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PM 23

100-752

**Primo® WSB**

**FOR TURF GROWTH MANAGEMENT**

For managing growth, improving quality, and edging of warm- and cool-season grasses

Active Ingredient: trinexapac-ethyl  
[4-(cyclopropyl- $\alpha$ -hydroxy-methylene)-  
3,5-dioxo-cyclohexanecarboxylic acid ethyl ester] . . . . . 25.0%

Inert Ingredients: . . . . . 75.0%

Total: . . . . . 100.0%

**KEEP OUT OF REACH OF CHILDREN.**

**CAUTION**

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand the label, find someone to explain it to you in detail.)

See additional precautionary statements on back of container. See directions for use below.

Primo WSB is a wettable powder packaged in a water-soluble bag. This outer protective container contains Primo WSB in an inner water-soluble bag. Entire inner bag and contents dissolve in water. After opening outer container, immediately dump entire unopened inner bag into the partially filled sprayer or mix tank. Do not handle the soluble bag or expose it to moisture, since this may cause rupturing. Using partial bags of Primo WSB voids any warranty by Ciba-Geigy on its safety and efficacy.

EPA Reg. No. 100-752

EPA Est. 67517-MO-1

Product ID. 51525

<b>A C C E P T E D</b>
FEB 23 1996
Under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, for the pesticide registered under EPA Reg. No. 100-752

## **DIRECTIONS FOR USE AND CONDITIONS OF SALE AND WARRANTY**

**IMPORTANT:** Read the entire **Directions for Use** and the **Conditions of Sale and Warranty** before using this product. If terms are not acceptable, return the unopened product container at once.

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### **Conditions of Sale and Warranty**

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The **Directions for Use** of this product reflect the opinion of experts based on field use and tests. The directions are believed to be reliable and should be followed carefully. However, it is impossible to eliminate all risks inherently associated with use of this product. Turf injury, ineffectiveness, or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use or application all of which are beyond the control of Ciba-Geigy or the Seller. All such risks shall be assumed by the buyer.

Ciba-Geigy warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes referred to in the **Directions for Use** subject to the inherent risks referred to above. **Ciba-Geigy makes no other express or implied warranty of Fitness or Merchantability or any other express or implied warranty. In no case shall Ciba-Geigy or the Seller be liable for consequential, special, or indirect damages resulting from the use or handling of this product.** Ciba-Geigy and the Seller offer this product, and the Buyer and user accept it, subject to the foregoing **Conditions of Sale and Warranty**, which may be varied only by agreement in writing signed by a duly authorized representative of Ciba-Geigy.

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**DIRECTIONS FOR USE**

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

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

**AGRICULTURAL USE REQUIREMENTS**

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

**Do not enter treated areas without protective clothing until sprays have dried. There is no restricted entry interval (REI) requirement.**

**There are no PPE requirements.**

**NON-AGRICULTURAL USE REQUIREMENTS**

The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard 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 treated areas without protective clothing until sprays have dried.**

Observe all precautions and limitations on this label and on the labels of each product used in tank mixtures with this product.

**FAILURE TO FOLLOW THE DIRECTIONS FOR USE AND PRECAUTIONS ON THIS LABEL MAY RESULT IN UNEVEN GROWTH REDUCTION OR SEVERELY STUNTED TURF.**

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**General Information**

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Primo WSB for turf growth management reduces the frequency of mowing and the amount of grass clippings by reducing the growth of warm- and cool-season grasses. Other benefits such as increased turf density, increased color, and increased turf quality are frequently observed after Primo WSB applications.

Primo WSB can be applied to well-maintained, quality turfgrass areas such as residential and commercial lawns, golf courses, sod farms, sports fields, cemeteries, and similar areas. Primo WSB is useful in the management of difficult-to-mow areas and can be used to minimize the need for edging turfgrass along sidewalks, curbs, parking lots, driveways, flower beds, fences and around posts, storage sheds, and trees.

