



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

August 4, 2020

Luz G. Chan  
Registration Manager  
Drexel Chemical Company  
P.O. Box 13327  
Memphis, TN 38113-0327

Subject: Registration Review Label Mitigation for Trifluralin  
Product Name: Drexel Trifluralin 5%G  
EPA Registration Number: 19713-543  
Application Date: February 13, 2020  
Decision Number: 559731

Dear Ms. Chan:

The Agency, in accordance with the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), as amended, has completed reviewing all the information submitted with your application to support the Registration Review of the above referenced product in connection with the Trifluralin Interim Decision, and has concluded that your submission is acceptable. The label referred to above, submitted in connection with registration under FIFRA, as amended, is acceptable.

Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under the Federal Insecticide Fungicide and Rodenticide Act and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) list examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA's Office of Enforcement and Compliance.

A copy of your label stamped "Accepted" is enclosed. Products shipped after 12 months from the date of this amendment must bear the new revised label. Your release for shipment of the product bearing the amended label constitutes acceptance of these conditions. If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6.

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EPA Reg. No. 19713-543  
Decision No. 559731

If you have any questions about this letter, please contact Marisa Wright by phone at (703) 347-0463, or via email at [wright.marisa@epa.gov](mailto:wright.marisa@epa.gov).

Sincerely,

A handwritten signature in blue ink, appearing to read "Linda Arrington".

Linda Arrington, Branch Chief  
Risk Management and Implementation Branch 4  
Pesticide Re-Evaluation Division  
Office of Pesticide Programs

Enclosure

**ACCEPTED**

Aug 04, 2020

Under the Federal Insecticide, Fungicide and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. 19713-543

TRIFLURALIN

GROUP

3

HERBICIDE

**Drexel**

# Trifluralin 5%G

A selective pre-emergence herbicide for control of certain annual grasses and broadleaf weeds in Container Grown Ornamentals, Landscape Ornamentals, Nursery Stock, Groundcovers, Established Flowers, Ornamental Bulbs, Non-bearing Fruit and Nut Trees and Non-bearing Vineyards, Christmas Tree Plantations, Non-cropland and Under Paved Surfaces.

**ACTIVE INGREDIENT:**

Trifluralin..... 5.0%

**OTHER INGREDIENTS:** ..... 95.0%

**TOTAL:** ..... 100.0%

Contains 2 pounds of active ingredient per 40 pound bag.

## KEEP OUT OF REACH OF CHILDREN CAUTION

[See FIRST AID Below]

[See Side (Back) Panel for FIRST AID]; [See Page \_\_\_ for FIRST AID]

[See Container Labeling for (FIRST AID and) Complete Directions for Use]

[See (Attached) Booklet (Container Labeling) for Complete Directions for Use]

EPA Reg. No. 19713-543

EPA Est. No. 19713-XX-XXX

Net Content: \_\_\_\_\_ LBS. (\_\_\_\_\_ KG)

### FIRST AID

**IF IN EYES:**

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

**IF SWALLOWED:**

- Call a poison control center or doctor immediately for treatment advice.
- Do not give any liquid to the person.
- Do not induce vomiting unless told to do so by a poison control center or doctor.
- Do not give anything by mouth to an unconscious person.

**IF ON SKIN OR CLOTHING:**

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

**IF INHALED:**

- Move person to fresh air.
- If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible.
- Call a poison control center or doctor for further treatment advice.

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact CHEMTREC at 800-424-9300 for emergency medical treatment information.

543SP-0220\*P

## PRECAUTIONARY STATEMENTS

### Hazards to Humans and Domestic Animals

**CAUTION:** Causes moderate eye irritation. Avoid contact with eyes or clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

### PERSONAL PROTECTIVE EQUIPMENT (PPE)

**Applicators and other handlers must wear:** Long-sleeved shirt and long pants; chemical-resistant gloves such as barrier laminate, butyl rubber  $\geq$  14 mils, nitrile rubber  $\geq$  14 mils, neoprene rubber  $\geq$  14 mils, natural rubber  $\geq$  14 mils, polyethylene, polyvinyl chloride  $\geq$  14 mils or viton  $\geq$  14 mils; and shoes plus socks. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

## ENGINEERING CONTROLS

When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets with requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides (40 CFR 170.240 (d) (4-6), the handler PPE requirements may be reduced or modified as specified in the WPS.

## USER SAFETY RECOMMENDATIONS

**Users should:** 1) Wash hands thoroughly before eating, drinking, chewing gum, using tobacco or using the toilet. 2) Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. 3) Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

## ENVIRONMENTAL HAZARDS

This pesticide is extremely toxic to freshwater marine and estuarine fish and aquatic invertebrates including shrimp and oyster. Do not apply directly to water or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not apply in a manner that will directly expose canals, lakes, streams, ponds, marshes or estuaries to aerial drift. Do not contaminate water when disposing of equipment washwaters.

## PRODUCT INFORMATION

TRIFLURALIN 5%G specialty herbicide is a pre-emergence herbicide for control of certain annual grasses and broadleaf weeds in container grown ornamentals, landscape ornamentals, nursery stock, groundcovers, established flowers, ornamental bulbs, non-bearing fruit and nut trees and non-bearing vineyards, Christmas tree plantations, non-cropland and under paved surfaces. Apply this product before or after planting, but prior to germination of target weeds or immediately after cultivation. Length of weed control will vary with weed population, potting media or soil conditions, temperature, watering regime and other factors. Following application, user should monitor and observe level of weed control over time to determine when additional applications may be needed. Repeat applications should not be made sooner than 60 days after a previous application of this product. Do not apply over 240 pounds per acre total of this product within a 12-month period.

