  
grass, dock, fall panicum,  
foxtails, lamb's-quarters,  
pigweed, purslane, ragweed,  
smartweed, velvetleaf).

DOM 1.2 oz per 1000 sq ft GR  
COM 4 lb per acre GR  
Allow transplants to become established  
(about 2 weeks from setting out) before  
application. Treat established plants  
in the spring or summer. Spread evenly  
on clean cultivated soil. Keep as much  
off the foliage as possible, and do not  
apply when foliage is wet. Shrubs may  
receive a second application later in  
the summer if necessary. Stir soil in  
the shrub beds during summer to break up  
the crust that usually forms. Remove any  
weeds, stir the soil, then apply.  
Moisture is necessary to carry the  
chemical into the soil where weeds sprout.  
If there is insufficient moisture within  
3 to 4 days after application, then cultivate  
lightly to control germinating weeds. Do  
not disturb the treated areas. Poor weed  
control may occur on sandy soils if heavy  
rains should wash the chemical into the  
soil.

ARBORVITAE (THUJA), AZALEA, HICKORY,  
JUNIPER\*, RED MAPLE\*, RED OAK\*,  
SASSAFRAS\*, SPIREA, WATER OAK\*,  
WHITE ASH\*

annual weeds (carpetweed, chick-  
weed, crab grass, fall panicum,  
foxtails, lamb's-quarters,  
pigweed, purslane, ragweed,  
smartweed)

COM 4 lb per acre GR

Do not apply until 6 weeks after  
transplanting. Plants marked with  
asterisk (\*) may be treated without  
injury if established for less than  
one month. Apply in the spring to  
clean cultivated soil. Moisture is  
required within one week of application.  
If no rain falls, apply one-half inch  
of overhead irrigation to wash the  
herbicide into the soil. Do not  
incorporate.

SHELTERBELTS (DECIDUOUS SPECIES)

annual weeds (barnyard grass,  
carpetweed, chickweed, dock,  
fall panicum, green foxtail,  
large crab grass, lamb's-  
quarters, mustard, Pennsylvania  
smartweed, pigweeds, purslane,  
ragweeds, smooth crab grass,  
velvetleaf, yellow foxtail).

COM 4-6 lb in 30-50 gal per acre SN

Apply in new and established shelter-  
belt plantings of deciduous shelter-  
belt species only. Use the higher rate  
on clay soils or on soils high in organic  
matter. Adequate soil moisture is  
necessary for activation of the chemical  
in the soil. If the soil surface is dry  
at the time of application, add 1/2 inch  
of water by sprinkler irrigation. The  
soil should be free of weeds, trash,  
and debris at the time of application.  
Do not treat new plantings until at least  
7 to 10 days after transplanting.

CHLORTHAL

CHL

Common Name: chlorthal (present as acid or present as dimethyl ester)  
Chemical Name: tetrachloroterephthalic acid or dimethyl tetrachloroterephthalate  
Other Name: Dacthal  
Category: herbicide  
Guarantee in Terms of: chlorthal  
Marketing Types: DOM domestic  
COM commercial  
Formulations: GR granular  
WP wettable powder

Cautions: Precautionary information is included on the manufacturer's label.  
READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

REGISTERED USES

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Type of Use	Dosage, Formulation and Directions
ORNAMENTALS - WOODY (BARBERRY, BOXWOOD, DOGWOOD, DEUTZIA, ENGLISH IVY, EUONYMUS, FIR, FORSYTHIA, HAWTHORN, HOLLY, HONEYSUCKLE, JUNIPER, LILAC, LOCUST, MAGNOLIA, MAPLE, PACHISTIMA, OAK, PRIVET, SPIREA, SYCAMORE, TULIP-TREE, VIBURNUM, WALNUT, WEIGELIA, WILLOW, YEW (TAXUS)	
annual grasses and broadleaf weeds (annual blue grass, barnyard grass, browntop panicum, chickweed, green foxtail, ground-cherry, lamb's-quarters, large crab grass, love grass, nodding spurge, purslane, red-root pigweed, smooth crab grass, witch grass, yellow foxtail).	DOM 4.8 oz per 1000 sq ft GR DOM 3.75 - 4 oz in 1-2 gal per 100 sq ft WP COM 12.5 - 15 lb per acre GR COM 11.25 lb in 30 gal per acre WP For the pre-emergence treatment of grasses and broadleaf weeds. Apply in dry form or as a spray. Early spring applications at the lower rate or fall applications at the higher rate should be made to soil recently cultivated to a uniform texture. Apply immediately after transplanting or at any time after plant beds have been weeded. Where possible this should be done in early spring. Apply within 2 to 3 days maximum after last cultivation (to prevent surface germinating weeds from becoming established before the herbicide is activated). Late summer applications may prove to be beneficial

CHLORTHAL

CHL

for control of fall germinating weeds. Water the treated area within 2 days after application. Avoid digging or hoeing the soil after application as this destroys the long-lasting weed prevention. However, a light raking (not deeper than 1 inch) will not cause loss of effectiveness. Do not use on muck soils.

NURSERY STOCK (ESTABLISHED),  
ORNAMENTALS - WOODY (ABELIA,  
BARBERRY, BOXWOOD, DOGWOOD,  
DEUTZIA, ENGLISH IVY, EUONYMUS,  
FIR, FORSYTHIA, HAWTHORN, HOLLY,  
HONEYSUCKLE, JUNIPER, LILAC, LOCUST,  
MAGNOLIA, MAPLE, OAK, PACHISTIMA,  
SPIREA, SYCAMORE, TULIP-TREE,  
VIBURNUM, WALNUT, WEIGELIA, WILLOW,  
YEW (TAXUS))

weeds as listed above

DOM 4.8 - 5.6 oz per 1000 sq ft GR  
DOM 3.75 - 4 oz in 1 - 2 gal per 1000 sq ft WP  
COM 12.5 - 15 lb per acre GR  
COM 11.25 lb in 30 gal per acre WP  
Apply on the soil immediately after transplanting or at any time after plant beds have been weeded and soil is clean. With established plantings, apply after cultivating to remove existing weeds, preferably in spring. Late summer or fall application following cultivation can be made for control of fall germinating weeds. Application should be made with 2 to 3 days maximum after cultivation (to prevent surface germinating weeds from becoming established before the herbicide is activated). Apply evenly without skips or misses. For granular application, use the lower rate in spring and the higher rate in fall. Avoid disturbing the soil surface following application. If there is no effective rainfall within 3 or 4 days of application, sprinkler irrigation should be used for best results. Do not use on muck soils.

CHLOROPHACINONE

CHP

Common Name: chlorophacinone  
Chemical Name: 2[(p-chlorophenyl)phenylacetyl]-1,3-indandione  
Other Name: Rozol  
Category: rodenticide  
Guarantee in Terms of: chlorophacinone  
Marketing Types: COM commercial  
Formulations: BA bait  
Cautions: Precautionary information is included on the manufacturer's label.  
READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

REGISTERED USES

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Type of Use	Dosage, Formulation and Directions
TREE PLANTATIONS deer mouse, meadow vole	COM 0.01% bait. BA Apply as a broadcast treatment during spring or fall. Use 15 pounds of formulated bait per acre.

Common Name: chlorpropham  
Chemical Name: isopropyl m-chlorocarbanilate  
Other Names: CIPC, Chloro-IPC  
Category: herbicide  
Guarantee in Terms of: chlorpropham  
Marketing Types: COM commercial  
Formulations: EC emulsifiable concentrate  
 GR granular

Cautions: Precautionary information is included on the manufacturer's label.  
 READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

REGISTERED USES

Type of Use	Dosage, Formulation and Directions
ORNAMENTALS - WOODY (NURSERY STOCK) annual grasses (annual blue grass, barnyard grass, crab grass, foxtail, Italian rye grass, stink grass, wild oats, witch grass), broadleaf weeds (carpet-weed, chickweed, false flax, purslane, smartweed)	COM 4 - 8 lb per acre GR COM 4.8 - 7.2 lb in 20 - 40 gal per acre EC Remove existing weeds before application. Apply to dormant plants in late winter or early spring. Make a broadcast or band application in dry form or as a spray. For band applications, use proportionately less material. Apply evenly with ground or airborne equipment. With care, small areas may be treated by hand (granules). Light sandy soils will require lower rates than heavier clay or muck soils. Lower soil temperatures also reduce the required rates. Moisture is required, either as rainfall or irrigation. Losses by vapour will be reduced by making application during evening or night when ground temperature is falling. Before large scale use, apply on trial basis under conditions actually encountered, or consult local agricultural authorities for detailed recommendations of application under varying local conditions. Do not cultivate or disturb treated areas. Do not apply to moist or dew-covered foliage. Do not apply to nursery stock that will be transplanted sooner than one month after treatment.

Common Name: chlordane

Chemical Name: 1,2,4,5,6,7,8,8-octachloro-3a,4,7,7a-tetrahydro-4,7-methanoindane

Other Names: chlordan, Octa-Klor

Category: insecticide

Guarantee in Terms of: technical chlordane

Marketing Types: DOM domestic  
COM commercial

Formulations: DU dust  
EC emulsifiable concentrate  
GR granular  
WP wettable powder

Cautions: Precautionary information is included on the manufacturer's label.  
READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

REGISTERED USES

Type of Use	Dosage, Formulation and Directions
ORNAMENTALS - WOODY root weevils	DOM 1.8 - 3.6 oz per 1000 sq ft EC, GR COM 5 - 10 lb per acre EC, GR SOIL TREATMENT, BROADCAST: Apply to soil and work into the top 3 to 6 inches before planting.
ants, cutworms	DOM 0.36 - 1.08 oz per 1000 sq ft DU,EC, GR, WP. COM 1 - 3 lb per acre DU, EC, GR, WP SOIL TREATMENT: Apply to soil as required to control pests.

Common Name: chloroxuron

Chemical Name: 3-[p-(p'-chlorophenoxy)phenyl]-1,1-dimethylurea

Other Name: Tenoran

Category: herbicide

Guarantee in Terms of: chloroxuron

Marketing Type: COM commercial

Formulation: WP wettable powder

Cautions: Precautionary information is included on the manufacturer's label.  
 READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

REGISTERED USES

Type of Use

Dosage, Formulation and Directions

CARAGANA (NURSERIES, SHELTERBELTS)

annual broadleaf weeds (annual wormwood, cocklebur, chickweed, goosefoot, green smartweed, groundsel, lady's-thumb, lamb's-quarters, nightshade, pigweed, purslane, ragweed, shepherd's-purse, velvetleaf).

COM 4 - 6 lb in not less than 30 gal per acre WP  
 Apply as a spray in new and established plantings, early postemergence to weeds, postseeding in nurseries, and postplanting in shelterbelts. If necessary, retreat as directed after cultivation. Under dry conditions, irrigate immediately after treatment.



Common Name: carbophenothion

Chemical Name: S-[[p-chlorophenyl]thio]methyl] 0,0-diethyl phosphorodithioate

Other Name: Trithion

Category: acaricide, insecticide

Guarantee in Terms of: carbophenothion

Marketing Types: COM commercial

Formulations: EC emulsifiable concentrate  
WP wettable powder

Cautions: Precautionary information is included on the manufacturer's label.  
READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

REGISTERED USES

Type of Use	Dosage, Formulation and Directions
<p>ORNAMENTALS - WOODY</p> <p>aphids, spruce spider mite, twospotted spider mite, potato leafhopper, soft scale insects.</p>	<p>COM 4 - 12 oz in 100 gal WP COM 4.8 - 14.4 oz in 100 gal EC Apply in sufficient water for good coverage.</p>
<p>FOREST PLANTATIONS, CHRISTMAS TREE PLANTATIONS</p> <p>European pine shoot moth, Nantucket pine tip moth</p>	<p>COM 12 - 16 oz in 5 - 50 gal per acre WP COM 14.4 - 19.2 oz in 5 - 50 gal per acre EC Apply as a spray. Repeat if necessary.</p>

COPPER FROM TRIBASIC COPPER SULPHATE

CUB

Common Name: copper from tribasic copper sulphate

Chemical Name: copper from tribasic copper sulphate

Category: fungicide

Guarantee in Terms of: copper from tribasic copper sulphate

Marketing Type: COM commercial

Formulations: WP wettable powder

Cautions: Precautionary information is included on the manufacturer's label.  
READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

REGISTERED USES

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Type of Use

Dosage, Formulation and Directions

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ORNAMENTALS - WOODY  
black spot, mildew

COM 21.20 oz in 100 gal WP  
Consult local agricultural authorities  
as to rates and timing of application.

Common Name: copper from copper sulphate  
Chemical Name: copper from copper sulphate  
Category: fungicide  
Guarantee in Terms of: copper (present as copper sulphate)  
Marketing Type: COM commercial  
Formulations: DU dust

Cautions: Precautionary information is included on the manufacturer's label.  
READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

REGISTERED USES

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Type of Use	Dosage, Formulation and Directions
ORNAMENTALS - WOODY fungus blights, mildew, rust	COM 33.60 - 56.0 oz per acre DU Apply at intervals of 7 to 10 days or more often if necessary.

Common Name: copper from copper oxychloride  
Chemical Name: copper from copper oxychloride  
Category: fungicide  
Guarantee in Terms of: copper from copper oxychloride  
Marketing Types: COM commercial  
 DOM domestic  
Formulations: WP wettable powder

Cautions: Precautionary information is included on the manufacturer's label.  
 READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

REGISTERED USES

Type of Use	Dosage, Formulation and Directions
COTONEASTER, CRABAPPLE (ORNAMENTAL), HAWTHORN, MOUNTAIN ASH, QUINCE fire blight	COM 1.0 oz in 10 gal WP COM 10 oz in 100 gal WP Spray several times during blossoming and repeat during the summer when the weather is warm and wet.
ARBORVITAE, CEDAR, FIR, JUNIPER, PINE, SPRUCE leaf blight, needle cast, tip blight, twig blight	DOM 3.2 oz in 10 gal WP COM 32 oz in 100 gal WP Apply when new growth starts in the spring and repeat 3 or 4 times at intervals of 10 days. Additional sprays are advisable during prolonged rainy periods.

Common Name: dazomet  
Chemical Name: tetrahydro-3,5-dimethyl-2H-1,3,5-thiadiazine-2-thione  
Other Name: Mylone  
Category: fungicide, herbicide, nematocide  
Guarantee in Terms of: dazomet  
Marketing Types: COM commercial  
Formulations: GR granular  
Cautions: Precautionary information is included on the manufacturer's label.  
 READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

REGISTERED USES

Type of Use	Dosage, Formulation and Directions
FOREST NURSERIES, SEED OR PROPOGATION BEDS (FIELD, GREENHOUSE) soil fungi and unencysted nematodes, annual and perennial weeds	COM 5.57 lb per 1000 sq ft GR PREPLANT TREATMENT: In general, application should be made in the spring, but, if very early spring planting is necessary then apply in September or October when the soil is warm. Prepare beds 5 to 7 days before treatment and keep soil in a moist condition and free from clods. Dig a ditch around the treated bed to prevent weed seeds from washing into the treated areas. Apply evenly with a fertilizer spreader or by hand wearing rubber gloves. Irrigate the day of treatment with at least 200 gallons of water and continue to keep the soil moist for about a week after treat- ment. Plant a few specimens as indicators 3 weeks after treating and be sure they grow normally before planting the rest. In heated greenhouses where soil temper- ature is maintained at 16°C or higher and the soil is kept moist, a 3-week waiting period is adequate. The beds can be lightly raked before seeding.

CULTIVATION BEFORE SEEDING: If rain has badly crusted the soil after treatment cultivate to a 2-inch depth at least 5 days before planting to release any trapped gas. Avoid cultivating any deeper than 2 inches as this might bring untreated soil into the treated area.

NOTE: Data are not complete on use in propagating bed materials, other than soil or soil-peat mixtures.

Common Name: dichlobenil  
Chemical Name: 2,6-dichlorobenzonitrile  
Other Names: Casoron  
Category: herbicide  
Guarantee in Terms of: dichlobenil  
Marketing Types: COM commercial  
Formulations: GR granular

Cautions: Precautionary information is included on the manufacturer's label.  
 READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

Limitations:

1. Do not apply until 4 weeks after transplanting.
2. Do not apply during period of high soil temperature.
3. Do not use on light sand soil.
4. Do not use in seed beds, transplant, or cutting beds.
5. Do not apply until 6 months after rooting of cuttings in the field.
6. Do not use on gladiolus, firs (Abies spp. such as balsam-fir), hemlock, adjuga, certain hollies (Ilex crenata, J. rotunda, I. Vomitoria), lilac, spruce, mugho pine, nor on herbaceous perennials. Do not use on shallow-rooted ground covers, except Euonymus.
7. Do not transplant into treated soils for one year.
8. Do not graze livestock in treated areas.

REGISTERED USES

Type of Use	Dosage, Formulation and Directions
SHELTERBELTS (CARAGANA) annual blue grass, chickweed, crab grass, foxtail, groundsel, horsetail, knotweed, lamb's- quarters, pineapple weed, purs- lane, redroot pigweed, shepherd's purse, smartweed, spurge, wild mustard.	COM 4 - 6 lb per acre GR Apply only to prepared weed-free soil in early spring before seeds of annual weeds germinate or after cultivation has removed weeds. Apply uniformly over the soil surface. If application is followed by one-half to 1 inch of overhead irrigation, use the lower rate, Repeat applications for maintenance weed control may be carried out.

Limitations (1)(2)(3)(4)(5)

ORNAMENTALS - WOODY(BARBERRY,  
BOXWOOD, CRABAPPLE, EASTERN RED  
CEDAR, EUONYMUS, HEATHER, JUNIPER,  
LINDEN, MAPLE, MOCK ORANGE, VIBURNUM,  
YEW)

annual blue grass, crab grass,  
foxtail, groundsel, horsetail,  
knotweed, lamb's-quarters,  
pineapple weed, purslane, redroot  
pigweed, shepherd's-purse,  
smartweed, spurge, wild mustard

COM 4 - 6 lb per acre GR  
ESTABLISHED AND IN NURSERIES: Apply  
only to prepared weed-free soil either  
in early spring before seeds of annual  
weeds germinate or after cultivation  
has removed weeds. Apply uniformly  
over the soil surface. If application  
is followed by one-half inch to 1 inch  
of overhead irrigation, use the lower  
rate.

Limitations (1)(2)(3)(4)(5)(6)(8)

artemesia, quack grass

COM 5 lb per acre GR  
ESTABLISHED AND IN NURSERIES: For  
woody ornamentals that have been planted  
for at least one year. Apply to prepared  
weed-free soil. Make 2 treatments, the  
first as a soil surface treatment in late  
fall from October 15 to December 15 and  
the second in very early spring before  
May 1.

Limitations (1)(2)(3)(4)(5)(6)(8)

bindweed, quack grass, thistles

COM 8 - 10 lb per acre GR  
To free the area of weeds for spring  
planting of woody ornamentals, apply  
uniformly in late October or November.