Primo WSB reaches the growing point by foliar uptake and is rainfast from rainfall or irrigation after one hour. Watering-in is not necessary for activation.

**NOTICE TO USER:** Plant tolerances to Primo WSB have been found to be acceptable for the grasses listed on this label. Due to the large number of species and cultivars of grasses, it is impossible to test every one for tolerance to Primo WSB. Neither the manufacturer nor the seller has determined whether or not Primo WSB can be used safely on grasses not specified on this label. The professional user should determine if Primo WSB can be used safely prior to commercial use. Before using Primo WSB for grasses not listed in the application table, test Primo WSB on a small scale first. Apply the lower recommended rate for the turf setting (lawn, fairway, etc.) and evaluate for phytotoxicity and growth inhibition prior to widespread use.

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**Application Information**

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Environmental conditions, management, and cultural practices that affect turf growth and vigor will influence the response of the turf to Primo WSB applications. These include fertility level, moisture availability, plant vigor, height, and frequency of mowing.

The rates presented in the Application Rate Table provide approximately 50% growth inhibition over a 4-week period with little or no discoloration of turf growing under favorable conditions. Excessive turf growth, which may occur under high fertilization program or during spring flushes, may require higher rates of Primo WSB. Under these conditions, Primo WSB

rates may have to be increased up to 50% to provide an adequate length of control. For extended growth suppression up to 8 weeks, where temporary discoloration can be tolerated, a maximum of twice the recommended Primo WSB rate from the Application Rate Table may be applied. Primo WSB use rates may need to be reduced up to 50% for turfgrass grown under conditions of low fertility, compaction, or other factors which stress the turf.

**Multiple applications can be made each growing season, but do not exceed a total of 4 oz./1,000 sq. ft. (174 oz./A) per year.**

**Mowing**

Generally, Primo WSB provides more suppression when turfgrasses are mowed at lower mowing heights than higher mowing heights. Application rates have been selected for typical mowing heights. The application rate may need to be adjusted depending on actual mowing conditions. It is suggested that Primo WSB not be applied less than 4 hours before or 4 hours after mowing to minimize any potential injury.

**Application Timing**

Apply Primo WSB to actively growing turf. Reduce Primo WSB rates on turf going into dormancy due to high or low temperatures or lack of moisture.

Repeat applications of Primo WSB may be made as soon as the turf resumes growth or more suppression is desired.

**Equipment**

Apply Primo WSB with a sprayer capable of accurate and uniform application. Clean spray equipment thoroughly before use. Primo WSB may be applied in backpack sprayers, hand sprayers, boom sprayers, and by spraygun application devices. Rinse sprayer with clean water after use and dispose of rinsate in an approved manner.

**Mixing Instructions**

Primo WSB should be applied in sufficient carrier (e.g., 0.5 to 4.0 gallons of water per 1,000 sq. ft.) to provide uniform and thorough coverage.

Prepare no more mixture than is necessary for the application to be made. Agitate thoroughly before and during application. Primo WSB may be tank-mixed with many commonly used pesticides and liquid fertilizers.

If using Primo WSB in a tank mixture, observe all directions for use, sites, use rate dilution ratios, precautions, and limitations which appear on the tank mix product label. No label dosage rate should be exceeded and the most restrictive label precautions and limitations should be followed. Primo WSB should not be mixed with any product that bears a label prohibiting such mixing.

*Precautions: (1) Soluble prepacks of Primo WSB must be dissolved completely in water prior to adding other tank mix partner(s), including micronutrients or other liquid or dry fertilizer to the spray solution. (2) When Primo WSB is tank mixed with Banner® 1.1EC or Bayleton® 25WP, use a compatibility agent at 3 pts./100 gals. of water. (3) When preparing a tank mixture, if more than one product is packaged in soluble prepacks, add all of those products together at once. Add any other tank mix partners after the soluble bags have dissolved, and the material has completely dispersed into the mix water.*

**Backpack and Hand Sprayers**

**Primo WSB Alone:** Add 1/2-2/3 of the required water to the spray tank. Drop the required number of unopened soluble prepacks of Primo WSB into the tank all at once. Allow the mixture to stand for 3-5 minutes to let the soluble package(s) dissolve. Then, close and vigorously shake for 30 seconds. Begin application after the soluble packages have dissolved and the material has completely dispersed into the mix water.