## DIRECTIONS FOR USE

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

Read all directions for use carefully before applying.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift.

Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

### **AGRICULTURAL USE REQUIREMENTS**

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted entry interval (REI). The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not enter or allow worker entry into treated areas during the REI of 12 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water, is: Coveralls, chemical-resistant gloves and shoes plus socks.

### **NON-AGRICULTURAL USE REQUIREMENTS**

The requirements of this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard (WPS) for agricultural pesticides (40 CFR Part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries or greenhouses.

Do not enter or allow others to enter the treated area until dusts have settled. If soil incorporation is required after the application, do not enter or allow others to enter the treated area (except those persons involved in the incorporation) until the incorporation is complete. If the incorporation is accomplished by watering-in, do not enter or allow others to enter the treated area until the surface is dry after the watering-in.

### **WEED RESISTANCE MANAGEMENT**

<b>TRIFLURALIN</b>	<b>GROUP</b>	<b>3</b>	<b>HERBICIDE</b>
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For resistance management, this product is a Group 3 mode of action herbicide. Any weed population may contain or develop plants naturally resistant to this product and other Group 3 mode of action herbicides. The resistant biotypes may dominate the weed population if these herbicides are used repeatedly in the same field. Appropriate resistance management strategies should be followed.

To delay herbicide resistance, take one or more of the following steps:

- Rotate the use of this product or other Group 3 herbicides within a growing season sequence or among growing seasons with different herbicide groups that control the same weeds in a field.
- Use tank-mixtures with herbicides from a different group if such use is permitted; where information on resistance in target weed species is available, use the less resistance-prone partner at a rate that will control the target weed(s) equally as well as the more resistance-prone partner. Consult your local extension service or certified crop advisor if you are unsure as to which active ingredient is currently less prone to resistance.
- Adopt an integrated weed-management program for herbicide use that includes scouting and uses historical information related to herbicide use and crop rotation, and that considers tillage (or other mechanical control methods), cultural ( e.g., higher crop seeding rates; precision fertilizer application method and timing to favor the crop and not the weeds), biological (weed-competitive crops or varieties) and other management practices.
- Scout after herbicide application to monitor weed populations for early signs of resistance development. Indicators of possible herbicide resistance include: (1) failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds; (2) a spreading patch of non-controlled plants of a particular weed species; (3) surviving plants mixed with controlled individuals of the same species. If resistance is suspected, prevent weed seed production in the affected area by an alternative herbicide from a different group or by a mechanical method such as hoeing or tillage. Prevent movement of resistant weed seeds to other fields by cleaning harvesting and tillage equipment when moving between fields, and planting clean seed.
- If a weed pest population continues to progress after treatment with this product, discontinue use of this product, and switch to another management strategy or herbicide with a different mode of action, if available.
- Contact your local extension specialist or certified crop advisors for additional pesticide resistance-management and/or integrated weed-management recommendations for specific crops and weed biotypes.
- For further information or to report suspected resistance, contact Drexel Chemical Company representatives at (901) 774-4370.

## USE PRECAUTIONS AND RESTRICTIONS

This product does not control established weeds. Existing weeds should be controlled by cultivation or with post-emergence herbicides. Weed residues, prunings and trash should be removed or thoroughly mixed into soil prior to treatment. Soil should be in good condition and free of clods at the time of application. A single rainfall or sprinkler irrigation of 0.5 inch or more or flood irrigation is required to activate this product. Optimum weed control is obtained when this product is activated within 3 days of application. If rainfall or irrigation has not occurred within 3 days of application and tillage is possible, this product may be activated using cultivation equipment capable of uniformly mixing the herbicide into the upper 1 to 2 inches of soil. Failure to activate this product within 3 days of application may result in erratic weed control. Do not apply when wind conditions favor drift of granules of this product from the target area.

Optimum weed control will be obtained when followed by overhead irrigation or rainfall within a few hours after surface application.

**Do not apply this product by air.**

## WEEDS CONTROLLED

The following weeds are CONTROLLED when this product is applied at 80 pounds per acre (1.8 lbs. per 1000 sq. ft.):

Common Name	Scientific Name
<b>Annual Grasses:</b>	
Barley, Hare	<i>Hordeum leporinum</i>
Barnyardgrass (Watergrass)	<i>Echinochloa crus-galli</i>
Bluegrass, Annual	<i>Poa annua</i>
Brome	<i>Bromus</i> spp.
Cheat	<i>Bromus secalinus</i>
Crabgrass	<i>Digitaria</i> spp.
Cupgrass, Southwestern	<i>Eriochloa gracilis</i>
Fescue, Rattail	<i>Vulpia myuros</i>
Foxtail	<i>Setaria</i> spp.
Goosegrass	<i>Eleusine indica</i>
Junglerice	<i>Echinochloa colonum</i>
Lovegrass	<i>Eragrostis</i> spp.
Oat, Wild	<i>Avena fatua</i>
Panicum, Fall	<i>Panicum dichotomiflorum</i>
Sandbur, Field	<i>Cenchrus incertus</i>
Signalgrass	<i>Brachiaria</i> spp.
Sprangletop, Mexican	<i>Leptochloa univervia</i>
Stinkgrass	<i>Eragrostis cilianensis</i>
Witchgrass	<i>Panicum capillare</i>
<b>Annual Broadleaf Weeds:</b>	
Chickweed, Common	<i>Stellaria media</i>
Goosefoot, Nettleleaf	<i>Chenopodium murale</i>
Knotweed, Prostrate	<i>Polygonum aviculare</i>
Kochia	<i>Kochia scoparia</i>
Lambsquarters, Common	<i>Chenopodium album</i>
Nettle, Stinging	<i>Urtica dioica</i>
Pigweed	<i>Amaranthus</i> spp.
Purslane, Common	<i>Portulaca oleracea</i>
Thistle, Russian	<i>Salsola iberica</i>