Limitations (1)(2)(3)(4)(5)(6)(8)

NURSERY STOCK: (BARBERRY, BOXWOOD,  
CRABAPPLE, EASTERN RED CEDAR,  
EUONYMUS, HEATHER, JUNIPER, LINDEN,  
MAPLE, MOCK ORANGE, VIBURNUM, YEW).

yellow nut sedge

COM 10 - 20 lb per acre GR  
FOR CONTAINERS ON MINERAL SOILS: Apply  
to prepared weed-free soil and incorporate  
immediately to a depth of 4 to 6 inches.  
Seasonal control of annual weeds will be  
also obtained. Containers of plants listed  
may be placed on treated soil immediately.  
Limitation (7)



Common Name: dicofol  
Chemical Name: 4,4'-dichloro- $\alpha$ -(trichloromethyl) benzhydrol  
Other Names: Kelthane  
Category: acaricide  
Guarantee in Terms of: dicofol  
Marketing Types: DOM domestic  
 COM commercial  
Formulations: DU dust  
 EC emulsifiable concentrate  
 SN solution  
 WP wettable powder

Cautions: Precautionary information is included on the manufacturer's label.  
 READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

REGISTERED USES

Type of Use	Dosage, Formulation and Directions
GREENHOUSE ORNAMENTALS, ORNAMENTALS - WOODY (AZALEA, ELM, HYDRANGEA, MAPLE, SPRUCE)	DOM COM 3.57 - 7.14 oz in 100 gal EC 4.74 - 5.92 oz in 100 gal WP 3% DU Begin applications when mites are first noticed, apply thoroughly, and repeat as necessary. Do not make frequent applications to sensitive plants.
GREENHOUSE ORNAMENTALS spider mites	COM 12% SN Close all doors, windows, and ventilators. Turn off misting systems. Be certain all foliage and blossoms are dry, and temperature is between 70 and 85° F. Take precautions to prevent humans and animals from entering the area. Apply by thermal fogger to blanket plants. Use 16 ounces of solution for 50,000 cubic feet of space. Do not wet the foliage. Close greenhouse overnight, and ventilate for at least one hour before re-entering.

NURSERY STOCK, ORNAMENTALS - WOODY  
(DECIDUOUS)

clover mite, cyclamen mite,  
European red mite, privet mite,  
twospotted spider mite

4 - 6 oz per 100 gal EC, WP  
2 - 3% dust DU

Make thorough application when mites  
are first noticed. Also spray ground  
beneath the plants. Repeat at  
intervals of 2 weeks if necessary.

MIXTURES CONTAINING DICOFOL

1. with carbaryl (CAB) and oxydemeton-methyl (ODM)

ORNAMENTALS - WOODY

aphids, armyworms, boxelder bug,  
caterpillars, cucumber beetles,  
earwigs, elm leaf beetle, flea  
beetles, grasshoppers, green-  
house whitefly, leafhoppers,  
leafminers, leafrollers,  
mealybugs, plant bugs, psyllids,  
rose chafer, rust mites, sawfly  
larvae, scale insects (crawlers),  
spider mites, spittlebugs, thrips  
(exposed), woolly aphids

DOM DCF: .018 oz CAB: 0.45 oz ODM: 0.45  
oz in 10 gal EC

For home garden use. Spray thoroughly  
to wet both sides of foliage. Repeat at  
2-week intervals as necessary. Do not  
use inside buildings.

2. with malathion (MAL) and methoxychlor (MET)

NURSERY STOCK, ORNAMENTALS - WOODY

aphids, beetles, caterpillars,  
leafhoppers, mealybugs, scale  
insects (crawlers), spider mites,  
thrips

DOM DCF: 3.7% MAL: 1.25% MET: 10% EC  
Use 2 ounces in one gallon of water. Spray  
both sides of the foliage to the point  
of runoff. Repeat applications as  
necessary or at weekly intervals. In hot  
weather always spray in cool morning hours.

DCP

1,2-DIBROMO-3-CHLOROPROPANE

DCP

Common Name: none approved

Chemical Name: 1,2-dibromo-3-chloropropane

Other Names: Nemagon, Fumazone

Category: nematocide

Guarantee in Terms of: 1,2-dibromo-3-chloropropane (DCP); other halogenated C<sub>3</sub> compounds (DCQ)

Marketing Types: COM commercial

Formulations: EC emulsifiable concentrate  
GR granular

Cautions: Precautionary information is included on the manufacturer's label.  
READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

Limitations:

1. Do not treat extremely wet or dry soils.
2. Do not treat where tobacco, Irish potato, sugarbeet, onion or garlic is to be planted in the same season following fumigation. Certain ornamentals are also sensitive.

REGISTERED USES

Type of Use

Dosage, Formulation and Directions

## ORNAMENTALS-TOLERANT:

ANDROMEDA, ASH, AZALEA,  
 BARBERRY (DWARF, REDLEAF),  
 BOXWOOD, CARYOPTERIS,  
 DOGWOOD, ELM, EUONYMUS VEGETUS,  
 EXOCHORDA, FATSHEDERA, FIRETHORN,  
 HEMLOCK, HIBISCUS, HYPERICUM,  
 ILEX ROTUNDIFOLIA, PRIVET,  
 LOCUST (SEEDLINGS), RED MAPLE,  
 MOUNTAIN ASH, OAK, WHITE PINE,  
 PITTOSPORUM, POTENTILLA, SPIREA,  
 SYRINGA-LILAC, TAXUS, WEIGELIA,  
 JAPANESE YEW

nematodes

COM DCP: 30-40 lbs DCQ: 1-1.5 lb per  
 acre EC, GR

PREPLANT OVERALL APPLICATION: Apply  
 evenly in rows 12 inches apart and  
 6 to 8 inches deep, taking care to seal  
 chisel channels with a drag or press  
 wheel.

Limitations (1) (2)

COM DCP: 12 lb DCQ:0.45 lb per acre EC, GR  
PREPLANT ROW APPLICATION: Apply evenly in  
rows 12 inches apart and 6 to 8 inches  
deep, taking care to seal chisel channels  
with a drag or press wheel.  
Limitations (1) (2)

COM DCP: 8-12 lb DCQ: 0.3-0.5 lb per acre  
EC, GR  
PLANT OR POSTPLANT APPLICATION: Two post  
plant applications are preferred, one as  
soon as plants become established, the  
second 4-6 weeks later.

Common Name: DDT

Chemical Name: 2,2-bis(p-chlorophenyl)-1,1,1-trichloroethane

Category: insecticide

Guarantee in Terms of: DDT

Marketing Types: RES restricted

Formulations: EC emulsifiable concentrate  
SN solution

Cautions: Precautionary information is included on the manufacturer's label.  
READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

REGISTERED USES

Type of Use	Dosage, Formulation and Directions
FOREST, PLANTATIONS, PARKS forest insect pests	RES 2 - 16 oz per acre SN, EC For application to foliage to control infestations. For use only in specific applications that have been concurred in by the Minister of Agriculture upon recommendation from a federal inter-departmental committee. Where applicable there will be consultation with provincial interdepartmental committees.

Common Name: demeton

Chemical Name: 0,0-diethyl 0(and S)-[2-ethylthio)ethyl] phosphorothioate

Other Name: Systox

Category: acaricide, insecticide

Guarantee in Terms of: demeton

Marketing Types: COM commercial  
RES restricted

Formulations: EC emulsifiable concentrate

Cautions: Precautionary information is included on the manufacturer's label.  
READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

Limitations:

1. Do not apply within 5 days of hand-picking, pruning, transplanting, or other handling.
2. STATEMENT OF NATURE OF RESTRICTION: "This product is to be stored, or displayed separate from food for humans or feed for animals."

REGISTERED USES

Type of Use	Dosage, Formulation and Directions
<p>GREENHOUSE ORNAMENTALS, ORNAMENTALS - WOODY</p> <p>aphids, birch leafminer, boxwood leafminer, camellia scale, greenhouse whitefly, holly leafminer, lace bugs, mealybugs, mites, rhododendron scale, soft brown scale, tea scale</p>	<p>RES COM 4.8 - 9.6 oz in 100 gal EC</p> <p>FOLIAR SPRAY: Spray to thoroughly wet plants.</p> <p>SOIL DRENCH: Apply 1 pint per square foot of bench or bed area. For potted plants, use 5 fluid ounces per 6-inch pot. For shrubs and trees up to 6 feet tall, apply 1 to 2 gallons around the base of each plant; use proportionately more for taller plants. For leafminers, use 7.2 - 9.6 ounces in 100 gallons; for scale insects, use the highest rate.</p> <p>Limitations (1)(2)</p>

Common Name: disul (sodium)  
Chemical Name: sodium 2-(2,4-dichlorophenoxy) ethyl sulfate  
Other Names: disul-sodium, sesone  
Category: herbicide  
Guarantee in Terms of: disul (sodium)  
Marketing Types: DOM domestic  
COM commercial  
Formulations: SP soluble powder

Cautions: Precautionary information is included on the manufacturer's label.  
READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

REGISTERED USES

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<u>Type of Use</u>	<u>Dosage, Formulation and Directions</u>
ORNAMENTALS - WOODY annual grasses and broadleaf weeds	DOM COM 5 level tbsp (90%) in 5 gal per 1000 sq ft SP Apply around plants that have been established for one year or more. For best results, apply to newly cultivated or to bare soil that is moist, before weeds are visible. Either a sprayer or a sprinkling can may be used. If a watering can is used, at least 3 times as much water is needed to obtain complete coverage of the soil surface. Repeat applications as needed, preferably following cultivation, but not more often than at monthly intervals. Do not apply where desirable seeds are sown. Avoid spraying within 6 inches of plant main stem. Heavy rains or excessive watering after use may cause damage to shallow- rooted plants, especially in light soils.

FENAMINOSULF

DEX

Common Name: fenaminosulf  
Chemical Name: sodium [4-(dimethylamino)phenyl]diazenesulfonate  
Other Names: Dexon  
Category: fungicide  
Guarantee in Terms of: fenaminosulf  
Marketing Types: COM commercial  
Formulations: GR granular  
WP wettable powder

Cautions: Precautionary information is included on the manufacturer's label.  
READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

REGISTERED USES

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Type of Use	Dosage, Formulation and Directions
ORNAMENTALS - WOODY root rot, stem rot (Pythium, Phytophthora)	COM 3.5 - 7.0 oz in 100 gal per 1000 sq ft WP BEDDING PLANTS (soil depth 2 to 3 inches): Apply as a soil drench. Make one application only at the 7-ounce rate; if additional applications are necessary, apply at intervals of 2 to 4 weeks, using the 3.5 ounce rate.  COM 5.25 - 10.50 oz in 100 gal per 500 sq ft WP BENCH PLANTS (soil depth 6 inches): Make 1 application only at the 10.5-ounce rate. If additional applications are necessary, apply at intervals of 4 weeks, using the 5.25-ounce rate.  COM 1.75 - 3.5 oz in 100 gal WP POTTED PLANTS: Use 10 ounces per 6-inch pot. If additional applications are necessary, use the lower rate, and apply at intervals of 2 to 4 weeks.  COM 10.5 oz in 100 gal per 500 sq ft WP OUTDOOR BEDS: Apply immediately after plants are set out. Make 1 application only.



FENAMINOSULF

DEX

COM 0.0375 - 0.0750 oz per sq ft GR  
Apply to bench or bed area and mix  
thoroughly into the top 6 inches of  
soil.

COM 0.088 oz per cu ft of soil WP  
COM 0.075 - 0.150 oz per cu ft of soil GR  
Mix thoroughly with greenhouse soil.

MIXTURES CONTAINING FENAMINOSULF

1. with quintozene (QTZ)

ORNAMENTALS - WOODY  
root and stem rots (Pythium,  
Rhizoctonia, Phytophthora)

COM QTZ: 50 - 75 oz DEX: 50 - 75 oz per  
1000 sq ft GR  
Broadcast over the bench or bed area  
and work thoroughly into the top 6 inches  
of soil.

Common Name: diazinon

Chemical Name: 0,0-diethyl 0-(2-isopropyl-6-methyl-4-pyrimidinyl) phosphorothioate

Other Name: Basudin

Category: acaricide, insecticide

Guarantee in Terms of: diazinon

Marketing Types: DOM domestic  
COM commercial

Formulations: EC emulsifiable concentrate  
PS pressurized spray  
SN solution  
WP wettable powder

Cautions: Precautionary information is included on the manufacturer's label.  
READ THE LABEL CAREFULLY BEFORE USING ANY INSECTICIDE.

REGISTERED USES

Type of Use	Dosage, Formulation and Directions
<p>GREENHOUSE ORNAMENTALS</p> <p>aphids, greenhouse whitefly, spider mites, thrips (exposed)</p>	<p>COM 3.2 oz per 100,000 cu ft SN</p> <p>GREENHOUSE FOGGING: Close windows, doors and ventilators, and lock or barricade all entrances. Post warning signs. Turn off all misting systems, and be certain all blossoms and foliage are dry. Room temperature should be between 21 and 30°C. Fog over plants, according to equipment instructions, covering entire areas as evenly as possible. Expose overnight. Ventilate well for at least 1 hour before re-entering. Repeat as necessary. Do not use on certain ferns, poinsettia, hibiscus, papaya, pilea, gardenia, orchids and stephanotis.</p>
<p>ARBORVITAE</p> <p>leafminers</p>	<p>DOM 0.8 oz in 10 gal EC, WP</p> <p>DOM COM 0.5% pressurized spray PS</p> <p>COM 8 oz in 100 gal EC, WP</p> <p>Spray when insects first appear. Repeat as necessary.</p>
<p>scale insects (crawlers)</p>	<p>DOM 1.5 oz in 10 gal EC, WP</p> <p>DOM COM 0.5% pressurized spray PS</p> <p>COM 12 oz in 100 gal EC, WP</p> <p>Spray when insects first appear. Repeat as necessary.</p>

ARALIA, IVY  
privet mite

DOM 0.8 oz in 10 gal EC, WP  
COM 8 oz in 100 gal EC, WP  
Spray when insects first appear.  
Repeat as necessary.

AZALEA  
leafminers, privet mite

DOM 0.8 in 10 gal EC, WP  
COM 8 oz in 100 gal EC, WP  
Spray when insects first appear.  
Repeat as necessary.

BIRCH, BOXWOOD, OAK  
leafminers

DOM 0.8 oz in 10 gal EC, WP  
COM 8 oz in 100 gal EC, WP  
Spray when insects first appear.  
Repeat as necessary.

HOLLY  
leafminers

DOM 0.8 oz in 10 gal EC, WP  
COM 8 oz in 100 gal EC, WP  
Spray when insects first appear.  
Repeat as necessary.

coccus scales (crawlers),  
pulvinaria scales (crawlers)

DOM 3 oz in 10 gal EC  
COM 30 oz in 100 gal EC  
Spray when insects first appear.  
Repeat as necessary.

aphids, bud moths

DOM 1.6 oz in 10 gal EC, WP  
COM 16 oz in 100 gal EC, WP  
Spray when new growth is 0.25 inches  
long and before blossoms open.

JUNIPER  
scale insects (crawlers)

DOM 1.5 oz in 10 gal EC, WP  
COM 12 oz in 100 gal EC, WP  
Spray when insects first appear.  
Repeat as necessary.

PINES, YEW (TAXUS)  
European pine shoot moth,  
scale insects (crawlers)

DOM 1.5 oz in 10 gal EC, WP  
COM 12 oz in 100 gal EC, WP  
Spray when insects first appear.  
Repeat as necessary.

EUONYMUS  
scale insects (crawlers)

DOM 1.5 oz in 10 gal WP  
COM 12 oz in 100 gal WP  
Spray when insects first appear.  
Repeat as necessary.

DIMETHOATE

DIM

Common Name: dimethoate

Chemical Name: 0,0-dimethyl phosphorodithioate S-ester with 2-mercapto-N-methylacetamide

Other Names: Cygon, Rogor

Category: acaricide, insecticide

Marketing Types: DOM domestic  
COM commercial

Formulations: EC emulsifiable concentrate

Cautions: Precautionary information is included on the manufacturer's label.  
READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE

REGISTERED USES

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Type of Use	Dosage, Formulation and Directions
AZALEA, BOXWOOD, HOLLY (AMERICAN, ENGLISH) azalea lace bug, azalea leaf miner, boxwood leafminer, greenhouse whitefly, holly leafminer, mealybugs, scale insects, spider mites	COM 8.0 - 9.6 oz in 100 gal EC DOM 0.8 - 1.0 oz in 10 gal EC FOLIAR SPRAY: Apply when the insects first appear in the spring and repeat in early summer. For leafminers on holly, apply in spring when adults first appear and repeat in early summer for control of larvae in infested leaves.
CAMELLIA aphids, scale insects, spider mites	COM 8.0 - 9.6 oz in 100 gal EC DOM 0.8 - 1.0 oz in 10 gal EC FOLIAR SPRAY: Make 2 applications 6 weeks apart the first year; in subsequent years, apply one spray after new growth starts in the spring.
ARBORVITAE, EUONYMUS, JUNIPER, OAK, YEW (TAXUS) aphids, bagworm, juniper tip midge, mealybugs, scale insects, spider mites	COM 16 - 19.2 oz in 100 gal EC DOM 1.6 - 1.9 oz in 10 gal EC FOLIAR SPRAYS: Apply when insects first appear or when damage is observed.

PINE (MUGHO, RED, SCOTCH)  
aphids, bagworm, Nantucket  
pine tip moth, pine needle scale,  
Zimmerman pine moth

COM 16 - 19.2 oz in 100 gal EC  
DOM 1.6 - 1.9 oz in 10 gal EC  
Apply as a cover spray when insects  
appear or when insect damage is noted.

European pine shoot moth

COM 16 - 19.2 oz in 100 gal EC  
DOM 1.6 - 1.9 oz in 10 gal EC  
For overwintering larvae, treat during  
the second half of April or when the  
larvae have resumed feeding. For the  
summer brood, apply during the last  
week of June and repeat 10 days later.

pine sawflies (larvae)

COM 9.6 oz in 100 gal EC  
DOM 1.0 oz in 10 gal EC  
Apply as a cover spray when insects  
appear or when insect damage is noted.

BIRCH

aphids, birch leafminer

DOM COM 32 oz in 1 gal EC  
PAINT-ON TREATMENT: Paint a band 3 to  
6 inches wide around the trunk as  
high as convenient, but below the  
first lateral branch. Apply when bud  
tips appear green. Repeat in June to  
control the second brood of leafminers.  
Do not treat trees with trunks less than  
1 inch in diameter. Increase band width  
by 1 inch for each inch of trunk diameter  
above 3 inches.

COM 4.8 - 8.0 oz in 100 gal EC  
DOM 0.48 - 0.8 oz in 10 gal EC  
FOLIAR SPRAY: For leafminers, apply in  
spring, when adult sawflies first appear.  
Repeat in early July to control the  
second generation.

LILAC

leafminers

COM 8.0 - 9.6 oz in 100 gal EC  
DOM 0.8 - 1.0 oz in 10 gal EC  
FOLIAR SPRAY: Apply in early June or  
when signs of leafminers appear. Repeat  
after 6 weeks. Wet the foliage thoroughly.

DOM COM 32 oz in 1 gal EC  
PAINT-ON TREATMENT: Apply a 3-inch band  
around the stem 1 foot above the ground.  
Apply when leaves first appear and repeat  
in late July.

MOUNTAIN ASH

European red mite, rose  
leafhopper

DOM COM 32 - 64 oz in 1 gal EC  
PAINT-ON TREATMENT: Apply a 6-inch  
band around the trunk 1 foot above the  
ground. Treat early in the season.