**Boom and Hand Gun Sprayers**

**Primo WSB Alone:** Add 1/2-2/3 of the required amount of water to the spray tank. Then, while agitating, drop the required number of Primo WSB prepacks into the tank all at once. Continue agitation while adding the remainder of the water. Apply spray solution after the bags have dissolved and the material has completely dispersed into a uniform mixture. Agitate during application of the resulting mixture.

**Primo WSB + Tank Mixtures:** Add 1/2-2/3 of the required amount of water to the spray or mixing tank. Then, while agitating, drop the required number of unopened soluble prepacks of Primo WSB into the tank all at once. Continue agitation while adding the remainder of the water. Tank mix partners should only be added when: (1) the Primo WSB bags and their contents have dispersed into the mix water, and (2) after the tank mix has been filled with water. Stop agitation long enough to add the tank mix partner and then resume agitation while spraying the solution.

**Tank Mix Partner Addition Sequence:**

1. Add Gel formulations to the spray tank first. Allow the packet to completely dissolve and the product to completely disperse into the mix water.
2. Next, add wettable powders to the tank allowing them to completely suspend in the tank before proceeding. This process can be hastened by premixing the product in water before adding to the tank.
3. Add flowables or suspensions next.

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4. Add emulsifiable concentrates last.
5. Do not leave tank mix combinations in the spray tank for prolonged periods without agitation. Mix and apply them the same day.
6. Primo WSB should not be mixed with any product which prohibits such mixing. No label application rate should be exceeded and the most restrictive label precautions and limitations should be followed. Refer to the tank-mix product label(s) for further information.

### **Dyes**

A water-soluble dye to mark the sprayed area can be used to ensure uniform application, and to avoid skips and overlaps. Refer to the instructions which accompany the dye for proper concentrations and mixing procedures.

### **Staining**

Primo WSB, when applied alone at normal dilution rates, will not stain concrete, marble, or granite. Before using Primo WSB around other types of stone, test on a small-scale basis first.

### **Application Near and Around Monuments and Hardscape Materials**

Primo WSB at normal dilution rates will not stain brass, bronze, concrete, marble, granite, or other types of stone. Before using Primo WSB around other types of stone, test on a small scale basis first.

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### **Poa annua Conversion/Renovation**

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Primo WSB can be applied to existing turf infested with stands of *Poa annua* as part of an overseeding/renovation program. Such an application allows better germination and seedling growth of more desirable turf-grasses. Primo WSB, in conjunction with the use of appropriate cultural practices that help to ensure the vigor and growth of new seedlings will also result in fewer clippings and thus, less maintenance traffic on new seedlings. Since Primo WSB is foliarly absorbed, seed germination is not affected. Apply Primo WSB 1 to 5 days before seeding; and before verti-cutting, scalping, spiking, or other similar operations.

Temporary initial discoloration is possible with aggressive application rates of Primo WSB to turf with *Poa annua*. Primo WSB applications the following spring should use the upper end rate for the turf type and setting listed in the Application Rate Table. Actual conversion success will also depend on growing conditions, fertilization, rainfall, and other agronomic and environmental conditions.

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### **Bermudagrass Overseeding**

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An application of Primo WSB to bermudagrass will enhance the establishment of cool-season turfgrasses. Primo WSB, in conjunction with the use of cultural practices that help ensure new seedling vigor and growth will also result in fewer clippings and less maintenance traffic on new seedlings. Primo WSB is foliarly absorbed, so germination and seedling growth is not affected.

Apply Primo WSB before verticutting, scalping, spiking, or other similar operations to the bermudagrass. Apply Primo WSB 1 to 5 days before seeding.