The following weeds are PARTIALLY CONTROLLED or SUPPRESSED when this product is applied at 80 pounds per acre (1.8 lbs. per 1000 sq. ft.):

Common Name	Scientific Name
Carpetweed	<i>Mollugo verticillata</i>
Johnsongrass (from seed)	<i>Sorghum halepense</i>
Panicum, Texas	<i>Panicum texanum</i>
Pusley, Florida	<i>Richardia scabra</i>
Shattercane	<i>Sorghum bicolor</i>

## APPLICATION DIRECTIONS

Apply this product using a drop or rotary-type spreader designed to apply granular herbicides or insecticides. Calibrate application equipment prior to use according to manufacturer's directions. Check frequently to be sure equipment is working properly and distributing granules uniformly. Do not use spreaders that apply material in narrow concentrated bands. Avoid skips or overlaps as poor weed control or plant injury may occur. More uniform application may be achieved by spreading half of the required amount of product over the area and then applying the remaining half in swaths at right angles to the first.

## Application Techniques for Applying This Product

When using a drop-type spreader, a splash board mounted under the hopper will provide more even granule distribution.

A chain fastened to the side of the spreader and allowed to drag on the soil surface can be used to mark the edge of the treated swath and help prevent skips or overlaps.

For treating smaller areas or rows of nursery stock or ornamental beds, a hand held or push-type rotary applicator such as whirlybird or cyclone unit is recommended. For hand held units, walk and turn the crank at a constant rate of speed.

A shaker-type applicator made from a small container with holes punched in the bottom is recommended for small, hard to treat areas. Carefully measure the amount of product needed to avoid over-application.

## Soil Incorporation

This product must be incorporated within 24 hours after application either by mechanical incorporation or at least 0.5 acre inch of water (rainfall or irrigation). If a second incorporation is needed, it should be delayed 3 to 5 days after the first incorporation and be completed prior to planting.

## USES

### CONTAINER GROWN ORNAMENTALS, LANDSCAPE ORNAMENTALS, NURSERY STOCK, GROUNDCOVERS, ESTABLISHED FLOWERS, ORNAMENTAL BULBS, NON-BEARING FRUIT AND NUT TREES AND NON-BEARING VINEYARDS, AND CHRISTMAS TREE PLANTATIONS

This product is recommended as a pre-emergence treatment for control of certain annual grasses and broadleaf weeds in container grown ornamentals, landscape ornamentals, nursery stock, groundcovers, established flowers, ornamental bulbs, non-bearing fruit and nut trees and non-bearing vineyards, and Christmas tree plantations. Apply this product before or after planting but prior to germination of target weeds or immediately after cultivation.

Refer to the "PRODUCT INFORMATION" section of this label for general use precautions and information on application, application rates and weeds controlled.

### Special Use Precautions and Restrictions:

To avoid possible injury, do not apply this product to the following:

- Nursery forest or Christmas tree seedling beds, cutting beds or transplant beds.
- Unrooted liners or cuttings that have been planted in pots for the first time.
- Pots less than 4 inches wide.
- Groundcovers until they are established and well rooted.

Do not apply this product to newly transplanted ornamentals, nursery stock, groundcovers, flowers and non-bearing fruit and nut crops and non-bearing vineyards until soil or potting media has been settled by packing and irrigation or rainfall and no cracks are present or injury may occur.

Do not make pre-plant applications of this product to areas where Gladioli corms less than 1 inch in diameter will be planted or injury may occur.

Do not apply this product in greenhouse or other enclosed structures.

Do not make repeat applications sooner than 60 days after a previous application of this product.

Do not apply over 240 pounds per acre total of this product within a 12-month period.

Users who wish to use this product on plant species not listed on this label may determine suitability for such uses by making trial application of this product at specified rate to small number of plants. Prior to using this product on a larger number of plants, the treated plants should be observed for signs of herbicidal injury during 30 to 60 days of normal growing conditions to determine if the treatment is non-injurious to the target plant species. **The user assumes responsibility for any plant damage or other liability resulting from the use of this product on plant species not listed on this label.**

This product may be used on the following established plant species when container grown or field grown:



## ESTABLISHED FLOWERS

Scientific Name	Common Name
<i>Achillea</i> spp.	Yarrow
<i>Ageratum houstonianum</i>	Floss flower
<i>Alyssum</i> spp.	Alyssum
<i>Antirrhinum majus</i>	Snapdragon
<i>Arctotis</i> spp.	African daisy
<i>Artemisia schmidtiana</i>	Silver mound
<i>Artemisia stellerana</i>	Dusty miller
<i>Aster</i> spp.	Aster (perennial)
<i>Begonia</i> spp.	Begonia
<i>Calendula officianalis</i>	Calendula
<i>Centaurea cyanus</i>	Cornflower
<i>Centaurea gymnocarpa</i>	Velvet centaurea
<i>Centaurea moschata</i>	Sweet sultan
<i>Chrysanthemum</i> spp.	Chrysanthemum
<i>Convolvulus</i> spp.	Morningglory
<i>Coreopsis</i> spp.	Coreopsis
<i>Cosmos</i> spp.	Cosmos
<i>Dahlia</i> spp.	Dahlia
<i>Dianthus</i> spp.	Dianthus
<i>Dicentra eximia</i>	Bleeding heart
<i>Digitalis mertonensis</i>	Foxglove
<i>Digitalis purpurea</i>	Common foxglove
<i>Dimorphotheca</i> spp.	Marigold, cape
<i>Echinacea purpurea</i>	Purple coneflower
<i>Eschscholzia californica</i>	California poppy
<i>Euphorbia marginata</i>	Snow-on-the-mountain
<i>Geranium</i> spp.	Geranium
<i>Geum</i> spp.	Geum
<i>Gaillardia</i> spp.	Gaillardia
<i>Gladiolus</i> spp.	Gladiolus
<i>Guara lindheimeri</i>	Guara
<i>Gypsophila paniculata</i>	Baby's breath
<i>Helianthus</i> spp.	Sunflower
<i>Heuchera</i> spp.	Coral bells
<i>Hypericum calycinum</i>	Aaron's beard
<i>Impatiens balsamina</i>	Balsam
<i>Impatiens</i> spp.	Impatiens
<i>Iris</i> spp.	Iris
<i>Ixora</i> spp.	Ixora
<i>Lathyrus odoratus</i>	Sweet pea

## ESTABLISHED FLOWERS (Cont.)

Scientific Name	Common Name
<i>Lavandula angustifolia</i>	English lavender
<i>Leucanthemum superbum</i>	Shasta daisy
<i>Liatris spicata</i>	Gayfeather
<i>Limonium</i> spp.	Statice
<i>Lobelia</i> spp.	Lobelia
<i>Lobularia maritima</i>	Sweet alyssum
<i>Lupinus</i> spp.	Lupine
<i>Matthiola</i> spp.	Stock
<i>Mirabilis jalapa</i>	Four o'clock
<i>Monarda didyma</i>	Bee balm
<i>Myosotis</i> spp.	Forget-me-not

<i>Nicotiana</i> spp.	Nicotiana
<i>Oenothera missouriensis</i>	Ozark sundrop
<i>Papaver</i> spp.	Poppy, California
<i>Petunia hybrida</i>	Petunia
<i>Penstemon barbatus</i>	Beard tongue
<i>Perovskia atriplicifolia</i>	Russian sage
<i>Phlox</i> spp.	Phlox
<i>Portulaca grandiflora</i>	Portulaca
<i>Rosa</i> spp.	Rose
<i>Rudbeckia hirta</i>	Blackeyed Susan
<i>Rudbeckia laciniata</i>	Golden glow
<i>Salvia</i> spp.	Salvia
<i>Scabiosa</i> spp.	Pincushion flower
<i>Sedum spectabile</i>	Stonecrop
<i>Stachys</i> spp.	Lamb's ears
<i>Stokesia laevis</i>	Stoke's aster
<i>Tagetes</i> spp.	Marigold
<i>Tanacetum coccineum</i>	Painted daisy
<i>Tropaeolum</i> spp.	Nasturtium
<i>Veronica spicata</i>	Speedwell
<i>Vinca</i> spp.	Vinca
<i>Zinnia</i> spp.	Zinnia

## GROUNDCOVERS

Scientific Name	Common Name
<i>Achillea tomentosa</i>	Wooly yarrow
<i>Agapanthus</i> spp.	Lily-of-the-nile
<i>Ajuga</i> spp.	Carpet bugle
<i>Ammophila breviligulata</i>	Beechgrass
<i>Arctotheca calendula</i>	Cape weed
<i>Armeria maritima</i>	Thrift
<i>Asparagus densiflorus</i>	Asparagus fern
<i>Campanula</i> spp.	Bellflower
<i>Carex</i> spp.	Variegated carex
<i>Carpobrotus edulis</i>	Large leaf iceplant
<i>Ceratostigma plumbaginoides</i>	Dwarf plumbago
<i>Cistus</i> spp.	Rock rose
<i>Coreopsis</i> spp.	Coreopsis
<i>Coronilla vana</i>	Crown vetch
<i>Cortaderia selloana</i>	Pampas grass
<i>Cotoneaster</i> spp.	Cotoneaster
<i>Delosperma alba</i>	White iceplant
<i>Descampsia caespitosa</i>	Descampsia
<i>Drosanthemum floribundum</i>	Trailing rosea iceplant
<i>Drosanthemum hispidum</i>	Iceplant
<i>Festuca ovina glauca</i>	Blue fescue
<i>Fragaria chiloensis</i>	Strawberry, beach
<i>Gazania</i> spp.	Gazania
<i>Hakonechloa macroaureola</i>	Golden hakonechloa
<i>Hedera canariensis</i>	Algerian ivy
<i>Hedera helix</i>	English ivy
<i>Hemerocallis</i> spp.	Daylilly
<i>Herniaria glabra</i>	Rupturewort
<i>Hosta lancifolia</i>	Albo-marginata hosta
<i>Hypericum</i> spp.	Aaronsbeard
<i>Jasminum nitidum</i>	St. Johnswort
	Angelwing jasmine