DOUGLAS FIR (SEED TREES)

cone or gall midges, cone  
moths, seed chalcids, scale  
midges

COM 16 - 19.2 oz in 10 gal EC  
Apply as a wetting spray when the  
cones are at, or near the pendant stage.  
Ensure complete coverage of the cone.

COM 32 oz in 10 gal EC  
Apply with a mist blower when the cones  
are at, or near the pendent stage.

HEMLOCK

spider mites, scale insects,  
spruce needle miner

RES 8 - 9.6 oz in 0.5 - 2 gal per acre EC  
AIRCRAFT APPLICATION: Apply by air as  
a fine droplet spray.  
Limitation (1)

COM 8 - 9.6 oz in 100 gal per acre EC  
DOM 0.8 - 1.0 oz in 10 gal EC  
FOLIAR SPRAY: Apply as soon as insects  
are noted.

SITKA SPRUCE

sitka-spruce weevil

DOM COM 16 - 19.2 oz in 10 gal EC  
Spray the terminal growth to the point  
of run-off during the egg-laying period,  
usually during the first half of May.

BALSAM FIR, SPRUCE

spruce budworm

RES 8 - 9.6 oz in 0.5 - 2 gal per acre EC  
AERIAL APPLICATION: Apply as a fine  
droplet spray.  
Limitation (1)

COM 8 - 9.6 oz in 100 gal EC  
DOM 0.8 - 1.0 oz in 10 gal EC  
FOLIAR SPRAY: Apply for thorough coverage.

MIXTURES CONTAINING DIMETHOATE

1. with dichlorvos (DVP)

AZALEA, HOLLY (AMERICAN, ENGLISH)

azalea lace bug, greenhouse  
whitefly, leafminers, spider  
mites

COM DIM: 7.5 oz DVP: 0.4 oz in 100 gal EC  
DOM DIM: .75 oz DVP: 0.4 oz in 10 gal EC  
FOLIAR SPRAY: Apply when insects first  
appear or damage is noted. For leafminers  
on holly apply in spring when adults first  
appear and repeat in early summer for  
control of larvae in infested leaves.

DIMETHOATE

DIM

ARBORVITAE  
aphids, bagworm, spider mites

COM DIM: 15 oz DVP: 0.8 oz in 100 gal EC  
DOM DIM: 1.5 oz DVP: 0.08 oz in 10 gal EC  
FOLIAR SPRAY: Apply when insects first  
appear or damage is noted.

BIRCH  
aphids, birch leafminer

COM DIM: 3.7 oz DVP: 0.2 oz in 100 gal EC  
DOM DIM: 0.37 oz DVP: 0.02 oz in 10 gal EC  
FOLIAR SPRAY: Apply when insects first  
appear or damage is noted. For leafminers,  
apply in spring when adult sawflies first  
appear and repeat in early July to control  
the second generation.

Common Name: dinocap

Chemical Name: an isomeric reaction mixture of: (a) 2,6-dinitro-4-octylphenyl crotonates and (b) 2,4-dinitro-6-octylphenyl crotonates

Other Names: Karathane

Category: acaricide, fungicide

Guarantee in Terms of: dinocap; othernitrophenols and derivatives, chiefly dinitro(1-methyl heptyl)phenol

Marketing Types: DOM domestic  
COM commercial

Formulations: DU dust  
WP wettable powder

Cautions: Precautionary information is included on the manufacturer's label.  
READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

REGISTERED USES

Type of Use	Dosage, Formulation and Directions
ORNAMENTALS - WOODY clover mite (adults), powdery mildew, red spider mites	COM 2.225 - 4.450 oz in 100 gal WP COM 2% dust DU Apply when mites or mildew first appear and repeat at intervals of 7 to 10 days as necessary. Do not apply when the temperature exceeds 29 - 32°C.
<u>MIXTURES CONTAINING DINOCAP</u>	
1 with <u>zineb</u> (ZIN)	
ORNAMENTALS - WOODY black spot, leaf spot, powdery mildew, rust	DOM DIN: 0.672% ZIN: 3.9% DU Begin dusting as soon as foliage appears. Apply every 6 to 10 days.
anthracnose, black spot, blight, downy mildew, septoria leaf spot	DOM DIN: 5.5% ZIN: 48% WP Use 2 tablespoons of product in 1 gallon of water. Spray every 7 to 10 days.



Common Name: diphenamid  
Chemical Name: N,N-dimethyl-2,2-diphenylacetamide  
Other Names: Dymid, Enide  
Category: herbicide  
Guarantee in Terms of: diphenamid  
Marketing Types: COM commercial  
Formulations: WP wettable powder  
Cautions: Precautionary information is included on the manufacturer's label.  
 READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

Limitations:

1. Do not use on muck soils.
2. Do not make more than 1 application annually.

REGISTERED USES

Type of Use	Dosage, Formulations and Directions
ORNAMENTALS - WOODY barnyard grass, carpetweed, crab grass, cheat, goose grass, knotweed, lamb's-quarters, pigweed, smartweed, stink grass, foxtail	COM 4.8 - 6 lb per acre WP Apply in late fall directly over established stock. Apply to clean, cultivated soil; all weed growth worked into the soil; clods and organ- ic debris removed. Use the lower rate on sandy soils, the higher rate on clay loams and clay. Apply uniformly as a broadcast or band spray using proportionately less for band application. Rainfall or irrigation within one week of treatment will be beneficial. If lack of rainfall reduces early weed control, a shallow cultivation may be carried out. Use with caution on barberry, euonymus, and weigelia, as some damage has occurred. Limitations (1)(2)
	COM 6 - 8 lb in 30 - 50 gal per acre WP Apply in fall or spring before weeds emerge. Before application, work all weed growth into the soil. May be used on new plantings after one month. Apply as a broadcast or band spray using proportionately less for

band application. Some damage  
has occurred to berberis, euonymus,  
weigelia, deutzia, and ajuga.  
If 6 pound rate has been used be sure  
to plough and work the land before  
seeding a new crop.  
Limitations (1)(2)

Common Name: diquat  
Chemical Name: 6,7-dihydrodipyrido [1,2-a: 2',1'-c] pyrazinediium dibromide  
Other Name: Reglone  
Category: herbicide  
Guarantee in Terms of: diquat  
Marketing Types: DOM domestic  
Formulations: SG soluble granules  
Cautions: Precautionary information is included on the manufacturer's label.  
READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

REGISTERED USES

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Type of Use	Dosage, Formulation and Directions
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MIXTURES CONTAINING DIQUAT (DIQ)

1. with paraquat (PAQ)

ORNAMENTALS - WOODY  
weeds

DOM DIQ: 0.219 oz PAQ: 0.219 oz per 1000  
sq ft SG  
Apply by watering can using 10 gallons  
of water or as a low pressure spray, using  
5 gallons of water per 1000 square feet.  
Thoroughly wet all unwanted weeds and  
grasses. Apply when weeds are growing  
actively. For extremely dense weed  
growth double the rate of application.  
Repeated treatments may be required on  
perennial weeds. May be applied up to  
the base of trees, hedges, and shrubs  
that have been established for a year.  
May be used to edge lawn grasses around  
trees and shrubs. Avoid contact with  
desirable foliage (especially of conifers),  
young growing shoots, suckers, and green  
bark.

Common Name: disulfoton

Chemical Name: 0,0-diethyl S-[2-(ethylthio)ethyl] phosphorodithioate

Other Names: Di-Syston, Protexall

Category: acaricide, insecticide

Guarantee in Terms of: disulfoton

Marketing Types: DOM domestic  
RES restricted  
COM commercial

Formulations: SO solid  
GR granular

Cautions: Precautionary information is included on the manufacturer's label.  
READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

Limitations:

1. NATURE OF RESTRICTION STATEMENT: "This product is to be stored separate from food for humans or feed for animals."

REGISTERED USES

Type of Use	Dosage, Formulation and Directions
AZALEA, BIRCH, CAMELLIA, EUONYMUS, MORaine LOCUST, PINE, RHODODENDRON, YEW (TAXUS) aphids, birch leafminer, green- house whitefly, lace bugs, leafhoppers, mimosa webworm, pine tip moths, spider mites, thrips	DOM 0.02 - 0.06 oz from 2% granules per ft. of tree height GR Apply the granules uniformly over the area under the shrub canopy. For shrubs 1 to 3 feet tall, use 1 ounce of granules per foot of height; for shrubs 3 to 6 feet tall, use 2 ounces of granules per foot of height; for shrubs 6 to 12 feet tall, use 3 ounces of granules per foot of height, work into the soil with a trowel or hoe and water thoroughly. Repeat as necessary or at intervals of 4 to 6 weeks.  RES COM 0.375 - 4.05 oz from 15% granules per tree GR RES COM 0.375 oz per inch of trunk diameter GR Spread granules uniformly from trunk to drip line on all sides. Work into soil

and water thoroughly. The higher rate is recommended for heavy organic or muck soils. For transplanting, apply equivalent quantities into planting hole or dip seedlings in a puddling clay slurry of 0.15 oz active in 6 to 14 ounces of clay.

Limitation (1)

AZALEA, BIRCH, CAMELLIA, EUONYMUS,  
HOLLY, MORAINÉ LOCUST, PINE,  
PYRACANTHA, RHODODENDRON, SPIREA,  
YEW (TAXUS)

aphids, birch leafminer, green-  
house whitefly, holly leaf-  
miner, lace bugs, leafhoppers,  
mimosa webworm, pine tip moth,  
spider mites, thrips

DOM 2.0% SO

ROSS ROOT FEEDER: Use one cartridge for plants up to 3 feet in height and one additional cartridge for each foot over three feet in height. Make the first application early in the spring when new growth appears and repeat as necessary or about every 4 weeks. Place the cartridge in the root feeder, one at a time. Place root feeder into the root zone, usually about 12 to 14 inches into the soil (for very small plants, do not inject as deep, but never less than 6 inches). When the root feeder is in position, turn on the water and let it run until the cartridge is completely dissolved. Turn off the water before removing the feeder. Plan ahead to evenly space the soil injections around the plant. Do not use on food crops.

Common Name: dichlorvos

Chemical Name: 2,2-dichlorovinyl dimethyl phosphate

Other Names: DDVP, No-pest, Vapona

Category: insecticide

Guarantee in Terms of: dichlorvos (technical)

Marketing Types: COM commercial

Formulations: DU dust  
EC emulsifiable concentrate

Cautions: Precautionary information is included on the manufacturer's label.  
READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

REGISTERED USES

Type of Use	Dosage, Formulation and Directions
GREENHOUSE ORNAMENTALS aphids, greenhouse whitefly	COM 0.20 oz in 1 gal per 1000 sq ft EC FOLIAR SPRAY: Vacate premises, close windows, and doors. Spray foliage to the point of run-off. Ventilate thoroughly before re-entering on the day after treatment.
aphids, greenhouse whitefly, mealybugs, spider mites, thrips	COM 0.225 oz per 10,000 sq ft DU SMOKE FUMIGATION: Close greenhouse and maintain temperatures of 55° to 60°F. Place fumigators above the plants, and in a position to prevent smoke from hitting nearby plants. If possible, use a circulating fan for 15 minutes. Allow 2 hours exposure before ventilating.

2,4-D PRESENT AS ACID

DXA

Common Name: 2,4-D  
Chemical Name: (2,4-dichlorophenoxy)acetic acid  
Other Names: Weedone  
Category: herbicide  
Guarantee in Terms of: 2,4-D (present as acid)  
Marketing Types: DOM domestic  
Formulations: TA tablet  
Cautions: Precautionary information is included on the manufacturer's label.  
READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE

REGISTERED USES

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Type of Use	Dosage, Formulation and Directions
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MIXTURES CONTAINING 2,4-D PRESENT AS ACID

1. with fenoprop present as acid (FNP)

FOREST

broadleaf weeds and woody plants  
(bindweed, brambles, buckhorn,  
chickweed, clover, dandelions,  
dock, goldenrod, mustards,  
nettles, plantain, pennywort,  
poison oak, ragweed, sumac  
thistles, wild mustard, wild  
onion, wood-sorrel, yellow nut  
sedge)

DOM DXA: 0.156 g FNP: 0.156 g TA  
SPOT TREATMENT: Dissolve in water.  
Apply to actively growing broadleaf  
weeds by wetting foliage and stalks.  
Reapply on stubborn weeds. Do not use  
during or just before a rain. Do  
not apply during very hot or dry  
weather.

Common Name: EPTC  
Chemical Name: S-ethyl dipropylthiocarbamate  
Other Name: Eptam  
Category: herbicide  
Guarantee in Terms of: EPTC  
Marketing Types: DOM domestic  
Formulations: GR granular

Cautions: Precautionary information is included on the manufacturer's label.  
 READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

REGISTERED USES

Type of Use

Dosage, Formulation and Directions

ORNAMENTALS - WOODY (BALSAM, CAMELLIA, DOGWOOD, EUONYMUS, FIR, HOLLY (AMERICAN AND JAPANESE), JUNIPER, LEUCOTHOE, PINE, SPRUCE, YEW (TAXUS)).

annual broadleaf weeds (chickweed, hairy nightshade, henbit, lamb's-quarters, nettleleaf, goosefoot, purslane, prostrate pigweed, redroot pigweed), annual grasses (annual blue grass, barnyard grass, crab grass, field sandbur, giant foxtail, goose grass, green foxtail, Johnson-grass, stink grass, yellow foxtail), perennial weeds (quack grass, yellow nut sedge).

DOM 1.84 - 2.30 oz per 1000 sq ft GR  
 Cultivate soil before treatment. All weed growth should be removed or thoroughly worked into the soil before application. Existing stands of quack grass and yellow nut sedge must be turned under and chopped up thoroughly before treatment. Use the lower rate for control of annual weeds and the higher rate for control of perennial weeds around established trees and shrubs. Apply uniformly to soil dry enough for mixing. Incorporate immediately into the soil to a depth of 2 to 3 inches. Mix to a depth of 6 inches for yellow nut sedge and quack grass control. For trees and shrubs, apply 2 weeks before transplanting balled and canned stock (only) and anytime after transplanting. Around established plants, apply after growth starts in the spring.



Common Name: endosulfan

Chemical Name: 1,4,5,6,7,7-hexachloro-5-norbornene-2,3-dimethanol cyclic sulfite

Other Name: Thiodan

Category: insecticide

Guarantee in Terms of: endosulfan

Marketing Types: COM commercial  
DOM domestic

Formulations: DU dust  
EC emulsifiable concentrate  
WP wettable powder

Cautions: Precautionary information is included on the manufacturer's label.  
READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

REGISTERED USES

Type of Use	Dosage, Formulation and Directions
GREENHOUSE ORNAMENTALS, ORNAMENTALS - WOODY aphids, cyclamen mite, elm leaf beetle, rose chafer, spruce gall aphid, whitefly	COM .48 oz per 1000 sq ft DU 8 oz in 100 gal EC, WP Cyclamen mites require very thorough application. For spruce gall aphid, apply in early May. Do not use the EC formulation on birch trees.
YEW (JAPANESE) black vine weevil	COM 12 oz in 100 gal EC, WP Spray lower branches and soil in early July.
<p><u>MIXTURES CONTAINING ENDOSULFAN</u></p>	
<p>1. with <u>carbaryl</u> (CAB)</p>	
ORNAMENTALS - WOODY boxelder bug, caterpillars, elm leaf beetle, fall webworm, Japanese beetle, juniper webworm, lace bugs, leafhoppers, rose chafer, Taxus mealybug, willow leaf beetle	DOM ESF: 2% CAB: 4% DU Apply when insects are first noticed and repeat as necessary. Do not apply to plants in flower, as this product is extremely poisonous to bees. Do not apply to fruits or vegetables.

## BIRCH

birch leaf miner

DOM ESF: 2% CAB: 4% DU

Apply when first leaves are fully expanded. Repeat in the first week of July.

## SPRUCE

spruce gall aphid

DOM ESF: 2% CAB: 4% DU

Apply in spring before the buds burst.

2. with ethion (ETH)

## ORNAMENTALS - WOODY

aphids, cankerworm, elm leaf beetle, juniper webworm, leafhoppers, mites, rose chafer

DOM ESF: 0.075 oz ETH: 0.037 oz in 1 gal EC

Spray as soon as insects are noticed. Repeat as necessary. Do not use fruit from sprayed crabapple trees for human consumption. Temporary burn of crabapple foliage may occur. Do not use on European white birch.

tarnished plant bug, tent caterpillars

DOM ESF: 0.112 oz ETH; 0.056 oz in 1 gal EC

Spray as soon as insects are noticed. Repeat as necessary. Do not use fruit from sprayed crabapple trees for human consumption. Temporary burn of crabapple foliage may occur. Do not use on European white birch.

lecanium scales (crawlers)

DOM ESF: 0.112 oz ETH: 0.056 oz in 1 gal EC

Spray on bark in mid-July. Do not use on European white birch.

HEMLOCK, RHODODENDRON, SPRUCE,  
YEW (TAXUS)

black vine weevil

DOM ESF: 0.112 oz ETH: 0.056 oz in 1 gal EC

Spray soil and lower branches in late June and again in mid July. Avoid spraying needles of Anderson yew as needles may drop.

ASH, DOGWOOD, LILAC, MOUNTAIN ASH,  
PRIVET, RHODODENDRON  
borers

DOM ESF: 0.112 oz ETH: 0.056 oz in 1 gal EC

Spray stems about May 21 and again in mid-June.

## MAPLE

gall mite

DOM ESF: 0.075 oz ETH: 0.037 oz in 1 gal EC

Spray in late May.

ENDOSULFAN

ESF

PINE, SPRUCE  
pine needle scale

DOM ESF: 0.15 oz ETH: 0.075 oz in 1  
gal EC  
Spray in late May

SPRUCE  
spruce gall aphid

DOM ESF: 0.075 oz ETH 0.037 oz in 1  
gal EC  
Spray in early May.

Common Name: ethion

Chemical Name: S,S'-methylene 0,0,0',0-tetraethyl phosphorodithioate

Category: acaricide, insecticide

Guarantee in Terms of: ethion

Marketing Types: DOM domestic  
COM commercial

Formulations: EC emulsifiable concentrate

Cautions: Precautionary information is included on the manufacturer's label.  
READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

REGISTERED USES

Type of Use	Dosage, Formulation and Directions
<u>MIXTURES CONTAINING ETHION</u>	
1. with <u>endosulfan</u> (ESF)	
ORNAMENTALS - WOODY	
aphids, cankerworms, elm leaf beetles, juniper webworm, leafhoppers, spider mites	DOM ETH: 0.037 oz ESF: 0.075 oz in 1 gal EC Spray as soon as insects are noticed. Repeat as necessary. Do not use fruit from sprayed crabapple trees for human consumption. Temporary burn of crabapple foliage may occur. Do not use on European white birch.
tarnished plant bug, tent caterpillars	DOM ETH 0.056 oz ESF: 0.112 oz in 1 gal EC. Spray as soon as insects are noticed. Repeat as necessary. Do not use fruit from sprayed crabapple trees for human consumption. Temporary burn of crabapple foliage may occur. Do not use on European white birch.
lecanium scale (crawlers)	DOM ETH: 0.056 oz ESF: 0.112 oz in 1 gal EC Spray on bark in mid-July. Do not use on European white birch.
HEMLOCK, RHODODENDRON, SPRUCE, YEW (TAXUS)	
black vine weevil	DOM ETH: 0.056 oz ESF: 0.112 oz in 1 gal EC Spray soil and lower branches in late June and again in mid July. Avoid spraying needles of Anderson yew as needles may drop.