Temporary initial discoloration is possible with aggressive application rates of Primo WSB. Use normal seeding rates for your area and turf setting (lawn, fairway, etc.). Actual overseeding success will also depend on growing conditions, fertilization, rainfall, and other agronomic and environmental conditions. For maintenance application see the Application Rate Table.

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### **Application with Turf Marking Paint**

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Primo WSB can extend the duration of marking visibility when applied before or with marking agents. Mix Primo WSB with water first when combining with latex based marking agents. Refer to the marking agents product label for further instructions.

Apply Primo WSB at 0.5 oz. per gallon of marking paint mix to treat approximately 1,000 sq. ft. of line surface area. Refer to the Primo WSB + Tank Mixtures section of this label for additional instructions.

**Notes:** (1) Do not apply to bare ground since Primo WSB is foliarly absorbed. (2) Turf treated with Primo WSB should continue to receive regular good maintenance practices including irrigation; fertilization; and weed, disease, and insect control when necessary, and as recommended for quality turf. As some herbicides can injure turf, tank mixes with Primo WSB should be tested on a small scale before widespread use. (3) Primo WSB may cause temporary yellowing. This usually disappears about one week after application. To minimize yellowing and to enhance the green color of turf, apply readily available nitrogen at 0.2 to 0.5 lbs. of actual nitrogen per 1,000 sq. ft. If desirable, 1-2 oz. of Sprint® 330 or recommended rates of other iron sources per 1,000 sq. ft. can also be used. (4) Full growth regulation by Primo begins at about 3 to 5 days after application.

**Table 1. Recommended Primo WSB Application Rates<sup>1,2</sup>**

Turf Type	Residential & Commercial Turf <sup>3</sup>		Golf Course Fairways (Cut at 0.5" or less)		Golf Course Greens		
	oz./1,000 sq. ft.	area 4 oz. bag (sq. ft.)	oz./1,000 sq. ft.	area 4 oz. bag (sq. ft.)	oz./1,000 sq. ft.	area 4 oz. bag (sq. ft.)	oz./1,000 sq. ft.
<b>Cool-Season</b>							
Bentgrass	0.375	10,667	0.125	32,000	0.063	63,492	0.5
Fescue, Red	0.375	10,667					0.5
Fescue, Tall (Ky-31)	0.50	8,000					0.5
Fescue, Tall (Turf Types)	0.375	10,667					0.5
Kentucky Bluegrass	0.30	13,333	0.125	32,000			0.375
Mixture (Bentgrass/ Poa annua)			0.125 <sup>5</sup>	32,000	0.075 <sup>5</sup>	53,333	
Mixture (K. Bluegrass/ Fescue/Ryegrass)	0.375	10,667					
Mixture (K. Bluegrass/ Ryegrass/Poa annua)			0.25 <sup>5</sup>	16,000			
Ryegrass, Annual	0.50	8,000					0.5
Ryegrass, Perennial	0.50	8,000	0.25	16,000			0.5
<b>Warm-Season</b>							
Bahiagrass	0.5	8,000					0.5-1
<b>Bermudagrass<sup>b</sup></b>							
Bermudagrass, Common	0.375	10,667	0.125	32,000			0.5-1
Bermudagrass Other Hybrids	0.125	32,000	0.10	40,000			0.25-0

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Table 1. Recommended Primo WSB Application Rates<sup>1,2</sup> (Continued)