<i>Lampranthus spectabilis</i>	Trailing iceplant
<i>Liriope gigantea</i>	White lily turf
<i>Liriope muscari</i>	Big blue lily turf
	Lilac beauty lily turf
	Magestic lily turf
	Silvery sun proof lily turf
	Variegated liriope lily turf
<i>Liriope spicata</i>	Green/creeping lily turf
<i>Miscanthus sinensis</i>	Eulalia grass
<i>Muehlenbeckia axillaris</i>	Creeping wirevine
<i>Myoporum laetum</i>	Myoporum
<i>Ophiopogon japonicas</i>	Dwarf mondo grass
	Mondo grass
<i>Osteospermum fruticosum</i>	Trailing African daisy
<i>Pachysandra terminalis</i>	Japanese spurge
<i>Pennisetum alopecuroides</i>	Fountain grass
<i>Phalaris arundinacea picta</i>	Ribbon grass
<i>Sedum</i> spp.	Stonecrop (Sedum)
<i>Teucrium chamaedrys</i>	Germander
<i>Trachelospermum asiaticum</i>	Asian jasmine
<i>Verbena</i> spp.	Verbena
<i>Veronica</i> spp.	Speedwell
<i>Vinca</i> spp.	Periwinkle

## ORNAMENTAL SHRUBS

Scientific Name	Common Name
<i>Abelia grandiflora</i>	Edward goucher abelia
<i>Acacia abyssinica</i>	Glossy abelia
<i>Acacia redolens</i>	Abyssinica acacia
<i>Acacia stenophylla</i>	Prostrate acacia
<i>Acalypha wilkesiana</i>	Shoestring acacia
<i>Acer ginnala</i>	Copper leaf
<i>Acer palmatum</i>	Amur maple
<i>Agave americana</i>	Coral bark Japanese maple
<i>Astilbe chinensis</i>	Dwarf Japanese maple
<i>Athyrium nipponicum</i>	Century plant
<i>Baccharis pilularis</i>	False spiraea
<i>Berberis gladwynensis</i>	Japanese painted fern
<i>Berberis mentorensis</i>	Coyotebush
<i>Berberis thunbergii</i>	William penn barberry
	Mentor barberry
	Atropurea-redleaf Japanese barberry
	Aurea-golden Japanese barberry
	Crimson pygmy barberry
	Rose glow barberry
<i>Bougainvillea</i> spp.	Barbara karst
	California gold
	Pink pixie
	Scarlet o'hara
	Temple fire
	Texas dawn
<i>Buxus microphylla japonica</i>	Japanese boxwood
<i>Buxus microphylla Koreana</i>	Korean boxwood
<i>Buxus sempervirens</i>	Common boxwood
<i>Callistemon citrinus</i>	Lemon bottlebrush
<i>Callistemon viminalis</i>	Weeping bottlebrush
<i>Calluna vulgaris</i>	Spring torch scotch heather
<i>Camellia sasanqua</i>	Sasanqua camellia
<i>Camellia japonica</i>	Japanese camellia
<i>Cassia artemisioides</i>	Feathery cassia
<i>Ceanothus</i> spp.	Wild lilac
<i>Cephalotaxus drupacae</i>	Plum yew
<i>Cerastium tomentosum</i>	Snow-in-summer
<i>Chamaecyparis obtusa</i> spp.	Kosteri cypress
	Nana-dwarf hinoki cypress
	Torulosa cypress
<i>Chamaecyparis pisifera</i>	Filifera-thread cypress
<i>Chrysalidocarpus lutescens</i>	Areca palm
<i>Clethra alnifolia</i>	Summersweet
<i>Cleyera japonica</i>	Japanese cleyera
<i>Comus alba</i>	Sibirica-siberian dogwood
<i>Comus stolonifera</i>	Baileyi red osier dogwood
	Flaviramea-yellowtwig dogwood
<i>Cotinus coggygria</i>	Royal purple smoke tree
<i>Cotinus dammeri</i>	Coral beauty smoke tree
	Eichholz smoke tree

**ORNAMENTAL SHRUBS (Cont.)**

Scientific Name	Common Name
<i>Cotoneaster adpressus</i>	Praecox-early cotoneaster
<i>Cotoneaster apiculatus</i>	Cranberry cotoneaster
<i>Cotoneaster congestus</i>	Pyrenees cotoneaster
<i>Cotoneaster dammeri</i>	Bearberry cotoneaster
<i>Cotoneaster himalayan</i>	Himalayan cotoneaster
<i>Cotoneaster horizontalis</i>	Rock cotoneaster
<i>Cotoneaster zabelii</i>	Zabel cotoneaster
<i>Cycas revoluta</i>	Sago palm
<i>Cytisus praecox</i>	Hollandia-warminster broom
<i>Cytisus scoparius</i>	Lena-Scotch broom
<i>Daphne odora</i>	Fragrant daphne
<i>Deutzia</i> spp.	Deutzia
<i>Dodonea viscosa</i>	Hopseed bush
<i>Elaeagnus pungens</i>	Fruitland silver berry
<i>Erica cinerea</i>	Purple bell heather
<i>Erica x darleyensa</i>	Mediterranean pink heather
<i>Erica vagans</i>	Cornish heather
<i>Euonymus alatus</i>	Winged euonymus
<i>Euonymus fortune</i>	Canadale gold euonymus
	Emerald 'n gold euonymus
	Sunspot euonymus
	Wintercreeper euonymus
<i>Euonymus japonica</i>	Silver king-euonymus
	Variegated evergreen euonymus
<i>Euonymus kiautschovica</i>	Spreading euonymus
<i>Feijoa sellowiana</i>	Pineapple guava
<i>Forsythia</i> spp.	Forsythia
<i>Gardenia jasminoides</i>	August beauty gardenia
	Gardenia
	Radican gardenia
<i>Gaultheria shallon</i>	Salal/lemon leaf
<i>Gelsemium sempervirens</i>	Carolina jessamine
<i>Genista pilosa</i>	Woadwaxen
<i>Hibiscus rosa-sinensis</i>	Ross estey-hibiscus
<i>Hibiscus syriacus</i>	Rose of sharon-heart
	Rose of sharon-red bird
	Rose of sharon-woodbridge
<i>Ilex</i> spp.	Holly
<i>Illicium annisatum</i>	Mystery gardenia
<i>Itea ilicifolia</i>	Henry garnet holly leaf sweetspire
<i>Ixora collinea</i>	Ixora
<i>Juniperus</i> spp.	Juniper
<i>Kalmia latifolia</i>	Mountain laurel
<i>Lagerstroemia indica</i>	Crepe myrtle