ASH, DOGWOOD, LILAC, MOUNTAIN  
ASH, PRIVET, RHODODENDRON  
stem borers

DOM ETH: 0.056 oz ESF: 0.112 oz in 1 gal EC  
Spray stems about May 21 and again in mid-  
June.

MAPLE  
gall mites

DOM ETH: 0.037 oz ESF: 0.075 oz in 1 gal EC  
Spray in late May.

PINE, SPRUCE  
pine needle scale

DOM ETH: 0.075 oz ESF: 0.15 oz in 1 gal EC  
Spray in late May.

SPRUCE  
spruce gall aphid

DOM ETH: 0.037 oz ESF: 0.075 oz in 1 gal EC  
Spray in early May.

2. with mineral oil (MOI), Saybolt Universal Viscosity at 100°F approximately  
70 seconds.

ORNAMENTALS - WOODY (INCLUDING ASH,  
BARBERRY, BIRCH, BOXELDER,  
BOXWOOD, CATALPA, DOGWOOD, ELM,  
EUONYMUS, FILBERT, FLOWERING CRAB-  
APPLE, FLOWERING PRUNE, FORSYTHIA,  
LILAC, MAGNOLIA, MAPLE, MOCK ORANGE,  
OAK, POPLAR, PRIVET, SYCAMORE,  
VIBURNUM, WILLOW)

apple aphids, cherry aphids,  
European red mite, hard scales,  
plum aphids, soft scales, tent  
caterpillars

DOM ETH: 7 oz MOI: 38 fl oz in 10 gal EC  
COM ETH: 6.8 oz MOI: 379 fl oz in 100 gal EC  
Apply in early spring but before leaf buds  
swell or break. Spray on a mild morning  
so that the trees will dry quickly after  
spraying. Never spray in late afternoon  
or during freezing weather. Do not apply  
on beech, butternut, Colorado blue spruce,  
douglas fir, hickory, holly, sugar maple,  
or walnut.

FENITROTHION

FEM

Common Name: fenitrothion  
Chemical Name: 0,0-dimethyl 0-(4-nitro-m-tolyl) phosphorothioate  
Other Names: Sumithion, Accothion  
Category: insecticide  
Guarantee in Terms of: fenitrothion  
Marketing Types: COM commercial  
RES restricted  
Formulations: EC emulsifiable concentrate  
LI liquid

Cautions: Precautionary information is included on the manufacturer's label.  
READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

Limitations:

1. NATURE OF RESTRICTION: This product is to be used only in the manner authorized; contact local authorities regarding appropriate use permits that may be required.
2. Use no more than 4 ounces per acre for any one application and a total of 6 ounces if applied in 2 treatments.

REGISTERED USES

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Type of Use	Dosage, Formulation and Directions
CHRISTMAS TREE PLANTATIONS, TREE NURSERIES, WOODLOTS eastern hemlock looper, fall cankerworm, jack pine budworm, sawflies, western hemlock looper	COM 2 - 4 oz per acre EC, LI Apply as a low-volume or ultra-low- volume spray or apply as an emulsion in sufficient water for good coverage. Make a single application of 4 ounces per acre or two applications 4 to 6 days apart of 2 to 3 ounces each per acre. For hemlock looper, apply before the 4th instar. For jack pine budworm, apply between the 3rd and 6th instars. For sawflies or fall cankerworm, apply as soon as the larvae appear. For Swaine jack pine sawfly apply at the peak of emergence of the 2nd instar. Limitations (2)

spruce budworm

COM 2 - 4 oz per acre EC, LI  
Apply as a low-volume or ultra-low volume spray, or as an emulsion in sufficient water for good coverage. Make first application as soon as insects are noted, and repeat about one week later, just before the peak of the 4th instar.  
Limitation (2)

FOREST

eastern hemlock looper, fall cankerworm, jack pine budworm, sawflies, western hemlock looper

RES 2 - 4 oz per acre EC, LI  
Apply as a low-volume or ultra-low-volume spray or apply as an emulsion in sufficient water for good coverage. Make a single application of 4 ounces per acre or two applications 4 to 6 days apart of 2 to 3 ounces each per acre. For hemlock looper, apply before the 4th instar. For jack pine budworm, apply between the 3rd and 6th instars. For sawflies or fall cankerworm, apply as soon as the larvae appear. For Swaine jack pine sawfly apply at the peak of emergence of the 2nd instar.  
Limitation (1)

spruce budworm

RES 2 - 4 oz per acre EC, LI  
Apply as a low-volume or ultra-low-volume spray, or as an emulsion in sufficient water for good coverage. Make first application as soon as insects are noted, and repeat about one week later, just before the peak of the 4th instar.  
Limitation (1)(2)

FERBAM

FER

Common Name: ferbam  
Chemical Name: tris(dimethyldithiocarbamate)iron  
Other Names: iron dimethyldithiocarbamate  
Category: fungicide  
Guarantee in Terms of: ferbam  
Marketing Types: DOM domestic  
COM commercial  
Formulations: DU dust  
WP wettable powder

Cautions: Precautionary information is included on the manufacturer's label.  
READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

REGISTERED USES

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Type of Use	Dosage, Formulation and Directions
PINE (SEEDLINGS) fusiform rust	COM 29.1 - 30.4 oz in 100 gal WP Apply at intervals of 3 to 7 days as needed, beginning when plants first emerge.
AZALEA, CAMELLIA gray-mold blight (petal blight)	COM 14.5 - 21.9 oz in 100 gal WP Apply when buds are opening, and repeat at intervals of 3 to 5 days as needed. Spray ground around plants thoroughly.
HYDRANGEA, IVY, LAUREL leaf spot	DOM COM 7 - 10% dust DU
JUNIPER rust	COM 12.16 - 21.8 oz in 100 gal WP Begin applications before disease appears, and repeat at intervals of 7 to 10 days as needed.



FENTHION

FET

Common Name: fenthion  
Chemical Name: 0,0-dimethyl 0-[4-(methylthio)-m-tolyl]phosphorothioate  
Other Names: Baytex, Entex, Tiguvon  
Category: insecticide  
Guarantee in Terms of: fenthion  
Marketing Types: DOM domestic  
COM commercial  
Formulations: EC emulsifiable concentrate  
PS pressurized spray

Cautions: Precautionary information is included on the manufacturer's label.  
READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

Limitations:

1. For use only by commercial nurserymen and pest control operators.
2. Do not apply to hawthorne, American linden, or sugar maple, because of possible plant injury.
3. Do not spray in direct sunlight, during the heat of the day, or when temperature exceeds 32° C.
4. Do not use in areas where children or pets can come into direct contact with treated surfaces.

REGISTERED USES

Type of Use	Dosage, Formulation and Directions
ARBORVITAE, ASH, ASPEN, BIRCH, EUONYMUS, JUNIPER, MAPLE, OAK, PHLOX, SPRUCE, TULIP-TREE, VIBURNUM, YEW (TAXUS)	
aphids, bagworm, juniper scale (crawlers), leafminers, lecanium scale (crawlers), spider mites.	DOM 0.5% pressurized spray PS Spray a light, even coating on all surfaces of plant foliage. Limitation (4)
	COM 28.8 - 30.0 oz in 100 gal EC Apply as a fine mist for thorough coverage of upper and lower leaf surfaces. Limitations (1)(2)(3)

PARAFORMALDEHYDE

FOR

Common Name: paraformaldehyde

Chemical Name: methanal

Category: fungicide

Guarantee in Terms of: formaldehyde

Marketing Types: COM commercial

Formulations: TA tablet

Cautions: Precautionary information is included on the manufacturer's label.  
READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

REGISTERED USES

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Type of Use

Dosage, Formulation and Directions

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MAPLE

bacteria, fungi

COM 250 mg per pellet TA  
Insert one pellet in each tap hole.

Common Name: azinphos-methyl

Chemical Name: O,O-dimethyl phosphorodithioate S-ester with 3-(mercaptomethyl)-1,2,3-benzotriazin-4(3H)-one

Other Names: Guthion, Gusathion, Carfene

Category: acaricide, insecticide

Guarantee in Terms of: azinphos-methyl

Marketing Types: COM commercial  
RES restricted

Formulations: DU dust  
EC emulsifiable concentrate  
WP wettable powder

Cautions: Precautionary information is included on the manufacturer's label.  
READ THE LABEL CAREFULLY BEFORE USING ANY INSECTICIDE.

Limitations:

1. NATURE OF RESTRICTION: This product is to be stored and displayed separate from food for humans and feed for animals.
2. NATURE OF RESTRICTION: This product is to be used only in the manner authorized: contact local authorities regarding appropriate use permits that may be required.

Note: The use of soluble bags has been approved for this product. Precautionary labelling and directions associated with the use of these bags are as follows:

Soluble Bags: Remove the soluble bags from their container and, without opening, drop the required number of bags into the spray tank while the tank is being filled. Allow 5 to 10 minutes for the bags to dissolve completely under continuous agitation. If the water is cold, allow 10 minutes. Do not use the soluble bags to make highly concentrated sprays for aircraft application. Do not handle the bags with wet hands. Do not allow the bags to contact wet surfaces. Do not expose the bags to rain. Store in a cool, dry place. Do not allow the bags to freeze. Do not sell the bags separately from their containers.

REGISTERED USES

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Type of Use

Dosage, Formulation and Directions

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NURSERY STOCK, ORNAMENTALS - WOODY  
aphids, lace bugs, leafhoppers,  
thrips

COM 9.6 oz per acre DU  
Dust all foliage surfaces for complete  
coverage. Repeat as necessary.

aphids, Euonymus scale  
(crawlers), lace bugs, leaf-  
hoppers, thrips

RES 7.5 - 10 oz in 100 gal EC, WP  
Spray all foliage surfaces for complete  
coverage. Repeat as necessary.  
Limitation (1)

brown soft scale (crawlers),  
European elm scale (crawlers)

RES 14.4 - 20 oz in 100 gal EC, WP  
Spray all foliage surfaces for complete  
coverage. Repeat as necessary. For  
brown soft scale, use 20 ounces per 100  
gallons as a spray.  
Limitation (1)

COM 12 - 16 oz per acre DU  
Dust all foliage for complete coverage.  
Repeat as necessary. For brown soft  
scale use 16 ounces per acre.

cone midge, cone moth

RES 38.4 - 80 oz in 100 gal EC, WP  
COM 33.6 - 67.2 oz per acre DU  
Time applications to coincide with  
insect flight, when cones are open for  
pollination. Thorough coverage of cones  
is necessary for maximum protection.  
Repeat as necessary.  
Limitation (1)

coneworm, seedworm

RES 28.8 - 30 oz in 100 gal EC, WP  
COM 24 oz per acre DU  
Time applications to coincide with moth  
flight, when cones are open for pollination.  
Thorough coverage of cones is necessary for  
maximum protection. Repeat as necessary.  
Limitation (1)

European pine shoot moth,  
Nantucket pine tip moth

RES 6 - 12 oz per acre EC, WP  
COM RES 8.6 - 12 oz per acre DU  
Time applications to coincide with moth  
flight. For Nantucket pine tip moth, use  
12 ounces per acre.  
Limitation (1)

FOREST

aphids, Euonymus scale  
(crawlers), lace bugs, leaf-  
hoppers, thrips

RES 7.5 - 10 oz in 100 gal EC, WP  
Spray all foliage surfaces for complete  
coverage. Repeat as necessary.  
Limitations (1)(2)

brown soft scale (crawlers),  
European elm scale (crawlers)

RES 14.4 - 20 oz in 100 gal EC, WP  
Spray all foliage surfaces for complete  
coverage. Repeat as necessary. For  
brown soft scale use the higher rate.  
Limitations (1)(2)

cone midge, cone moth

RES 38.4 - 80 oz in 100 gal EC, WP  
Time applications to coincide with insect flight, when cones are open for pollination. Thorough coverage of cones is necessary for maximum protection. Repeat as necessary.  
Limitations (1)(2)

coneworm, seedworm

RES 28.8 - 30 oz in 100 gal EC, WP  
Time applications to coincide with moth flight, when cones are open for pollination. Thorough coverage of cones is necessary for maximum protection. Repeat as necessary.  
Limitations (1)(2)

European pine shoot moth,  
Nantucket pine tip moth

RES 6 - 12 oz per acre EC, WP  
Time applications to coincide with moth flight. For Nantucket pine tip moth, use 12 ounces per acre.  
Limitations (1)(2)

Common Name: natural gum resins  
Other Names: Tanglefoot  
Category: insecticide  
Guarantee in Terms of: natural gum resins  
Marketing Types: DOM domestic  
Formulations: PA paste

Cautions: Precautionary information is included on the manufacturer's label.  
 READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

REGISTERED USES

Type of Use	Dosage, Formulation and Directions
ORNAMENTALS - WOODY ants, cutworms (climbing), fall cankerworm, gypsy moth (larvae), spring cankerworm, tussock moth (larvae)	DOM 25% paste #PA Encircle the tree trunk or branch with a band of heavy paper about 4 inches wide. Apply a band of paste at least 1/16" thick and 2 to 3 inches wide to the paper, using a putty knife, wooden paddle or similar tool. Treat all avenues of approach to the tree, including supporting wires and posts. Renew stickiness when necessary by lightly scraping the surface.

OXINE BENZOATE

HQB

Common Name: oxine benzoate  
Chemical Name: 8-quinolinol benzoate  
Other Names: 8-hydroxyquinoline benzoate, oxyquinoline benzoate  
Category: fungicide  
Guarantee in Terms of: 8-hydroxyquinoline benzoate  
Marketing Types: DOM domestic  
Formulations: SN solution  
Cautions: Precautionary information is included on the manufacturer's label.  
READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

REGISTERED USES

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Type of Use	Dosage, Formulation and Directions
CUTTINGS, SEEDLINGS damping-off	DOM 0.0375 oz in 1 gal SN PREVENTIVE: Water propagating soil before seeding or placing cuttings. CURATIVE: Water the diseased plants with the diluted solution. For severe cases, double the concentration.

3,5-dichloro-N-(1,1-dimethyl-2-propynyl)benzamide

KRB

Common Name: (none approved)  
Chemical Name: 3,5-dichloro-N-(1,1-dimethyl-2-propyanyl)benzamide  
Other Names: Kerb, pronamide, propyzamide  
Category: herbicide  
Guarantee in Terms of: 3,5-dichloro-N-(1,1-dimethyl-2-propyanyl)benzamide  
Marketing Types: COM commercial  
Formulations: WP wettable powder  
Cautions: Precautionary information is included on the manufacturer's label.  
READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

REGISTERED USES

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Type of Use	Dosage, Formulation and Directions
ORNAMENTALS - WOODY annual grasses, chickweed, quack grass	COM 0.5 oz per 1000 sq ft WP Spray with sufficient water in the fall in established plantings. Do not permit treated areas to drain onto turf grasses (except for removal).



Common Name: lindane

Chemical Name: 1,2,3,4,5,6-hexachlorocyclohexane (minimum of 99% gamma isomer)

Category: insecticide

Guarantee in Terms of: gamma-BHC (from lindane)

Marketing Types: DOM domestic  
COM commercial

Formulations: DU dust  
EC emulsifiable concentrate  
PA paste  
PS pressurized spray  
SN solution  
SO solid  
WP wettable powder

Cautions: Precautionary information is included on the manufacturer's label.  
READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

REGISTERED USES

Type of Use	Dosage, Formulation and Directions
ORNAMENTALS - WOODY ants, cutworms, root weevils, wireworms	COM 3 oz in 100 gal EC, WP Apply uniformly over the area and around the base of individual trees and shrubs.
NURSERY STOCK, ORNAMENTALS - WOODY aphids, caterpillars, earwigs, flea beetles, greenhouse whitefly, leaf beetles, leaf- miners, leafrollers, psyllids, plant bugs, sawflies, thrips	COM 8.0-16.0 oz in 100 gal WP DOM COM 0.03-0.05% EC, WP DOM COM 1.0-2.0% dust DU DOM 0.5% pressurized spray PS Apply lightly to all plant surfaces. Repeat at intervals of 7 to 10 days as necessary. Do not contaminate food, feed, utensils, or areas within the reach of animals.
plant-boring insects	DOM COM 2% paste PA Inject the paste into the freshly bored burrows. Plug the openings. Repeat after several days if necessary.
pine bark beetles	COM 8 oz in 100 gal base oil SN Spray on soil and base of tree trunks.

PINE (AUSTRIAN, RED, SCOTCH;  
FOR CHRISTMAS TREES)

cereal leaf beetle  
(overwintering)

COM 9.75 oz in 100 gal EC  
Before cutting, spray trees to the point of run-off from two sides, at a pressure of about 300 pounds per square inch. Thorough coverage is essential. A 6-7 foot tree requires about 0.5 gallons for good coverage. Before spraying trees for export to the United States, notify Plant Protection Division of Canada Agriculture; they will supervise the spraying and issue a certificate.

GREENHOUSE ORNAMENTALS

aphids, greenhouse whitefly,  
thrips

COM 4.0 oz in 100 gal WP  
COM 0.1-0.2 oz per acre EC, WP  
FOLIAR SPRAY: Spray lightly at first sign of damage. Vacate premises of humans and animals during treatment. Ventilate thoroughly before re-entry. Do not use on food crops.

COM 8.3 gm per 10,000 cu. ft. SO  
SMOKE FUMIGATION: Treat when weather is calm. Do not treat on hot sunny days. Close all doors, windows and ventilators. Turn off misting systems. Make certain that roots are not dry; foliage and blossoms must be dry. Take precautions to prevent humans and animals from entering the area. Place fumigators to obtain correct dosage and ignite in succession, working toward the door. Close greenhouse overnight or at least 4 hours and then ventilate thoroughly before re-entering the treated area. Do not apply to seedlings which have not been hardened off. Do not use on food crops.

Common Name: linuron  
Chemical Name: 3-(3,4-dichlorophenyl)-1-methoxy-1-methylurea  
Other Names: Afalon, Lorox  
Category: herbicide  
Guarantee in Terms of: linuron  
Marketing Type: COM commercial  
Formulations: WP wettable powder  
Cautions: Precautionary information is included on the manufacturer's label.  
 READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE

REGISTERED USES

Type of Use	Dosage, Formulation and Directions
SHELTERBELTS (AMERICAN ELM, BOXELDER (MANITOBA MAPLE), CARAGANA, COLORADO SPRUCE, GREEN ASH, POPLAR, SCOTCH PINE, SIBERIAN ELM, WHITE SPRUCE, WILLOW) annual sow-thistle, barnyard grass, chickweed, corn spurry, crab grass, foxtail, goosefoot, groundsel, knotweed, kochia, lamb's-quarters, prostrate pigweed, purslane, ragwee, redroot pigweed, shepherd's purse, smartweed, stinkweed, velvet leaf, wild buckwheat, wild radish, witch grass, wormseed mustard; seedlings of: dandelion, plantain, sow-thistle.	COM 2 - 4 lb in 20 - 40 gal per acre WP WESTERN CANADA: Apply before or immediately after weeds emerge, but before they are 4 to 6 inches high. For new plantings of boxelder, caragana, green ash, American and Siberian elm, poplar and willow, do not apply until 10 days after transplanting. If leaf buds have opened, apply as a directed spray to keep chemical off the leaves. For transplants of white or Colorado spruce or Scotch pine, at least 2 years old, do not apply until 10 days after transplanting, but before the buds open. On established plantings of the broadleaf species, direct the spray to the base of the trees to avoid the foliage. With established conifers use a directed spray before buds open in spring. When weeds are more than 2 inches high or growing

conditions are less favourable, apply the lower rate with 1 to 2 pints of surfactant or 1 to 2 gallons of oil, only on caragana, green ash, elm and willow, as directed spray to the base of trees which are at least 2 years old. Do not make more than one application per season. Do not use on sandy or coarse-textured soils low in organic matter (less than 2 to 3%).