Turf Type	Residential & Commercial Turf <sup>3</sup>		Golf Course Fairways (Cut at 0.5" or less)		Golf Course Greens		Edging/Banding <sup>4</sup>	
	oz./1,000 sq. ft.	area 4 oz. bag (sq. ft.)	oz./1,000 sq. ft.	area 4 oz. bag (sq. ft.)	oz./1,000 sq. ft.	area 4 oz. bag (sq. ft.)	oz./1,000 sq. ft.	area 4 oz. bag (sq. ft.)
Bermudagrass, Tifdwarf	0.10	40,000	0.10	40,000	0.031	129,032	0.025-0.375	16,000-10,667
Bermudagrass, Tifgreen (328)	0.125	32,000	0.10	40,000	0.063	63,492	0.375	10,667
Bermudagrass, Tifway (419)	0.19	21,053	0.125	32,000			0.375	10,667
Buffalograss	0.5	8,000					0.5	8,000
Carpetgrass	0.125-0.2	32,000-20,000					0.25	16,000
Centipedegrass	0.25	16,000					0.5	8,000
Kikuyugrass	0.15-0.25	26,667-16,000	0.15	26,667			0.5	8,000
St. Augustinegrass	0.125-0.19	32,000-21,053					0.5-1	8,000-4,000
St. Augustinegrass, Texas Common	0.125	32,000					0.25	16,000
Zoysiagrass	0.125	32,000	0.063	63,492			0.375	10,667

<sup>1</sup>These rates should provide 50% suppression of turf growth under good growing conditions for 4 weeks.

<sup>2</sup>Seedheads: At rates equal to or higher than the rates in the above Table, Primo WSB provides seedhead suppression of hybrid bermudagrass, and partial seedhead suppression of annual bluegrass, bahiagrass, buffalograss, carpetgrass, common bermudagrass, Kentucky bluegrass, and tall fescue. Primo must be applied prior to seedhead formation.

<sup>3</sup>Including, but not limited to home lawns, parks, recreation areas, golf course roughs, cemeteries, business sites, sports fields, and sod farms.

<sup>4</sup>Primo WSB can be applied along the perimeter of lawns, sidewalks, curbs, parking lots, driveways, posts, storage buildings, pet pens, fences, or other areas. Primo WSB can be used around trees, shrubs, flower beds, and other border plants or similar areas with no injury. Apply Primo WSB in an 8- to 12-inch band with a single nozzle sprayer. Use the higher concentration to reduce the growth of the turfgrass into adjacent areas. **Important:** When calculating the number of bags to use, always round off to the nearest number of whole bags. Do **NOT** use partial bags.

<sup>5</sup>Where yellowing of poa annua is a concern, use half this rate and apply more frequently. For Poa annua conversion/renovation, where temporary discoloration can be tolerated, twice this rate may be applied.

<sup>6</sup>Bermudagrass overseeding preparation: 0.25 oz./1,000 sq. ft.

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## **Pesticide Disposal**

Do not contaminate water, food, or feed by storage, disposal, or cleaning of equipment. Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

## **Container Disposal**

Do not reuse outer container. Dispose of empty outer container in a sanitary landfill or by incineration, or by open burning, if allowed by state and local authorities. If burned, keep out of smoke.

For minor spills, leaks, etc., follow all precautions indicated on this label and clean up immediately. Take special care to avoid contamination of equipment and facilities during cleanup procedures and disposal of wastes. In the event of a major spill, fire, or other emergency, call 1-800-888-8372, day or night.

## **Precautionary Statements**

### **Hazards to Humans and Domestic Animals**

#### **CAUTION**

Harmful if absorbed through skin or inhaled. Causes moderate eye irritation. Avoid contact with eyes, skin, or clothing and breathing dust or spray mist. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash before reuse.

### **Statement of Practical Treatment**

**If on skin:** Wash with plenty of soap and water. Get medical attention.

**If inhaled:** Remove victim to fresh air. If not breathing, give artificial respiration, preferably mouth to mouth. Get medical attention.

**If in eyes:** Flush eyes with plenty of water. Call a physician if irritation persists.

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**Personal Protective Equipment****Applicators and other handlers must wear:**

- Long-sleeved shirt and long pants
- Waterproof gloves
- Shoes and socks
- Protective eyewear

**Engineering Control Statements**

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

**User Safety Recommendations****Users should:**

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

**Environmental Hazards**

Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment wash waters. Do not apply when weather conditions favor drift from treated areas.

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Ciba Crop Protection  
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CGA 132L (DRAFT)

[QUARK/PRIMO/PRIMO-W/SB-A] - ccg - 2/8/96