**ORNAMENTAL SHRUBS (Cont.)**

Scientific Name	Common Name
<i>Lantana</i> spp.	Lantana
<i>Leucothoe axil/aris</i>	Coast leucothoe
<i>Leucothoe fontainesiana</i>	Drooping leucothoe
<i>Ligustrum</i> spp.	Privet
<i>Livistona chinensis</i>	Chinese fountain palm
<i>Lonicera periclymenum</i>	Flowering woodbine
	Serotina woodbine
<i>Lonicera sempervirens</i>	Trumpet honeysuckle
<i>Mahonia bealei</i>	Leather leaf mahonia
<i>Mahonia repens</i>	Creeping mahonia
<i>Myrica cerifera</i>	Wax myrtle
<i>Nandina domestica</i>	Compacta-dwarf heavenly bamboo
	Harbour dwarf-heavenly bamboo
	Heavenly bamboo
	Nana compacta-heavenly bamboo
	Nana purpurea-heavenly bamboo
	Woods dwarf heavenly bamboo
<i>Nerium oleander</i>	Hardy red oleander
	Oleander
	Ruby lace oleander
<i>Osmanthus fortunei</i>	Fortunes osmanthus
<i>Philadelphus</i> spp.	Mockorange
<i>Phoenix roeloelenii</i>	Pigmy date palm
<i>Photinia fraseri</i>	Fraser's photinia
<i>Pieris japonica</i>	Japanese andromeda
	Mountain fire lily-of-the-valley
	Snowdrift lily-of-the-valley
	Templebells lily-of-the-valley
	Valley rose lily-of-the-valley
	Valley valentine lily-of-the-valley
<i>Pieris japonica x forestii</i>	Forest flame lily-of-the-valley
<i>Pinus mugo</i>	Mugo-mugho pine
<i>Pittosporum tobira</i>	Green pittosporum
	Japanese pittosporum
	Wheeler's dwarf pittosporum
<i>Plumbago ariculata</i>	Blue cape plumbago
<i>Plumbago capensis</i>	Plumbago
<i>Podocarpus macrophyllus</i>	Yewpine
<i>Polystichum polyblepharum</i>	Tassel fern
<i>Potentilla</i> spp.	Cinquefoil
<i>Prunus caroliniana</i>	Carolina laurel cherry
<i>Prunus glandulosa</i>	Dwarf pink flowering almond
<i>Pyracantha</i> spp.	Pyracantha
<i>Rhaphiolepis indica</i>	Charisma-monruce raphiolepis
	Enchantress-moness raphiolepis
	India hawthorn
	Springtime-monme raphiolepis
<i>Rhaphiolepis ovata</i>	Round leaf raphiolepis
<i>Rhododendron</i> spp.	Azalea/rhododendron
<i>Rhus lancea</i>	Africa sumac
<i>Rosa rugosa</i>	Ramanas rose
<i>Rosmarinus officinalis</i>	Rosemary
<i>Skimmia japonica</i>	Japanese skimmia
<i>Skimmia revesiana</i>	Reeve's skimmia
<i>Spiraea bumalda</i>	Anthony waterer spiraea

**ORNAMENTAL SHRUBS (Cont.)**

Scientific Name	Common Name
<i>Spiraea japonica</i>	Dolchia spiraea Japanese alpine spiraea Shirobana spiraea
<i>Spiraea vanhouttii</i>	Bridal wreath
<i>Syringa rothomagensis</i>	Chinese lilac
<i>Syringa vulgaris</i>	Common lilac
<i>Taxus cuspidata</i>	Upright Japanese yew
<i>Taxus media</i>	Anglojap yew
<i>Tecomaria capensis</i>	Cape honeysuckle
<i>Ternstroemia gymnanthera</i>	
<i>Thuja occidentalis</i>	American arborvitae Emerald arborvitae Globosa-globe arborvitae Little giant-dwarf arborvitae Nigra-dark American arborvitae Pyramidalis-pyramid arborvitae Rheingold arborvitae Techny arborvitae
<i>Thuja orientalis</i>	Aureus nana-dwarf golden arborvitae Minima glauca-dwarf arborvitae
<i>Veitchia merrilli</i>	Christmas palm
<i>Viburnum</i> spp.	Viburnum
<i>Weigela</i> spp.	Weigela
<i>Xylosma congestum</i>	Xylosma
<i>Yucca filamentosa</i>	Yucca