Common Name: maleic hydrazide

Chemical Name: 1, 2-dihydro-3,6-pyridazinedione

Other Names: De-Sprout V, Gro-Tard, MH30, Retard, Slo-Gro, Sprout-Stop

Category: plant growth regulator

Guarantee in Terms of: maleic hydrazide (present as diethanolamine salt)

Marketing Type: COM commercial

Formulation: SN solution

Cautions: Precautionary information is included on the manufacturer's label.  
READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

REGISTERED USESType of UseDosage, Formulation and Directions

ORNAMENTALS - WOODY (ALDER,  
BLACK WALNUT, ELM, MAPLE,  
MULBERRY, OAR, POPLAR, SWEET  
GUM, SYCAMORE, TAMARACK,  
WILLOW, FORSYTHIA, HONEYSUCKLE,  
PRIVET PYRACANTHA, VIBURNUM  
to inhibit growth

COM 4.5 lb in 30-80 gal per acre #SN  
COM 4.8 lb in 100 gal per acre #SN  
Temporary Registration 1976.  
Best results are obtained when the spray  
is applied to vigorous new growth. For  
example: In the spring as the new leaves  
have expanded and new growth has started.  
Or, in the summer after pruning plants  
to the desirable shape and when new  
regrowth is 2 to 4 inches in length.  
Spray on the upper half of the tree if  
the top terminal growth is to be  
inhibited. If the side of the tree is to  
be inhibited, spray the half of the tree  
on the pruned side. For shrubs, spray  
all surfaces of the leaves and bark.  
Thorough uniform coverage is essential.  
Spray to wet all surfaces to the point  
of drip (not run-off).  
Note: Under Western dry conditions, add  
1 to 1½ quarts of Collodial Products Corp.

"Regulaid" to each 100 gallons of spray solution or 1 quart of "Multifil, x77" to each 80 to 100 gallons of spray solution, for use on trees and shrubs. Do not spray on trees when wind velocity exceeds 15 miles per hour. Do not apply within 12 hours of rain. Do not apply when leaves are wilted and during periods of extended drought when the soil is dry.

Common Name: malathion

Chemical Name: diethyl mercaptosuccinate S-ester with  
0,0-dimethyl phosphorodithioate

Other Name: Cythion

Category: insecticide, acaricide

Guarantee in Terms of: malathion

Marketing Types: DOM domestic  
COM commercial

Formulations: DU dust  
EC emulsifiable concentrate  
SN solution  
SO solid  
WP wettable powder

Cautions: Precautionary information is included on the manufacturer's label.  
READ THE LABEL CAREFULLY BEFORE USING ANY INSECTICIDE.

REGISTERED USES

Type of Use	Dosage, Formulation and Directions
ORNAMENTALS - WOODY	
aphids, bagworm, European pine shoot moth, fourlined plant bug, lace bugs, leafhoppers, leafminers, mealybugs, pine needle scale, sawflies, scale insects (crawlers), spider mites, tarnished plant bug, tent caterpillars, thrips	DOM 0.23 - 0.46 oz per 1000 sq ft EC, WP COM 10 - 20 oz per acre EC, WP DOM COM 4% dust DU Apply at first appearance of pest. Obtain thorough coverage on all surfaces. Repeat as needed.
	DOM 8 oz in 100 gal SO For use in approved hose-end sprayers. Replenish cartridges as necessary to maintain proper dosage.
FIR, SPRUCE	
spruce budworm	DOM 0.5 oz in 1 gal EC Apply as soon as larvae appear. Unless a thorough drench is made, a second application 5 to 7 days later may be necessary.

MIXTURES CONTAINING MALATHION1. with carbaryl (CAB)

ORNAMENTALS - WOODY (INCLUDING AZALEA, BOXWOOD, DOGWOOD, EUONYMUS, HOLLY, LILAC, RHODODENDRON)

aphids, black vine weevil,  
caterpillars, cankerworms, lace  
bugs, leafhoppers, leafminers,  
sawflies, scale insects, spider  
mites

DOM MAL: 4% CAB: 5% DU

DOM MAL: 10% CAB: 5% WP

Use 8 level tablespoons of the WP per gallon of water and apply as a medium fine spray. As a dust, apply a thin even coat to the foliage. Apply when air is still. Times of application as below:  
for chewing insects and aphids, when they first appear; for leafminers, when leaves start opening and again 3 and 6 weeks later; for scale insects, when crawlers are present; for mites, every 7 to 10 days; and for black vine weevil in late June and early July. Do not use on Boston ivy, Virginia creeper, or juniper. Do not apply when plants are in flower as this product is extremely poisonous to bees.

2. with methoxychlor (MET)

ORNAMENTALS - WOODY

aphids, codling moth, flea  
beetles, leafhoppers, sawflies  
(larvae), tarnish plant bug,  
tent caterpillars, thrips

DOM MAL: 0.3 oz MET: 0.8 oz in 1 gal EC, SN

DOM MAL: 2 - 10% MET: 3 - 15% DU

Spray or dust regularly at 10 to 14 day intervals. Apply a light even treatment to the plants.

aphids, caterpillars, flea  
beetles, spider mites,  
tarnished plant bug

DOM MAL: 6.6% MET: 15% SO

Apply by approved hose-end sprayer to new growth. Repeat at 7 to 10 day intervals.

3. with methoxychlor (MET) and tetradifon (TED)

ORNAMENTALS - WOODY

aphids, caterpillars, flea  
beetles, lace bugs, leafhopper,  
leafroller, mealybugs, scale  
insects (crawlers), spider mites,  
webworms, weevils

DOM MAL: 0.15 oz MET: 0.15 oz TED: 0.05 oz

in 1 gal EC

Apply as necessary.



4. with methoxychlor (MET) and dicofol (DCF)

NURSERY STOCK, ORNAMENTALS - WOODY  
aphids, beetles, caterpillars,  
leafhoppers, mealybugs, scales  
(crawlers), spider mites, thrips

DOM DCF: 3.7% MAL: 1.25% MET: 10% EC  
Use 2 ounces in one gallon of water.  
Spray both sides of the foliage to  
the point of run-off. Repeat applications  
as necessary or at weekly intervals.  
In hot weather always spray in cool  
morning hours.

Common Name: none approved

Chemical Name: methyl-2-benzimidazole carbamate phosphate

Other Names: MBC-phosphate, Lignasan P

Category: fungicide

Guarantee in Terms of: methyl-2-benzimidazole carbamate phosphate

Marketing Types: COM commercial

Formulations: WP wettable powder

Cautions: Precautionary information is included on the manufacturer's label.  
 READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

Limitations:

1. Do not treat on rainy days.
2. For use only by contractors licensed by the Ontario Shade Tree Council.

REGISTERED USES

Type of Use	Dosage, Formulation and Directions
AMERICAN ELM dutch elm disease	COM 3.8 gal per tree plus 0.31 gal per inch dbh of tree of 1000 ppm solution #SN Temporary Registration 1976 PROTECTIVE: Apply by root, root flare, or trunk injection, using the patented (Patent # 962588, Canada Patents and Developments Limited) developed by the Canadian Forestry Service. Root injections may be made at any time during the growing season. Root flare and trunk injections may be made only after full leaf expansion. If lower concentrations (250-750 ppm) are desirable, consult the dosage schedule provided by the Ontario Shade Tree Council. Re-treatment may be necessary in subsequent years. Limitations (1) (2)
	COM 3.8 gal per tree plus 0.31 gal per inch dbh of tree of 1000 ppm solution #SN Temporary Registration 1976 THERAPEUTIC: Application by root injection at the earliest stages of the dutch elm

disease may arrest the disease. Apply at any time during the growing season. If lower concentrations (250-750 ppm) are desirable, consult the dosage schedule provided by the Ontario Shade Tree Council. Re-treatment may be necessary in subsequent years.  
Limitations (1) (2)

Common Name: methoxychlor

Chemical Name: 1,1,1-trichloro-2,2-bis(p-methoxyphenyl)ethane

Other Name: Marlate

Category: insecticide

Guarantee in Terms of: methoxychlor

Marketing Types: DOM domestic  
COM commercial

Formulations: AE aerosol  
DU dust  
EC emulsifiable concentrate  
PS pressurized spray  
SN solution  
WP wettable powder

Cautions: Precautionary information is included on the manufacturer's label.  
READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

REGISTERED USES

Type of Use	Dosage, Formulation and Directions
ELM elm bark beetles (native, European)	COM 6 - 12% solution EC MISTBLOWER: Apply 2 to 2.5 gallons of 12% solution per tree in late winter or early spring when trees are dormant. A second treatment may be made around the end of July, using the 6% solution.
ORNAMENTALS - WOODY caterpillars, elm leaf beetle, flea beetles, lace bugs, leafhoppers, May beetles, tent caterpillars, thrips, webworms, weevils	COM 1 - 2% solution EC CONVENTIONAL SPRAY: Apply 25 gallons of 2% solution per tree in late winter or early spring, when trees are dormant. Make a second application in late July, using 25 gallons of 1% solution per tree.
	COM 6% solution EC MISTBLOWERS: Treat shade trees and other large specimens. For use by experienced pest control personnel only. Use with care near lakes, ponds, and streams containing fish. Do not treat during bloom.

COM 16 oz in 100 gal EC, SN, WP  
HYDRAULIC SPRAYERS: Treat  
ornamentals and flowers as necessary  
to control infestations. Do not  
contaminate fruit, vegetables, or  
other edible crops. Do not treat  
during bloom.

DOM COM 3 - 10% dust DU  
Apply to the foliage of ornamentals  
and flowers as necessary to control  
infestations.

DOM 2 - 3% spray AE, PS  
Spray plants lightly from a distance  
of 12 to 18 inches. Do not treat  
during bloom.

Common Name: methomyl  
Chemical Name: S-methyl-N-[(methylcarbamoyl)oxy]-thioacetimidate  
Other Names: Lannate  
Category: insecticide  
Guarantee in terms of: methomyl  
Marketing Types: COM commercial  
Formulations: SN solution

Cautions: Precautionary information is included on the manufacturer's label.  
 READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

REGISTERED USES

Type of Use	Dosage, Formulation and Directions
CHRISTMAS TREE PLANTATIONS, FARM WOODLOTS, MUNICIPAL PARKS, RIGHTS-OF-WAY spruce budworm	COM 3.672-7.128 oz in 100 gal (dilute spray) per acre SN COM 3.672-7.128 oz in 20 gal (mistblower) per acre SN Treat at first sign of larval emergence or feeding. Spray to cover new growth. Repeat in 3-4 days if necessary.

Common Name: mineral oil

Other Names: Dormant Oils, Summer Oils, Petroleum Oils, Volck Oils

Category: acaricide, insecticide

Guarantee in Terms of: mineral oil; unsulfonatable residue; Saybolt Universal Viscosity at 100°F.

Marketing Types: COM commercial  
DOM domestic

Formulations: EC emulsifiable concentrate

Cautions: Precautionary information is included on the manufacturer's label.  
READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

Limitations:

1. Do not use on conifers not tolerant to oil sprays, such as blue spruce, white pine, arborvitae, and junipers.
2. Do not use on drought-injured or winter-burned evergreens.
3. Do not use on Japanese maple, beech, hickory, walnut or butternut, which may be injured.
4. Allow at least 60 days between oil sprays.
5. Do not apply more than 3 times per year.

REGISTERED USES

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Type of Use	Dosage, Formulation and Directions
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A. SUMMER AND DORMANT EMULSIVE OIL:

Mineral Oil: 97%; Unsulfonatable Residue: 89% (of product); Saybolt Universal Viscosity at 100°F: 49 seconds.

ORNAMENTALS - WOODY

mealybugs, scale insects,  
spider mites (eggs)

DOM 20 fl oz in 3 gal EC  
DORMANT: Apply as a forceful spray,  
wetting pests and all parts of plants  
thoroughly.

greenhouse whitefly, scale  
insects, spider mites, mealybugs

DOM 10 fl oz in 3 gal EC  
SUMMER: Apply as a forceful spray, wetting  
pests and all parts of plants thoroughly.

## GREENHOUSE ORNAMENTALS - WOODY

greenhouse whitefly, scale insects,  
spider mites, mealybugs

DOM 0.75 - 1.5 fl oz in 1 gal EC  
Apply as a forceful spray, wetting  
pests and all parts of plant  
thoroughly.

Limitations (4)(5)

B. SUPERIOR EMULSIVE OILS:

Mineral oil 97 - 98.9%, Unsulfonatable Residue 92 - 94%, Saybolt Universal  
Viscosity at 100°F: 70 - 75 seconds.

ORNAMENTALS - WOODY (ASH, BARBERRY,  
BOXELDER, BOXWOOD, CATALPA, DOGWOOD,  
ELM, EUONYMUS, FILBERT, FORSYTHIA,  
JUNIPER, LILAC, MAGNOLIA, MOCK ORANGE,  
OAK, PINE, POPLAR, PRIVET, SYCAMORE,  
VIBURNUM, WILLOW)

European red mite, fruit tree  
leafroller, lecanium scale,  
oystershell scale, pear psylla,  
pine needle scale, San Jose scale

DOM 4 fl oz in 1 gal EC

DORMANT: Apply in early spring when  
danger of frost is past. Spray on a  
sunny day in the morning, so that  
trees dry quickly.

Limitation (3)

C. SUPREME EMULSIVE OILS:

Mineral Oil: 98%; Unsulfonatable Residue: 90% (of product); Saybolt Universal  
Viscosity: 145 seconds.

## ORNAMENTALS - WOODY

Oystershell scale, San Jose  
scale, soft brown scale, spider  
mites

DOM 10 fl oz in 6 gal EC

COM 1 gal in 100 gal EC

SUMMER: Apply as a forceful spray  
wetting pests and all parts of plants  
thoroughly.

Limitations (1)(2)(3)

DOM 1 pint in 6 gal EC

COM 1 - 3 gal in 100 gal EC

DORMANT: Use 2 to 3 gallons in 100  
gallons of water on deciduous species,  
1 to 1.5 gallons in 100 gallons on  
other species.

Limitations (1)(2)(3)



Common Name: chinomethionat

Chemical Name: cyclic S,S-(6-methyl-2,3-quinoxalinediyl)dithiocarbonate

Other Name: Morestan

Category: acaricide

Guarantee in Terms of: chinomethionat

Marketing Types: COM commercial

Formulations: DU dust  
WP wettable powder

Cautions: Precautionary information is included on the manufacturer's label.  
READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

REGISTERED USES

Type of Use	Dosage, Formulation and Directions
ARBORVITAE, JUNIPER, YEW (TAXUS) spider mites (eggs, nymphs, adults)	COM 9.16 - 16.0 oz per acre DU COM 2.5 - 5.0 oz per 100 acre WP Apply for thorough coverage. Repeat as necessary.

Common Name: metam  
Chemical Name: methyldithiocarbamic acid  
Other Names: SMDC, metham-sodium, Vapam  
Category: fungicide, herbicide, insecticide, nematocide  
Guarantee in Terms of: metam  
Marketing Type: COM commercial  
Formulation: SN solution  
Cautions: Precautionary information is included on the manufacturer's label.  
 READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

Limitations:

1. Do not apply in extreme temperatures or high wind movement.
2. Do not apply to dry soil.
3. Do not use solid stream or mist spray.
4. Do not mix untreated soil with treated soil.

REGISTERED USES

Type of Use	Dosage, Formulation and Directions
ORNAMENTALS - WOODY (PROPAGATION BEDS: FIELD, GREENHOUSE) germinating weed seeds (annual grasses, barnyard grass, chickweed, dandelion, henbit, Johnson-grass, lamb's-quarters, pigweed, purslane, ragweed, wild morning glory, yellow nut sedge) damping-off, nematodes, oak root fungus, root rots.	DOM COM 8 - 12 lb in 160 gal per 1000 sq ft SN Soil fumigant. Apply as a summer and fall treatment. Cultivate area thoroughly one week before application; break up clods and loosen soil deeply and thoroughly. Keep soil moist before and during application, and for 24 hours after application. Apply during periods of moderate air temperatures. Soil temperature must be in the range of 16 to 32° C at a 3 inch depth. FOR LIMITED AREAS (seed beds, greenhouses): Apply as a spray or inject into the soil. FOR SPRAY APPLICATION: Spray evenly using large size droplets. Sprinkle with water immediately after application until soil is wet to a depth of 3 to 4

inches. Use the higher rate on very heavy or rich soils.

For soil injection, space shanks 5 to 6 inches apart and inject treatment 4 to 6 inches into well prepared soil. Lightly water the soil surface immediately after injection.

Following spray application or soil injection, spread a plastic cover over the treated area for 48 to 72 hours. FOR FIELD APPLICATIONS (where entire area is being treated): Spray, then continue sprinkling with water until soil is wet to a depth of 3 to 4 inches. On very light soils, keep surface moist by sprinkling at intervals for 2 or 3 days.

CULTIVATION AND PLANTING AFTER APPLICATION:

After Fall application - cultivate lightly one week after application. The following spring, cultivate one week before planting.

After Summer application - One week after application, cultivate lightly to break up crust and promote drying; repeat as necessary. On well-drained soils of light to medium texture which are not wet or cold following summer application, planting may take place 21 days following treatment.

SPECIAL INSTRUCTIONS: If soils are heavy or especially high in organic matter or remain wet and/or cold (below 16°C) following application, a minimum interval of 30 days should be observed before planting. During cold and/or wet weather, frequent shallow cultivations may aid the escape of metam from the soil. If in doubt, transplant a seedling plant and examine for injury before planting crop.

Limitations (1)(2)(3)(4).

symphilids

COM 76 lb per acre SN

Soil fumigant. Soil should be in good working condition to a depth of 8 to 10 inches. Maintain adequate moisture during spring season. Treat during July - August when symphilids are in the upper soil surface. Apply during periods of moderate air temperature. Soil temperature must be in the range of 16 to 32°C at a 3-inch depth. Apply using blade or chisel injector. Inject below level of symphilid concentration, usually 6 to 8 inches. Pack soil immediately after application. Cultivate lightly one week after application. The following spring,

cultivate one week before planting.  
 SPECIAL INTRUCTIONS: Follow special instructions given above.  
 Limitations: (1)(2)(4).