**TREES**

Scientific Name	Common Name
<i>Abies balsamea</i>	Balsam fir
<i>Abies concolor</i>	White fir
<i>Abutilon hybridum</i>	Albus-flowering maple Luteus-flowering maple Roseus-flowering maple Tangerine-flowering maple Vesuvius red-flowering maple
<i>Acer ginnala</i>	Flame maple
<i>Acer platanoides</i>	Norway maple
<i>Acer rubrum</i>	Red maple Red sunset maple
<i>Acer saccharinum</i>	Silver maple
<i>Acer saccharum</i>	Sugar maple
<i>Areacastrum romanzoffianum</i>	Queen palm
<i>Betula nigra</i>	River birch
<i>Betula papyrifera</i>	Paper birch
<i>Betula pendula</i>	European white birch
<i>Brachychiton populneus</i>	Bottle tree
<i>Bucida buceras</i>	Black olive
<i>Castanea mollissima</i>	Chinese chestnut
<i>Ceratonia siliqua</i>	Carob
<i>Cercis canadensis</i>	Redbud
<i>Chamaecyparis obtusa</i>	Filicoides-fernspray cypress Gracilis-slender hinoki cypress

**TREES (Cont.)**

Scientific Name	Common Name
<i>Chamaecyparis pisifera</i>	Swara false cypress
<i>Chamaedorea cataractarum</i>	Squarrosa-moss cypress
<i>Chamaedorea costaricana</i>	Palm
<i>Chamaedorea elegans</i>	Palm
<i>Comus florida</i>	Parlor palm
<i>Comus kousa</i>	Cloud nine dogwood
<i>Crataegus viridis</i>	Flowering dogwood
<i>Cupaniopsis anacardioides</i>	Dogwood, Kousa
<i>Cupressus glabra</i>	Green hawthorn
<i>Elaeagnus angustifolia</i>	Carrot wood
<i>Eucalyptus camaldulensis</i>	Arizona cypress
<i>Eucalyptus cinerea</i>	Russian olive
<i>Eucalyptus microtheca</i>	Redgum eucalyptus
<i>Eucalyptus sideroxylon</i>	Mealy eucalyptus
<i>Ficus benjamina</i>	Silver dollar eucalyptus
<i>Fraxinus americana</i>	Coolibah tree
<i>Fraxinus udhei</i>	Red ironbark eucalyptus
<i>Ginko biloba</i>	Ficus
<i>Gleditsia triacanthos</i>	Mini ficus
<i>Heteromeles arbutiflora</i>	White ash
<i>Illicium floridanum</i>	Shamel ash
<i>Juniperus virginiana</i>	Ginko-maidenhair tree
<i>Larix kaempferi</i>	Honey locust
<i>Liquidambar styraciflua</i>	Shademaster honey locust
<i>Liriodendron tulipifera</i>	Toyon
<i>Magnolia spp.</i>	Florida anise-tree
<i>Malus spp.</i>	Eastern red cedar
<i>Morus alba</i>	Japanese larch
<i>Musa aluminata</i>	American sweet gum
<i>Nyssa sylvatica</i>	Tuliptree
<i>Oxydendrum arboreum</i>	Magnolia
<i>Picea abies</i>	Crabapple
<i>Picea glauca conica</i>	White mulberry
<i>Picea glauca</i>	Banana
<i>Picea pungens</i>	Blackgum
	Sourwood
	Norway spruce
	Pendula-weeping Norway spruce
	Repens-spreading Norway spruce
	Dwarf Alberta spruce
	White spruce
	Dwarf globe blue spruce
	Glauca-Colorado blue spruce
	Hoopsii-hoop's blue spruce
	Koster-koster blue spruce



## TREES (Cont.)

Scientific Name	Common Name
<i>Pinus aristata</i>	Bristlecone pine
<i>Pinus canariensis</i>	Canary island pine
<i>Pinus contorta</i>	Shore pine, beach pine
<i>Pinus eldarica</i>	Eldarica pine
<i>Pinus leucodermis</i>	Bosnian pine
<i>Pinus mugo</i>	Pumilio-shrubby Swiss mountain pine
<i>Pinus nigra</i>	Austrian black pine
<i>Pinus radiata</i>	Monterey pine
<i>Pinus resinosa</i>	Red pine
<i>Pinus taeda</i>	Loblolly pine
<i>Pinus strobus</i>	White pine
<i>Pinus sylvestris</i>	Columnar Scotch pine Scotch pine
<i>Pinus thunbergiana</i>	Japanese black pine
<i>Platanus acerifolia</i>	London planetree
<i>Platanus occidentalis</i>	American sycamore
<i>Platanus racemosa</i>	Califorina sycamore
<i>Podocarpus</i> spp.	Podocarpus
<i>Populus deltoides</i>	Cottonwood
<i>Prosopis chilensis</i>	Chilean mesquite
<i>Prunus yedoensis</i>	Yoshino flowering cherry
<i>Pseudotsuga menziesii</i>	Douglas fir
<i>Quercus coccinea</i>	Scarlet oak
<i>Quercus ilicifolia</i>	Bear oak
<i>Quercus palustris</i>	Pin oak
<i>Quercus phellos</i>	Willow oak
<i>Quercus rubra</i>	Red oak
<i>Quercus virginiana</i>	Live oak
<i>Robinia pseudoacacia</i>	Black locust
<i>Salix</i> spp.	Willow
<i>Sequoia dendron giganteum</i>	Giant sequoia
<i>Swietenia mahogani</i>	Mahogany
<i>Tabebuia caraiba</i>	Yellow tab
<i>Taxodium distichum</i>	Bald cypress
<i>Tilia</i> spp.	Linden
<i>Tsuga canadensis</i>	Eastern hemlock
<i>Ulmus parvifolia</i>	Chinese elm
<i>Washingtonia robusta</i>	Mexican fan palm