## TREE REPLANT SITES

germinating weed seeds (annual grasses, barnyard grass, chickweed, dandelion, henbit, Johnson-grass, lamb's-quarters, pigweed, purslane, ragweed, wild morning glory, yellow nut sedge)

damping-off, nematodes, oak root fungus, root rots

DOM COM 3.8 oz in 20 gal SN  
 FALL TREATMENT: Soil fumigant. Remove dead or diseased trees and root system; loosen the soil to a depth of 6 to 8 inches. Level off the area. Treat during period of adequate soil moisture. Apply during periods of moderate air temperatures. Soil temperature must be in the range of 16 to 32°C at a 3-inch depth. When soil is workable, build a circular basin or ridge 6 feet across the site. Apply to the area. Cultivate lightly after one week. One week before planting, the following spring, dig the hole ready to receive the tree, keeping the soil removed from the hole within the treated area.  
 SPECIAL INSTRUCTIONS: Follow special instructions given above.  
 Limitations (1)(2)(3)(4)

## ELM

Dutch elm disease (prevention of root graft transmission)

COM 1 part to 3 parts water SN  
 Drill holes approximately 3/4 inch in diameter, 15 inches deep and 6 inches apart. Fill each hole with diluted metam to within 2 inches of the soil surface. Make the line of treatment sufficiently long to kill all eml roots of the two adjacent trees that are likely to be root-grafted. The line should extend well beyond the drip line of these trees. When necessary, run an additional treatment line parallel to obstructions, such as driveways and street, that roots may grow under. Apply the chemical slowly and carefully to avoid overflowing the drilled holes. This will reduce the possibility of grass kill. Tamp each hole closed with the heel. Do not make treatment lines closer than 5 feet to shrubs or 35 feet to other tree species. A small circle of grass is usually killed around each point of injection but after 4 to 6 weeks the dead areas may be reseeded or resodded.  
 Limitations (1)(2)

Common Name: mustard oil

Chemical Name: includes allyl isothiocyanate

Category: pet repellent

Guarantee in Terms of: mustard oil

Marketing Types: DOM domestic

Formulations: DU dust  
PS pressurized spray

Cautions: Precautionary information is included on the manufacturer's label.  
READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

Limitations:

1. Do not apply on flowers, vegetables, or tender foliage.
2. Do not wet plants by excessive application.

REGISTERED USES

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Type of Use

Dosage, Formulation and Directions

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MIXTURES CONTAINING OIL OF MUSTARD

1. with oil of lemongrass (OAL)

ORNAMENTALS - WOODY  
repels: cat, dog

DOM MUS: 0.2% OAL: 5.0% PS  
Spray areas to be protected lightly every day or every second day until habits are changed. Use in conjunction with training.  
Limitations (1)(2)

2. with bone oil (BON) and oil of lemongrass (OAL)

ORNAMENTALS - WOODY  
repels: dog

DOM MUS: 0.2% BON: 8.0% OAL: 2.0% DU  
DOM MUS: 0.5% BON: 1.0% OAL: 3.5% PS  
Apply to lower branches, tree trunks, and soil around plants. Use in conjunction with training.  
Limitations (1)(2)

3. with bone oil (BON), paradichlorobenzene (PDB) and oil of sassafras (OAN)

ORNAMENTALS - WOODY  
repels: cat, dog

DOM MUS: 0.25% BON: 0.5% OAN: 0.25%  
PDB: 1.0% PS

Spray lightly on objects to be protected.  
Do not wet plants. Repeat as necessary.  
Use in conjunction with training.  
Limitations (1)(2)

Common Name: none approved

Chemical Name: 1-naphthalene acetic acid (present as ethyl ester)

Other Name: Tre-Hold

Category: plant growth regulator

Guarantee in Terms of: 1-naphthalene acetic acid (present as ethyl ester)

Marketing Types: DOM domestic  
COM commercial

Formulations: PS pressurized spray  
PT paint

Cautions: Precautionary information is included on the manufacturer's label.  
READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

REGISTERED USES

Type of Use	Dosage, Formulation and Directions
ORNAMENTALS - WOODY (AMERICAN ELM, CHINESE ELM, RED MAPLE, SILVER MAPLE, SUGAR MAPLE, SYCAMORE) control of resprouts	DOM 1.0% pressurized spray PS Spray on the pruning cut when the cuts are made. Direct the spray 10 to 20 inches from the pruned surface. Thoroughly cover the pruned surface and the bark around the cut. For best results, prune to a lateral branch (drop-crotch pruning). Do not leave stubs and avoid severe trimming. Treatment of all cuts is important.
ORNAMENTALS - WOODY (AMERICAN ELM, CHINESE ELM, RED MAPLE, SILVER MAPLE, SUGAR MAPLE, SYCAMORE, WATER OAK) control of resprouts	COM 1.0% paint PT Paint on the pruning cut like a wound dressing when the cuts are made. For best results, prune to a lateral branch (drop-crotch pruning). Do not leave stubs. Apply directly to the cut wood surface with a brush. Cover the entire cut surface and one inch of the bark around the cut. Summer applications are most effective on water oak.

Common Name: naled  
Chemical Name: 1,2-dibromo-2,2-dichloroethyl dimethyl phosphate  
Other Name: Dibrom  
Category: insecticide  
Guarantee in Terms of: naled  
Marketing Types: COM commercial  
Formulations: EC emulsifiable concentrate  
 SN solution

Cautions: Precautionary information is included on the manufacturer's label.  
 READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE

REGISTERED USES

Type of Use	Dosage, Formulation and Directions
ARBORVITAE, AZALEA, BIRCH, CHINESE MAGNOLIA, HOLLY, PRIVET, SNOWBALL, WILLOW aphids, birch leafminer, holly leafminer, leafhoppers, spider mites, tent caterpillars, willow leaf beetle	COM 17 oz in 100 gal EC Apply when insects first appear. Thorough coverage and contact of insects is essential. Repeat as necessary.
GREENHOUSE ORNAMENTALS aphids, greenhouse whitefly, leafrollers, mealybugs, spider mites	COM 0.86 oz per 10,000 cu ft EC VAPOR FUMIGATION: Apply by plastic squeeze bottle or other convenient dispenser. Treat when the plants are dry. Apply to the entire pipe or to intermittent sections. Heat cold pipes immediately to 71°C. In steam houses, close the vents for at least 1 hour after pipes are hot. With hot water systems, close the house for at least 3 hours. When treating hot pipes, wear goggles and respirator. Avoid overtreatment. Do not make direct application to plants. Ventilate house before re-entry. For spider mites, apply 3 to 4 times at intervals of 3 to 4 days. For adult whiteflies, make 2 applications 7 days apart.



COM 0.32 oz per 10,000 cu ft SN  
THERMAL FOGGING: Close all doors, windows and ventilators. Lock or barricade all entrances; post warning signs; and, take precautions to prevent persons or animals from entering the area. Turn off misting systems. Be certain all blossoms and foliage are dry. Room temperature should read from 21 to 27<sup>o</sup> C. Make 3 or 4 applications at intervals of 3 to 4 days. Cover the foliage thoroughly but do not apply to the point of where the foliage becomes visibly wet. Keep the nozzle 4 feet from the plants. Leave the house closed at least 3 hours after treatment (or overnight if possible). Ventilate at least 1 hour before re-entry. Wear proper mask and respirator while applying.

Common Name: nicotine

Chemical Name: 3-(1-methyl-2-pyrrolidinyl)pyridine

Category: animal repellent, insecticide

Guarantee in Terms of: nicotine ( as alkaloid)

Marketing Type: COM commercial  
DOM domestic

Formulations: DU dust  
SN solution

Cautions: Precautionary information is included on the manufacturer's label.  
READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

REGISTERED USES

Type of Use	Dosage, Formulation and Directions
<b>ORNAMENTALS - WOODY</b>	
aphids, apple red bug, bud-moths, lace bugs, mealybugs, thrips	DOM 0.6 fl oz in 10 gal SN COM 6 fl oz in 100 gal SN Apply when insects or damage first appears, and repeat as necessary. Best results are obtained at temperatures above 20°C.
greenhouse whitely, leafhoppers, tarnished plant bug	DOM 0.8 - 1.2 fl oz in 10 gal SN COM 8 - 12 fl oz in 100 gal SN Include a suitable spreader in the formulation. Apply when insects or damage first appears and repeat when necessary. Best results are obtained above 20°C.
<b>GREENHOUSE ORNAMENTALS</b>	
aphids, thrips	COM 2.37 oz per 10,000 cu ft DU <b>SMOKE FUMIGATION:</b> Fumigate at temperatures of 21 to 26°C. Be sure foliage is dry. Place fumigators in a single row on the ground in the central walk. Close all ventilators doors and other openings. Ignite fumigators in succession, working towards the door. Close greenhouse for at least 2 hours, then ventilate gradually, preferably within 8 hours. Cut wide-open blooms of cutting flowers before fumigating. Do not fumigate violets.

NICOTINE

NIA

ORNAMENTALS - WOODY  
repels: dog

DOM COM 0.2 - 0.8 fl oz in 1 gal SN  
Spray areas to be protected at  
intervals of 2 weeks and after rains.

Common Name: oxydemeton-methyl

Chemical Name: S-[2-(ethylsufinyl)ethyl] 0,0-dimethyl phosphorothioate

Other Names: Meta-Systox-R

Category: acaricide, insecticide

Guarantee in Terms of: oxydemeton-methyl

Marketing Types: COM commercial  
DOM domestic

Formulations: EC emulsifiable concentrate  
GR granular

Cautions: Precautionary information is included on the manufacturer's label.  
READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

REGISTERED USES

Type of Use	Dosage, Formulation and Directions
ORNAMENTALS - WOODY aphids, birch leafminer, holly leafminer, spider mites, thrips	DOM 0.8 - 1.5 oz in 10 gal EC COM 7.2 - 14.4 oz per 100 gal of water EC FOLIAR APPLICATION: Apply for full coverage using a compressed air sprayer. Repeat as necessary. For birch and holly leafminers, treat for first brood in mid-May and for second brood in late June.
aphids, birch leafminer, holly leafminer, spider mites	DOM COM 0.4 - 4.0 oz per tree GR SOIL APPLICATION: Spread uniformly from the trunk to the drip line on all sides, using about 0.40 oz per 0.5 inch of trunk diameter. Work into the soil and water thoroughly.
BIRCH aphids, spider mites, thrips	DOM 0.7 - 1.5 oz in 10 gal EC COM 7.2 - 14.4 oz per 100 gal of water EC SOIL DRENCH: Pour the required amount of emulsion around the base of the tree. Use 3 gallons of emulsion per tree for trees up to 6 feet tall and proportion- ately more for taller plants. For larger trees use one quart of emulsion per inch of trunk diameter. Repeat as necessary.

## GREENHOUSE ORNAMENTALS

aphids, spider mites, thrips

COM 7.2-14.4 oz in 100 gal of water EC  
 COM 4.8 oz in 10 gal (mist sprayer) EC  
 Apply for complete coverage. Repeat as necessary.

MIXTURES CONTAINING OXYDEMETON-METHYL1. with trichlorfon (TRI)

## ORNAMENTALS - WOODY

aphids, armyworms bagworm  
 birch leafminer, boxelder bug,  
 caterpillars, cutworms, holly  
 leafminer, leafhoppers,  
 leafminers, leafrollers, lygus  
 bugs, spider mites, spruce  
 budworm, stink bugs,  
 tarnished plant bug, webworms

DOM COM TRI: 0.18-0.36 oz ODM 0.06-0.12 oz  
 per gal of water EC  
 Spray plants until they are thoroughly  
 wet. Apply when insects first appear and  
 repeat at intervals of 2 to 3 weeks or  
 as necessary to maintain control. For  
 specific recommendations regarding timing  
 of applications, consult your local  
 agricultural authorities.

2. with carbaryl (CAB) and dicofol (DCF)ORNAMENTALS - WOODY (INCLUDING  
 AZALEA, BOXELDER, CAMELLIA, DOGWOOD,  
 GARDENIA, HIBISCUS, LILAC, PRIVET)

aphids, armyworms, boxelder bug,  
 caterpillars, cucumber beetles,  
 earwigs, elm leaf beetle,  
 flea beetle, grasshoppers,  
 greenhouse whitefly, leafhoppers,  
 leafminers, leafrollers, meadow  
 spittlebug, mealybugs, plant  
 bugs, psyllids, rose chafer,  
 rust mites, sawflies (larvae),  
 scale insects (crawlers), spider  
 mites, thrips (exposed), woolly  
 aphids

DOM COM ODM: 0.45 oz CAB: 0.45 oz  
 DCF: 0.18 oz in 10 gal EC  
 Spray thoroughly to wet both sides of  
 foliage. Repeat at intervals of 2 weeks  
 as necessary. Do not use inside  
 buildings.

Common Name: paraquat  
Chemical Name: 1,1'-dimethyl-4,4'-bipyridinium dichloride  
Other Names: Gramaxone, Weedrite  
Category: herbicide  
Guarantee in Terms of: paraquat  
Marketing Types: COM commercial  
 DOM domestic  
Formulations: EC emulsifiable concentrate  
 PS pressurized spray  
 SG soluble granules

Cautions: Precautionary information is included on the manufacturer's label.  
 READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

Limitations:

1. Do not apply with a mist blower.
2. Avoid contact with desirable foliage (especially of conifers), young growing shoots, suckers and green bark.

REGISTERED USES

Type of Use	Dosage, Formulations and Directions
SHELTERBELTS weeds	COM 16 oz in 100 gal per acre EC Apply to thoroughly wet all foliage, preferably on a cloudy day, during dull sunlight, or just before or during periods of darkness. Spray to the base of the established trees. Repeat application if necessary. Limitations (1)(2)
ORNAMENTALS - WOODY annual broadleaf weeds and grasses (annual blue grass, chickweed, clover, crab grass, dandelion, docks, foxtail, goose grass, henbit, lamb's-quarters, nut-grass, orchard grass, plantains, poison ivy, ragweed, spurge, wild oats, wood-sorrel)	DOM .44% pressurized spray PS Spot application. Spray individual weeds from a distance of 1 to 2 feet. For best results, apply when weeds are small. For tall, rank-growing weeds, thorough coverage is required. Make a second application if regrowth is noticed. May be used to edge lawn grasses around trees and shrubs. Limitation (2)

MIXTURES CONTAINING PARAQUAT (PAQ)

1. with diquat (DIQ)

ORNAMENTALS - WOODY  
weeds

DOM PAQ: .219 oz DIQ: .219 oz per 1000  
sq ft SG

Apply by watering can, using 10 gallons  
of water, or as low pressure spray, using  
5 gallons of water per 1000 square feet.  
Thoroughly wet all weeds. Apply when  
weeds are growing actively. For extremely  
dense weed growth, double the rate of  
application. Repeated treatments may be  
required on perennial weeds. May be  
applied up to the base of trees, hedges  
and shrubs that have been established  
for one year. May be used to edge lawn  
grasses around trees and shrubs.

Limitation (2)

Common Name: paradichlorobenzene  
Chemical Name: p-dichlorobenzene  
Other Name: PDB  
Category: pet repellent  
Guarantee in Terms of: paradichlorobenzene  
Marketing Types: DOM domestic  
COM commercial  
Formulations: PS pressurized spray  
SO solid

Cautions: Precautionary information is included on the manufacturer's label.  
READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

REGISTERED USES

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Type of Use	Dosage, Formulation and Directions
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MIXTURES CONTAINING PARADICHLOROBENZENE

1. with capsaicin (CAS)

ORNAMENTALS - WOODY  
repels: cat, dog

DOM COM PDB: 99% CAS: .175% SO  
Water thoroughly to remove odours left by animals, and then hang the units 10 to 15 inches from the ground on the object to be protected. Place units at intervals of 2 to 3 feet. For gardens and flower borders, attach to stakes or plant markers. Use in conjunction with training.

2. with mustard oil (MUS), bone oil (BON) and oil of sassafras (OAN)

ORNAMENTALS - WOODY  
repels: dog

DOM COM PDB: 1% MUS: .25% BON 0.5% OAN:  
0.25% PS  
Spray lightly on objects to be protected. Do not wet plants. Repeat as necessary. Use in conjunction with training.



PHOSPHAMIDON

PHF

Common Name: phosphamidon  
Chemical Name: dimethyl phosphate ester with 2-chloro-N,N-diethyl-3-hydroxycrotonamide  
Other Name: Dimecron  
Category: acaricide, insecticide  
Guarantee in Terms of: phosphamidon  
Marketing Types: RES restricted  
COM commercial  
Formulations: EC emulsifiable concentrate  
SN solution

Cautions: Precautionary information is included on the manufacturer's label.  
READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

Limitations:

1. NATURE OF RESTRICTION: "This product is to be stored or displayed separately from food for humans or feed for animals."
2. NATURE OF RESTRICTION: "This product is to be used only in the manner authorized; contact local authorities regarding appropriate use permits that may be required."

REGISTERED USES

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Type of Use	Dosage, Formulation and Directions
NURSERY STOCK aphids	RES 4.58 - 9.28 oz in 100 gal SN Apply when insects first appear and repeat as necessary. Limitation (1)
ARBORVITAE, BIRCH, ELM, HAWTHORN, OAK leafminers	RES 4.58 - 9.28 oz in 100 gal SN Apply when leaves are fully expanded and first miners are expected. Repeat for each new generation. Limitation (1)

BIRCH, HEMLOCK, OAK, WILD  
CHERRY

tent caterpillars

RES 4.58 - 9.28 oz in 100 gal SN  
Apply to new foliage when larvae first  
appear.

Limitation (1)

FOREST

gypsy moth, tent caterpillars

RES 7.34 - 18.56 oz per acre SN  
Apply when eggs have hatched and larvae  
are approximately 1/2 inch long. Repeat  
as necessary using full coverage  
applications. It is advisable to conduct  
aerial application to forested areas  
under the direction of provincial or  
federal officials.

Limitations (1)(2).

Jack pine budworm, spruce  
budworm (adults, larvae)

RES 2 oz per acre SN  
Temporary registration 1975. Make 2  
applications, each at the rate of 2 ounces  
per acre, at least 4 to 6 days apart.  
For spruce budworm larvae, spray in early  
stages of development. For spruce budworm  
adults, apply when emergence reaches about  
40 per cent.

Limitations (1)(2)

Swaine jack pine sawfly

RES 2 oz per acre SN  
Temporary registration 1975. Make one 2-  
ounce application or two 1-ounce  
applications. Application should be made  
at the peak of the second instar.

Limitations (1)(2)

ORNAMENTALS - WOODY

gypsy moth, tent caterpillars

RES 4.58 - 9.28 oz in 100 gal SN  
Apply when eggs have hatched and larvae  
are approximately 1/2 inch long. Repeat  
as necessary. Use with caution on some  
evergreens.

Limitation (1)

ORNAMENTALS - WOODY

aphids, leafminers, tent  
caterpillars

RES 4.58 - 9.28 oz in 100 gal SN  
Apply when insects first appear and  
repeat at intervals of 2 weeks, or as  
necessary.

Limitation (1)

GREENHOUSE ORNAMENTALS

aphids, spider mites

RES 1.86 oz in 100 gal SN  
Apply as a drench to 400 sq ft of soil  
surface, or add 8 fluid ounces of the  
solution to the soil in each pot. Repeat  
as necessary, normally at intervals of 1  
month.

Limitation (1)

MIXTURES CONTAINING PHOSPHAMIDON

1. with dinocap (DIN)

ORNAMENTALS - WOODY

aphids, chewing insects,  
spider mites

COM 0.027 oz DIN: 0.01 oz per gal EC  
Apply when insects or mites first  
appear and repeat as necessary. Do  
not spray during the heat of the day.

Common Name: pirimicarb  
Chemical Name: 2-(dimethylamino)-5,6-dimethyl-4-pyrimidinyl dimethylcarbamate  
Other Names: Pirimor  
Category: insecticide  
Guarantee in Terms of: pirimicarb  
Marketing Types: DOM domestic  
 COM commercial  
Formulations: WP wettable powder  
 PS pressurized spray

Cautions: Precautionary information is included on the manufacturer's label.  
 READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

REGISTERED USES

Type of Use	Dosage, Formulation and Directions
CRABAPPLE, LILAC, MOUNTAIN ASH, MULBERRY (ORNAMENTAL), PLUM (ORNAMENTAL), PRIVET, SPIREA aphids	DOM 0.1% pressurized spray PS Hold container not less than 12 inches from the plant. Apply in very short bursts directed toward infested parts of the plant. Do not wet the foliage. Do not apply in bright sunshine or on open blooms. Do not use indoors.
BIRCH, DOGWOOD, ENGLISH IVY, HOLLY, HONEYSUCKLE, JAPANESE QUINCE, PHOTINIA, POPLAR aphids	COM 4 oz in 100 gal WP OUTDOORS: Apply to thoroughly cover all foliage. Repeat as necessary.

Common Name: none approved  
Chemical Name: polymerized butenes  
Category: insecticide  
Guarantee in Terms of: polymerized butenes  
Marketing Types: DOM domestic  
Formulations: PA paste  
 PS pressurized spray

Cautions: Precautionary information is included on the manufacturer's label.  
 READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

REGISTERED USES

Type of Use	Dosage, Formulations and Directions
ORNAMENTALS - WOODY ants, caterpillars, earwigs, spanworms, tussock moth	DOM 100% on paper bands PA Wrap band, sticky surface outward, around tree trunk to prevent crawling insects from entering the crown or on main branches to inhibit spread within the crown. If the band becomes dirty, scrape a fresh surface with a stick or knife.
ants, cutworms (climbing), fall cankerworm, gypsy moth (caterpillars), spring cankerworm, tussock moth (caterpillars)	DOM 33.95% pressurized spray PS Encircle the tree trunk or branch with a band of heavy paper about 4 inches wide. Spray a band at least 1/8" thick and 2 to 3 inches wide on the paper. Treat all avenues of approach to the tree, including supporting wires and posts. Renew stickiness when necessary by lightly scraping the surface.

Common Name: pine oil

Category: antimicrobial\*,  
tree wound dressing

Guarantee in Terms of: pine oil

Marketing Types: DOM domestic  
COM commercial

Formulations: PA paste

Cautions: Precautionary information is included on the manufacturer's label.  
READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

REGISTERED USES

Type of Use	Dosage, Formulation and Directions
ORNAMENTALS - WOODY grafts, wounds	DOM, COM 12.0 - 12.3% PA Trim surface to be treated so that it is smooth and free of dead wood and loose bark. Apply with a short-haired brush, trowel or knife. Thoroughly cover all cut surfaces, including the bark at the edge of the wound. Take care to exclude all air from the trimmed area.

Common Name: phosmet

Chemical Name: O,O-dimethyl phosphorodithioate S-ester with N-(mercaptomethyl) phthalimide

Other Names: Imidan, Prolate

Category: insecticide

Guarantee in Terms of: phosmet

Marketing Types: DOM domestic  
COM commercial

Formulations: WP wettable powder

Cautions: Precautionary information is included on the manufacturer's label.  
READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

REGISTERED USES

Type of Use	Dosage, Formulation and Directions
BIRCH (WHITE) birch leafminer	COM 10 oz in 100 gal WP DOM 1 oz in 10 gal WP Apply in May when leaves are about half expanded and repeat about the first week of July for the second generation.
ARBORVITAE, ASH, AZALEA, BEECH, BIRCH, BOXWOOD, CAMELLIA, CEDAR, DOGWOOD, ELM, FIR, HAWTHORN, HEMLOCK, HICKORY, HYDRANGEA, JUNI- PER, LILAC, MAPLE, PINE, PRIVET, SPRUCE, WILLOW, YEW (TAXUS) eastern tent caterpillar, elm spanworm, gypsy moth, Japanese beetle, spring cankerworm.	COM 10 oz in 100 gal WP DOM 1 oz in 10 gal WP When insects or damage is noticed, spray to thoroughly wet all affected parts. Repeat as necessary.

Common Name: parathion  
Chemical Name: 0,0-diethyl 0-(p-nitrophenyl) phosphorothioate  
Category: acaricide, insecticide  
Guarantee in Terms of: parathion  
Marketing Types: RES restricted  
Formulations: DU dust  
 EC emulsifiable concentrate  
 EM emulsion

Cautions: Precautionary information is included on the manufacturer's label.  
 READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

Limitations:

1. Do not apply when plants are in open bloom.
2. Not for home garden use.

REGISTERED USES

Type of Use	Dosage, Formulation and Directions
<p>NURSERY STOCK (ORNAMENTALS)                      aphids, bagworms, greenhouse whitefly, lace bugs, leafhoppers, spider mites, thrips</p>	<p>RES 2.5 - 6.5 oz in 100 gal EC, EM                      Apply when insects are first noticed. For spider mites and leafhoppers repeat after 7 to 10 days.                      Limitations (1)(2)</p>
<p>juniper webworm, leaf tiers, mealybugs, scale insects (crawlers)</p>	<p>RES 4 - 6.5 oz in 100 gal EC, EM                      Apply to young or crawler stages of pests. Repeat in 3 weeks if necessary.                      Limitations (1)(2)</p>
<p>GREENHOUSE ORNAMENTALS                      aphids, caterpillars, greenhouse whitefly, leafhoppers, mealybugs, spider mites, tarnished plant bug, thrips</p>	<p>RES 4 oz per 100,000 cu ft DU                      SMOKE FUMIGATION: Close greenhouse tightly. Burn appropriate number of smoke generators to obtain correct dosage. Treat when temperature is near 21°C, and relative humidity is low. Aerate area for 2 hours before entering to resume work.                      Limitation (2)</p>



Common Name: pyrethrins

Chemical Name: PYRETHRIN I: 2,2-dimethyl-3-(2-methyl propenyl) cyclopropanecarboxylic acid ester with 4-hydroxy-3-methyl-2-(2,4-pentadienyl)-2-cyclopenten-1-one  
 PYRETHRIN II: 3-carboxy-[2,2,2-trimethylcyclo-propaneacrylic acid 1-methyl ester, 3-ester with 4-hydroxy-3-methyl-2-(2,4-pentadienyl)-2-cyclopenten-1-one  
 CINERIN I: 2,2-dimethyl-3-(2 methylpropenyl) cyclopropanecarboxylic acid ester with 2-(2-butenyl)-4-hydroxy-3-methyl-2-cyclopenten-1-one  
 CINERIN II: 3-carboxy-[2,2,2-trimethylcyclopropaneacrylic acid 1-methyl ester 3-ester with 2-(2-butenyl)-4-hydroxy-3-methyl-2-cyclopenten-1-one  
 JASMOLIN I: 2,2-dimethyl-3-(2-methylpropenyl)cyclopropane carboxylic acid ester  
 JASMOLIN II: 3-carboxy-[2,2,2-trimethylcyclopropane acrylic acid 1-methyl ester 3-ester

Category: insecticide

Guarantee in Terms of: pyrethrins

Marketing Types: DOM domestic  
COM commercial

Formulations: PS pressurized spray

Cautions: Precautionary information is included on the manufacturer's label.  
READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

REGISTERED USES

Type of Use	Dosage, Formulation and Directions
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MIXTURES CONTAINING PYRETHRINS

1. with piperonal bis(2-(2-butoxy ethoxy)ethyl) acetal (PBT)

ORNAMENTALS - WOODY (INCLUDING AZALEA, CHINESE ELM, EVERGREENS)

aphids, caterpillars,  
cutworms (climbing), Japanese  
beetle, leafhoppers, spider  
mites, thrips

DOM PYR: 0.20% PBT: 1.00% PS  
DOM PYR: 0.25% PBT: 1.00-1.125% PS  
FOLIAR SPRAY: Release spray in short bursts at a distance of at least 18 inches from the plant. Avoid wetting. Never spray in direct sunlight. Hit insects directly. Do not spray food crops.

COM QTZ: 50 - 75 oz DEX: 50 - 75 oz per  
1000 sq ft GR  
Broadcast over the bench or bed area and  
work thoroughly into the top 6 inches of  
soil. Do not use on ornamentals grown in  
rotation with food or feed crops.

ORNAMENTALS - WOODY  
root and stem rots (Pythium,  
Rhizoctonia, Phytophthora)  
1. with fenamiosulf (DEX)

MIXTURES CONTAINING QUINTOZENE

Type of Use	Dosage, Formulation and Directions
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REGISTERED USES

Cautions: Precautionary information is included on the manufacturer's label.  
READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

Formulations: GR granular

Marketing Types: COM commercial

Guarantee in Terms of: quintozene

Category: fungicide

Other Names: Brassicol, PCNB, Tritisan, Terraclor

Chemical Name: pentachloronitrobenzene

Common Name: quintozene

QUINTOZENE

QTZ

Common Name: resmethrin

Chemical Name: (5-benzyl-3-furyl)methyl ( $\pm$ )-cis,trans-2,2-dimethyl-3-(2-methylpropoenyl) cyclopropanecarboxylate

Category: insecticide

Guarantee in Terms of: resmethrin

Marketing Types: DOM domestic

Formulation: PS pressurized spray

Cautions: Precautionary information is included on the manufacturer's label.  
READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

REGISTERED USES

Type of Use	Dosage, Formulation and Directions
ORNAMENTALS - WOODY: (ASH, AZALEA, CAMELLIA, COTONEASTER, CYPRESS, DAPHNE, DOGWOOD, EUONYMUS, FATSHEDERA, FORSYTHIA, HEMLOCK, IVY, JUNIPER, LOCUST, MAPLE, MULBERRY (ORNAMENTAL), OAK, PALM, PYRACANTHA, QUINCE (ORNAMENTAL), RHODODENDRONS, SPIREA, SPRUCE VIBURNUM)	DOM 0.25% PS Spray plants from a distance of 18 to 24 inches in bursts of 1 to 3 seconds or moving 1 linear foot per second. Spray to lightly moisten foliage: avoid heavy wetting. Repeat as necessary. Use with caution on ash, azalea, camellia, cotoneaster, cypress, juniper, mulberry, quince, pyracantha

MIXTURES CONTAINING RESMETHRIN1. with d-trans allethrin (ALM)

ORNAMENTALS - WOODY (DOGWOOD, EUONYMUS, FORSYTHIA, HEMLOCK, LOCUST, MAPLE, OAK, PINE, RHODODENDRON, SPIREA, SPRUCE)

greenhouse whitefly, leafhoppers, thrips (exposed), twospotted spider mite

DOM REZ: 0.200% ALM: 0.125% PS  
 Spray directly on insects from a distance of 18 inches. Spray 1 linear foot of growth per second.

2. with tetramethrin (NEO)

ORNAMENTALS - WOODY

aphids, cankerworms, cyclamen  
mite, tent caterpillars, two-  
spotted spider mite (red  
spiders), webworms, whiteflies

DOM REZ: 0.106% NEO 0.25% PS  
Spray insects directly, or spray plant  
with a slow sweeping motion so that mist  
drifts into plants. Direct spray so that  
upper and lower leaf surfaces are contacted.  
When using outdoors spray when air is still,  
hold container at least 18 inches from the  
plants to avoid injury. Repeat as necessary.

Common Name: sodium fluosilicate  
Chemical Name: sodium fluosilicate  
Other Names: sodium silicofluoride  
Category: insecticide  
Guarantee in Terms of: sodium fluosilicate  
Marketing Types: DOM domestic  
Formulations: GR granular

Cautions: Precautionary information is included on the manufacturer's label.  
 READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

Limitations:

1. Do not use if rain is predicted. If a heavy rain occurs within 24 hours, a second application may be necessary.
2. Do not water or irrigate for at least 24 hours after application.

REGISTERED USES

Type of Use	Dosage, Formulation and Directions
ORNAMENTALS - WOODY earwigs	DOM 5 - 20% bait GR Spread bait thinly over the field or garden, paying special attention to areas preferred by earwigs, such as fence rows, wood piles, compost heaps, bases of trees, and other damp and dark hiding places. Limitations (1)(2)
cutworms	DOM 5 - 20% bait GR Immediately after appearance of cutworms or damage, scatter bait thinly on the ground around the plants. Limitations (1)(2)

Common Name: solan  
Chemical Name: 3'-chloro-2-methyl-p-valeritoluidide  
Other Name: pentanochlor  
Category: herbicide  
Guarantee in Terms of: solan  
Marketing Types: COM commercial  
Formulations: EC emulsifiable concentrate  
Cautions: Precautionary information is included on the manufacturer's label.  
 READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

REGISTERED USES

Type of Use	Dosage, Formulation and Directions
NURSERY STOCK (ESTABLISHED), ORNAMENTALS - WOODY barnyard grass, chickweed, crab grass, foxtail, goosefoot, lamb's- quarters, purslane, ragweed, redroot pigweed, shepherd's- purse, smartweed, spurry, wild buckwheat	COM 4 lb in 40-80 gal per acre EC Apply 2 treatments, the first a fall treatment. For control of chickweed, apply as directed spray when chick- weed resumes growth during cool fall weather, but before chickweed reaches 4 inch size. And, the second a summer treatment. Apply as directed spray before broadleaf weeds are 2 inches (lamb's-quarters 4 inches) and grasses 1 inch high.

Common Name: simazine  
Chemical Name: 2-chloro-4,6-bisethylamino-1,3,5-triazine  
Other Names: Gesatop, Primatol, Princep, Simmaprim  
Category: herbicide, algaecide  
Guarantee in Terms of: simazine (technical)  
Marketing Types: COM commercial  
Formulations: GR granular  
 WP wettable powder

Cautions: Precautionary information is included on the manufacturer's label.  
 READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

REGISTERED USES

Type of Use

Dosage, Formulation and Directions

NURSERY STOCK AND WOODY ORNAMENTALS  
 (CEDAR (ARBORVITAE, THUJA SPP.),  
 BARBERRY, BOXWOOD, COTONEASTER,  
 DOGWOOD, HOLLY, YEW (TAXUS SPP.),  
 CHAMAECYPARIS, HEMLOCK, JUNIPER,  
 BLUE SPRUCE, NORWAY SPRUCE, MUGHO  
 PINE, BLACK WALNUT, WHITE ASH)

annual broadleaf weeds (clovers,  
 lady's-thumb, lamb's-quarters,  
 purslane, ragweed, smartweed,  
 wild buckwheat), annual grasses  
 (barnyard grass, crab grass,  
 wild oats, yellow foxtail), and  
 most perennial species starting  
 freshly from seed

COM 2-3 lb per acre GR  
 COM 2-3 lb in 30 gal per acre WP  
 For use among transplants established  
 one year or more. Apply in the fall,  
 or in the spring before buds break,  
 and prior to weed emergence. If weeds  
 have emerged, hoe and cultivate before  
 application. Make a broadcast or band  
 application, in dry form or as a spray,  
 using proportionately less for band  
 application. Use the lower rate on  
 sandy soils or other soils low in  
 organic matter. Use the higher rates,  
 up to 3 pounds per acre on clay soils  
 and soils high in organic matter.  
 Rainfall is required to move the chemical  
 into the root zone.

DRY APPLICATION: Distribute uniformly  
 over the soil surface by mechanical  
 means, or, for treatment of small areas,  
 apply by hand.

SPRAY APPLICATION: Apply with an efficient sprayer to obtain an even cover of the surface to be treated.

FOREST AND CHRISTMAS TREES  
(BALSAM FIR, WHITE PINE)

annual broadleaf weeds (clovers, lady's-thumb, lamb's-quarters, purslane, ragweed, smartweed, wild buckwheat), annual grasses (barnyard grass, crab grass, wild oats, yellow foxtail), and most perennial species starting freshly from seed

COM 1.36-4.52 lb per acre GR  
COM 4-6 lb in at least 30 gal per acre  
WP

In new or established plantings (2-0 stock or older) apply in a band centered over the rows; the rate should be in proportion to the area actually treated. Application can be made directly over the trees. Apply in the spring prior to the start of weed growth. If weeds have emerged, control of vegetation will be delayed and may be unsatisfactory. Fall applications made before freeze-up will provide control the following spring. Use the lower rates on coarse sandy soils. Use the higher rates on clay soils high in organic matter or where there is a heavy infestation of perennial grasses such as quack grass.

SHELTERBELT (ASH, CARAGANA, ELM, MAPLE)

annual broadleaf weeds (clovers, lady's-thumb, lamb's-quarters, purslane, ragweed, smartweed, wild buckwheat), annual grasses (barnyard grass, crab grass, wild oats, yellow foxtail), and most perennial species starting freshly from seed

COM 4-6 lb per acre GR  
COM 4-6 lb in 50 gal per acre WP

For use in plantings established one year or more. Treat in the fall or early spring before weeds emerge. Apply in dry form or as a spray. Use the lower rates for coarse, sandy soils and the higher rates for clay soils and soils high in organic matter. Rainfall is required to move the chemical into the root zone.

DRY APPLICATION: Distribute uniformly over the soil surface by means of a suitable mechanical spreader. For treatment of small areas, application by hand may be adequate.

SPRAY APPLICATION: Apply with an efficient sprayer to obtain an even cover of the surface to be treated.



MIXTURES CONTAINING TECHNICAL SMAZINE1. with amitrole (AMI)

CHRISTMAS TREE PLANTATIONS,  
FOREST PLANTATIONS, NURSERY  
STOCK, ORNAMENTAL PLANTINGS  
(AMERICAN BEECH, AMERICAN ELM,  
ARBORVITAE (THUJA), CHINESE  
ELM, DOGWOOD, DOUGLAS FIR,  
EASTERN HEMLOCK, JAPANESE HOLLY,  
JAPANESE MAPLE, JUNIPER, LONDON  
PLANE TREE, NORWAY SPRUCE, RED  
PINE, SCOTCH PINE, SILVER MAPLE,  
VIBURNUM, WHITE ASH, WHITE  
SPRUCE, YEW (TAXUS))

broadleaf weeds and grasses  
(blue grass, Canada thistle,  
chrysanthemum weed, crab  
grass, dandelion, foxtail,  
kochia, lamb's-quarters,  
mustard, night-shade, pigweed,  
plantain, poison ivy, purslane,  
quack grass, ragweed, smart-  
weed, sow-thistle, velvet  
grass, wild oats, witch grass)

COM SMZ: 3.15 lb AMI: 1.05 lb in 80 gal  
per acre WP

To establish Christmas tree and forest  
plantations in sod: Treat weeds in  
spring with a band spray. (Small weeds  
actively growing are killed more rapidly  
than weeds in dried or dormant condition).  
Plant tree seedlings into the treated  
band after 7-10 days when weeds begin  
to turn white. Do not plant in furrows.  
For established plantings: Treat only  
plants which have been established 1 year  
or more. Use a directed spray to avoid  
contact with stems and foliage of  
desirable plants. Use only preplant  
treatment on spruce, fir and pine.