## ORNAMENTAL BULBS

This product may be applied for control of susceptible annual weeds in ornamental bulbs, e.g., bulbous Iris, Daffodil (Narcissus), Hyacinth and Tulip. Apply this product to the soil surface 2 to 4 weeks after planting, but prior to the emergence of annual weeds. This product may also be applied following bulb emergence. For Fall planted bulbs, apply this product again in late Winter or early Spring to weed-free soil surfaces.

**NON-BEARING FRUIT AND NUT TREES AND NON-BEARING VINEYARDS\***

Almond	Fig	Orange
Apple	Filbert	Peach
Apricot	Gooseberry	Pear
Avocado	Grape, American	Pecan
Blackberry	Grape, European	Pistachio
Blueberry	Grapefruit	Plum
Boysenberry	Kiwi	Pomegranate
Cherry, sour	Lemon	Prune
Cherry, sweet	Loganberry	Raspberry
Currant	Macadamia nut	Walnut, black
Dewberry	Nectarine	Walnut, English
Elderberry	Olive	

\* Non-bearing fruit and nut trees and non-bearing vineyards are defined as plants that will not bear fruit for at least one year after treatment.

**CHRISTMAS TREE PLANTATIONS**

Apply this product to established plantings of field grown Christmas tree species listed on this label. Do not apply to seedbeds or seedling transplant beds. Apply only to established plantings. Established plants are defined as those that have been transplanted into their final growing location for a sufficient period of time to allow the soil to be firmly settled around the roots from packing and rainfall or irrigation. Follow all instructions provided in the “*PRODUCT INFORMATION*” section of this label.

**NON-CROPLAND AREAS**

This product is recommended as a pre-emergence herbicide for control of certain annual grasses and broadleaf weeds on industrial sites, utility substations, highway guard rails, sign posts and delineators. Apply this product any time prior to germination of target weeds. Areas to be treated should be free of established weeds or existing weeds should be controlled with post-emergence herbicides. Refer to the “*PRODUCT INFORMATION*” section prior to using this product on non-cropland.

**UNDER PAVED SURFACES**

**Site Preparation**

This product should be used only where the soil to be treated has been prepared according to good construction practices. If rhizomes, stolons, tubers or other vegetative plant parts are present in the site, they should be removed by scalping with grader blade to a depth sufficient to ensure their complete removal.

**Application**

Application may be made after the final road bed is established or after the base rock has been added. Do not move soil after application of this product and do not apply this product to soil where asphalt may be applied directly on top of the treated soil.

Paving should follow applications of this product as soon as possible.

Apply this product to ensure thorough coverage of the base rock layer. Apply with any granular applicator that will apply uniformly.

Apply the following amount of this product:

<b>Amount of This Product</b>	
<b>Per Acre</b>	<b>Per 1000 Sq. Ft.</b>
240 to 320 lbs.	5.5 to 7.3 lbs.

## STORAGE AND DISPOSAL

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

**PESTICIDE STORAGE:** Store in original container. In case of leak or spill, contain material and dispose as waste.

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

### CONTAINER HANDLING:

**Nonrefillable Container (flexible-bag-all weights):** Nonrefillable container. Do not reuse or refill this container. Offer for recycling, if available. Dispose of empty container in a sanitary landfill or by incineration or if allowed by State and local authorities, by burning. If burned, stay out of smoke.

**Nonrefillable Container (rigid-fifty lbs. or less):** Nonrefillable container. Do not reuse or refill this container. Offer for recycling, if available. Clean container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or mix tank. Fill the container one-fourth full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Dispose of empty container in a sanitary landfill or by incineration or if allowed by State and local authorities, by burning. If burned, stay out of smoke.

**Nonrefillable Container (rigid-greater than fifty lbs.):** Nonrefillable container. Do not reuse or refill this container. Offer for recycling, if available. Clean container promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or mix tank. Fill the container one-fourth full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Dispose of empty container in a sanitary landfill or by incineration or if allowed by State and local authorities, by burning. If burned, stay out of smoke.

**Refillable Container:** Refillable container. Refill this container with pesticide only. Do not reuse this container for any other purpose. Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or mix tank. Fill the container about 10 percent full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

## WARRANTY—CONDITIONS OF SALE

OUR DIRECTIONS FOR USE of this product are based upon tests believed reliable. Follow directions carefully. Timing and method of application, weather and crop conditions, mixtures with other chemicals not specifically recommended and other influencing factors in the use of this product are beyond the control of the Seller. To the extent consistent with applicable law, Buyer assumes all risks of use, storage and handling of this material not in strict accordance with directions given herewith. To the extent consistent with applicable law, in no case shall the Manufacturer or the Seller be liable for consequential, special or indirect damages resulting from the use or handling of this product when such use and/or handling is not in strict accordance with directions given herewith. The foregoing is a condition of sale by the Seller and is accepted as such by the Buyer.

Manufactured For:



**Drexel Chemical Company**

P.O. BOX 13327, MEMPHIS, TN 38113-0327

**SINCE 1972**

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