Common Name: sulfallate

Chemical Name: 2-chloroallyl diethyldithiocarbamate

Other Names: Vegadex, CDEC

Category: herbicide

Guarantee in Terms of: sulfallate

Marketing Types: COM commercial

Formulations: EC emulsifiable concentrate  
GR granular

Cautions: Precautionary information is included on the manufacturer's label.  
READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

REGISTERED USES

Type of Use	Dosage, Formulation and Directions
AZALEA, EUONYMUS, HYDRANGEA, JUNIPER, POTENTILLA, PRIVET, SPIREA, YEW (TAXUS) annual weeds (annual blue grass, barnyard grass, bullgrass, care- less weed, chickweed, crabgrass, giant foxtail, green foxtail, henbit, pigweed, purslane, stickerweed, yellow foxtail)	COM 6 lb per acre EC, GR Apply to one and two year old shrubs, before weeds sprout. For granular herbicide, apply uniformly by mechanical means. For spray application, use in at least 20 to 40 gallons of water per acre and direct spray so that the ground surface under the plant is treated. Use on light, sandy soils that are low in organic matter and clay. On heavy or muck soils, follow the application with overhead irrigation (1/2 to 3/4 inches). Maintain sufficient moisture during period of treatment.

Common Name: sulphur  
Chemical Name: sulphur  
Category: fungicide  
Guarantee in Terms of: sulphur  
Marketing Types: DOM domestic  
 COM commercial  
Formulations: DU dust  
 WP wettable powder

Cautions: Precautionary information is included on the manufacturer's label.  
 READ THE LABEL CAREFULLY BEFORE APPLYING ANY PESTICIDE.

REGISTERED USES

Type of Use	Dosage, Formulation and Directions
ORNAMENTALS - WOODY black spot, powdery mildew, rust	DOM 90% dust DU DOM 9 - 16 oz in 10 gal WP COM 90% dust DU COM 88 - 157 oz in 100 gal WP Dust or spray every 7 to 10 days during the growing season.
<u>MIXTURES CONTAINING SULPHUR</u>	
1. with <u>captan</u> (CAP)	
LILAC, PHLOX, QUINCE (ORNAMENTAL) mildew	DOM SUL: 7 oz CAP: 2 oz in 10 gal WP COM SUL: 64 oz CAP: 16 oz in 100 gal WP DOM COM SUL: 20% CAP: 5% DU DOM COM SUL: 25% CAP: 6% WP Apply a light even coating to all leaf surfaces. Repeat at intervals of 7 to 14 days.
QUINCE (ORNAMENTAL), HAWTHORN leaf spot	DOM COM SUL: 20% CAP: 5% DU Dust thoroughly at frequent intervals

2. with zineb (ZIN)

ORNAMENTALS - WOODY

anthracnose, apple scab, black spot, brown rot, downy mildew, early blight, leaf spot, grey mold, late blight, powdery mildew, rust

DOM SUL: 20% ZIN: 5% dust DU

DOM SUL: 10.0% ZIN: 5% dust DU

DOM SUL: 20.0% ZIN: 16.5% WP

Use 5 tablespoonsful of the wettable powder per gallon. Thoroughly dust or spray upper and lower leaf surfaces, preferably when plants are moist.

Common Name: sulphide sulphur

Chemical Name: calcium polysulphide plus small amounts of calcium thiosulphate and free sulphur

Other Names: lime sulphur

Category: acaricide, fungicide, insecticide

Guarantee in Terms of: sulphide sulphur

Marketing Types: DOM domestic

Formulations: SN solution

Cautions: Precautionary information is included on the manufacturer's label.  
READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

REGISTERED USES

Type of Use	Dosage, Formulation and Directions
ORNAMENTALS - WOODY (DECIDUOUS) aphids (eggs), scale insects, spider mites (eggs)	DOM 23.5 oz + 30 fl oz dormant oil in 10 gal SN DORMANT: Spray to thoroughly wet all surfaces of the plant.
EUONYMUS, LILAC powdery mildew	DOM 0.63 - 1.26 oz in 10 gal SN GROWING SEASON: Apply at intervals of 7 to 14 days. Use the lower rate on tender new growth, the higher rate on mature foliage. Spray in early morning to avoid burning. Cut open flowers before spraying to avoid burning.

Common Name: tetradifon

Chemical Name: p-chlorophenyl 2,4,5-trichlorophenyl sulfone

Other Names: Tedion

Category: acaricide

Guarantee in Terms of: tetradifon

Marketing Types: DOM domestic  
COM commercial

Formulations: DU dust  
EC emulsifiable concentrate  
WP wettable powder

Cautions: Precautionary information is included on the manufacturer's label.  
READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

REGISTERED USES

Type of Use	Dosage, Formulation and Directions
ORNAMENTALS - WOODY European red mite, spruce spider mite, twospotted spider mite	DOM 0.4 oz in 10 gal EC, WP COM 4 oz in 100 gal EC, WP Apply when mites are first noticed and repeat as necessary.
GREENHOUSE ORNAMENTALS spider mites	COM 1.0 - 1.2 oz in 25 - 30 gal per 1000 sq ft EC, WP Apply when mites are first noticed and repeat as necessary. Spray to point of run-off.  COM 0.684 oz per 4.5 oz smoke generator DU Greenhouse fumigation: Burn one smoke generator per 10,000 cubic feet of space. Fumigate dry foliage in house in the evening when air is still. Keep house closed throughout night and ventilate fully the following morning before the sun shines. Efficiency of product is increased by high house temperature during the next 8 days. Repeat when reinfestation occurs.

MIXTURES CONTAINING TETRADIFON

1. with malathion (MAL) and methoxychlor (MET)

ORNAMENTALS - WOODY

aphids, caterpillars, flea  
beetles, lace bugs, leafhoppers,  
leafrollers, mealybugs, scale  
insects (crawlers), spider mites,  
webworms, weevils

DOM COM MAL: 0.15 oz MET: 0.15 oz  
TED: 0.05 oz in 1 gal EC  
Apply as necessary.

Common Name: thiram

Chemical Name: bis(dimethylthiocarbamoyl)disulfide

Other Names: Arasan, Thylate, TMTD, tetramethylthiuramdisulfide

Category: fungicide, animal repellent

Guarantee in Terms of: thiram

Marketing Types: DOM domestic  
COM commercial

Formulations: DU dust  
SU suspension  
WP wettable powder

Cautions: Precautionary information is included on the manufacturer's label.  
READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

REGISTERED USES

Type of Use	Dosage, Formulation and Directions
CUTTINGS stem rot	DOM 4% dust DU Dip base of cutting in the dust, tap off excess, and place in propagation bed.
NURSERY STOCK, ORNAMENTALS - WOODY repels: deer, mice, rabbits	COM 7 - 15% suspension SU DORMANT APPLICATION: Spray or brush on twigs and trunk to the height animals can reach under severe snow conditions. A latex-type sticker may be added.
repels: mice, rabbits	COM 12% paint SU Brush on trunk and main scaffold limbs of established trees to soil level and as high as rabbits can reach under severe snow conditions.
repels: rabbits	COM 15 oz per gallon WP Apply in an asphalt-water emulsion whenever there is evidence of rabbits and before damage occurs.
NURSERY STOCK, ORNAMENTALS - WOODY repels: deer, rabbits	COM 7 - 20% suspension SU GROWING SEASON: Spray on trunks and foliage.



NURSERY STOCK

repels: deer, rabbits

COM 38.4 oz per gal SU

Dip tops of young plants at the time  
of transplanting.

Common Name: trifluralin

Chemical Name: alpha, alpha, alpha-trifluoro-2,6-dinitro-N,N-diopropyl-p-toluidine

Other Names: Treflan

Category: herbicide

Guarantee in Terms of: trifluralin

Marketing Types: DOM domestic  
COM commercial

Formulations: EC emulsifiable concentrate  
GR granular

Cautions: Precautionary information is included on the manufacturer's label.  
READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

Limitations:

1. Not recommended for use on muck soils.
2. Do not make fall application to wet soils, soils in poor working condition, or to soils subjected to prolonged periods of flooding.
3. Do not apply to soils which contain more than 15% organic matter.

REGISTERED USES

Type of Use	Dosage, Formulation and Directions
NURSERY STOCK, ORNAMENTALS - WOODY annual broadleaf weeds (carpet-weed, chickweed, cow cockle, knotweed, lamb's-quarters, pigweeds, purslane, Russian thistle, wild buckwheat), annual grasses (annual blue grass, brome, cheat, crab grass, foxtails, goose grass, sandbur, stink grass, wild oats)	COM 0.5 - 1 lb in 10 - 40 gal per acre EC PREPLANT SOIL-INCORPORATED TREATMENT: Apply in the fall or spring. Wild oat and wild buckwheat are controlled in the Prairie Provinces only. Soil must be clean cultivated before application; destroy existing weeds and if necessary chop and thoroughly mix crop residues into the soil to a depth of 4 to 6 inches. Apply uniformly as a broadcast or band spray using proportionately less for band treatments. Use 0.5 pound rate on light soils (sand and sandy loam); 0.75 Pound rate on medium soils (loam, silt loam and silt); and one pound rate on heavy soils (clay loam, silty clay, and clay). Spray and incorporate in the same operation if possible; otherwise, incorporate within 8

hours after spraying. Mix thoroughly into the top 2 to 3 inches of the final seed bed. Shallow incorporation may result in erratic weed control. A second incorporation may be made any time up to planting. Avoid removal of the treated soil from the seed bed, prior to or during the planting operation. Seedling disease, cold weather, deep planting, excessive moisture, high salt concentration, or drought, may weaken the crop, seedlings and increase the possibility of damage.

ORNAMENTALS, TRANSPLANTS: WOODY NURSERY STOCK, PERENNIALS. Application and incorporation may be carried out immediately prior to planting or up to 3 weeks before planting.

ORNAMENTALS, ESTABLISHED: WOODY NURSERY STOCK. Apply as a directed spray to the soil. Incorporate as closely as possible to plants without causing damage to roots.  
Limitations (1)(2)

SHELTERBELTS (TRANSPLANTED SEEDLINGS OF: AMERICAN ELM, CARAGANA, GREEN ASH, SCOTCH PINE, SIBERIAN ELM)

annual broadleaf weeds (carpetweed, chickweed, cow cockle, knotweed, lamb's-quarters, pigweeds, purslane, Russian thistle, wild buckwheat), annual grasses (annual blue grass, brome, cheat, crab grass, sandbur, stinkgrass, wild oats)

COM 2 - 4 lb in 10 - 40 gal per acre EC Chop and thoroughly mix residues into the soil to a depth of 4 to 6 inches by deep ploughing, offset discing, or tandem discing. Apply to soil surface prior to transplanting seedlings and if possible incorporate in the same operation. Incorporation may be delayed up to 8 hours after application. Avoid removal of treated soil from seedbed prior to or during the planting operation. To reduce the possibility of residual damage, plough or thoroughly disc the land after harvest and before seeding. The higher rate of application will result in longer persistence in the soil. Wild mustard may not be controlled at the rates indicated. For band applications, use proportionately less material.  
Limitations (2)(3)

## ORNAMENTALS - WOODY

broadleaf weeds (chickweed, knotweed, lamb's-quarters, pigweed, smartweed), grasses (barnyard grass, crabgrass, foxtail, goose grass)

DOM 0.37 oz per max of 250 sq ft GR  
Apply around established shrubbery in the spring before broadleaf weeds and grasses begin to sprout. Application can also be made any time in the summer provided that existing weeds are removed before treatment. For chickweed, an application between mid-summer and early fall is very effective. Apply evenly without skips or misses for best control. Where possible, work lightly into the soil but not deeper than one inch. Sprinkle the area lightly with water. Where raking is not practical, apply water only. Peat moss or similar product may be spread after application. Sprouting seeds are controlled but growth from underground roots or stems is not prevented.

Common Name: trichlorfon

Chemical Name: dimethyl(2,2,2-trichloro-1-hydroxyethyl) phosphonate

Other Names: Dipterex, Dylox

Category: insecticide

Guarantee in Terms of: trichlorfon

Marketing Types: COM commercial  
DOM domestic  
RES restricted

Formulations: EC emulsifiable concentrate  
SN solution  
SP soluble powder  
WP wettable powder

Cautions: Precautionary information is included on the manufacturer's label.  
READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

Limitations:

1. NATURE OF RESTRICTION STATEMENT: This product is to be used only in the manner authorized; contact local authorities regarding appropriate use permits that may be required.

REGISTERED USES

Type of Use	Dosage, Formulation and Directions
ORNAMENTALS-WOODY	
armyworms, bagworm, boxelder bug, cutworms, leafminers, lygus bugs, stink bugs, tarnished plant bug, webworms	DOM 2-3 oz in 10 gal SN COM 20-30 oz in 100 gal SN, WP Spray to thoroughly wet plants. Repeat as necessary.
FOREST, ORNAMENTALS-WOODY	
spruce budworm (instars IV to VI)	RES 5.76 oz per acre SN AIRCRAFT APPLICATION, ULV: For spruce budworm apply 2 sprays of 5.76 ounces each, 2 to 5 days apart. For specific recommendations regarding timing of applications, consult your agricultural experiment station, extension service or forest service. Limitation (1)
sypsy moth	RES 11.52-15.36 oz per acre SN AIRCRAFT APPLICATION, ULV: Apply when larvae are in the first to third instars. For specific recommendations as to time

of application, consult your agricultural experiment station, extension service or forest service.

Limitation (1)

BALSAM FIR AND SPRUCE TREES IN  
FARM WOODLOTS, RIGHTS-OF-WAY,  
CHRISTMAS TREE PLANTATIONS,  
MUNICIPAL PARKS

spruce budworm

COM 16-24 oz in up to 125 gal per acre SP, SN  
DILUTE SPRAYS (hydraulic sprayers):

Spray trees until they are thoroughly wet.

COM 4-6 oz in 5 gal SP, SN

CONCENTRATED SPRAYS (mistblowers):

Apply up to 20 gallons of spray solution per acre. Spray until foliage is moist.

MIXTURES CONTAINING TRICHLORFON

1. with oxydemeton-methyl (ODM)

ORNAMENTALS-WOODY

aphids, armyworms, bagworm,  
birch leafminer, boxelder bug,  
caterpillars, cutworms, holly  
leafminers, leafhoppers,  
leafminers, leafrollers, lygus  
bugs, spider mites, spruce  
budworm, stink bugs,  
tarnished plant bug, webworms

DOM TRI: 0.18-0.36 oz ODM: 0.06-0.12 oz  
per gal EC

Spray plants until they are thoroughly wet. Begin applications when insects first appear and repeat at intervals of 2 to 3 weeks or as necessary to maintain control. For specific recommendations regarding timing of applications, consult local agricultural authorities.

Common Name: warfarin  
Chemical Name: 3-(alpha-acetonylbenzyl)-4-hydroxycoumarin  
Category: rodenticide  
Guarantee in Terms of: warfarin  
Marketing Types: COM commercial  
Formulations: SO solid  
Cautions: Precautionary information is included on the manufacturer's label.  
 READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

REGISTERED USES

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Type of Use

Dosage, Formulation and Directions

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MIXTURES CONTAINING WARFARIN

1. with sulfaquinoxaline (SQS)

NURSERIES

deer mouse, meadow vole

COM WAR: 0.05% SQS: 0.05% SO  
 Place under cover of grass in mouse  
 runways between trunk and dripline of  
 trees or near attractive nursery stock,  
 wherever greatest mouse activity is  
 found. For heavy infestations, use  
 2 or more units per tree. Replace  
 as necessary.

Common Name: zineb

Chemical Name: [ethylenebis(dithiocarbamate)]zinc

Other Names: Dithane 2-78, Parzate

Category: fungicide

Guarantee in Terms of: zineb

Marketing Types: DOM domestic  
COM commercial

Formulations: DU dust  
WP wettable powder

Cautions: Precautionary information is included on the manufacturer's label.  
READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE.

REGISTERED USES

Type of Use	Dosages, Formulation and Directions
AZALEA, CAMELLIA gray-mold blight	DOM COM 3.9% dust DU Apply 2 to 3 times per week as petals are opening.
<u>MIXTURES CONTAINING ZINEB</u>	
1. with <u>dinocap</u> (DIN)	
ORNAMENTALS - WOODY black spot, leaf spot, powdery mildew, rust	DOM COM ZIN: 3.9% DIN: 0.67% DU Begin dusting as soon as foliage appears. Apply every 6 to 10 days.
ORNAMENTALS - WOODY anthracnose, black spot, blight, downy mildew, septoria leaf spot	DOM ZIN: 48% DIN: 5.5% WP Use 2 tablespoons of product in 1 gallon of water. Spray every 7 to 10 day.



2. with sulphur (SUL)

ORNAMENTALS - WOODY

anthracnose, black spot,  
brown rot, downy mildew,  
early blight, leaf spot, gray  
mold, late blight, powdery  
mildew, rust

DOM ZIN: 5% SUL: 20% dust DU

DOM ZIN: 5% SUL: 0.10% dust DU

DOM ZIN: 16.5% SUL: 20.0% WP

Use 5 tablespoons of the wettable powder  
per gallon. Thoroughly dust or spray  
upper and lower leaf surfaces, preferably  
when plants are moist.

Common Name: mexacarbate

Chemical Name: 4-dimethylamino-3,5-xyllyl methylcarbamate

Other Names: Zectran

Category: insecticide

Guarantee in Terms of: 4-dimethylamino-3,5-xyllyl methylcarbamate

Marketing Types: COM commercial  
RES restricted

Formulations: EC emulsifiable concentrate  
SN solution  
WP wettable powder

Cautions: Precautionary information is included on the manufacturer's label.  
READ THE LABEL CAREFULLY BEFORE USING ANY PESTICIDE

Limitations:

1. Nature of Restriction: This product is to be used only in the manner authorized; contact local authorities regarding appropriate use permits that may be required.

REGISTERED USES

Type of Use	Dosage, Formulation and Directions
ARBORVITAE, ASH, AZALEA, BIRCH, CAMELLIA, ELM, HONEYSUCKLE, JUNIPER, LILAC, LOCUST, MAPLE, PINE, PRIVET, SPRUCE birch leafminer, European pine shoot moth, leafhoppers, loopers, lygus bugs, plant bugs, sawflies, tent caterpillars, thrips	COM 16 oz in 100 gal EC, WP Apply with hand sprayer, approved hose- attached sprayer, or power spraying equipment. Wet plants thoroughly. Repeat as necessary.
aphids, mealybugs, scale insects (crawlers), soft scales, spider mites	COM 24 oz in 100 gal EC, WP Apply with hand sprayer, hose attached sprayer, or power spraying equipment. Spray to wet upper and lower leaf surfaces. Repeat as necessary.

FOREST

jack pine budworm, spruce  
budworm, western spruce budworm

RES 1.2 - 2.4 oz per gal deodorized  
kerosene per acre SN  
Spray using suitable aerial equipment.  
Make two applications 4 days apart  
using 1.2 oz per acre each time or one  
application using 2.4 oz per acre.  
Limitation (1)

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