



PAC 223 FLO

Plant growth regulator for use on non-residential turfgrass

ACTIVE INGREDIENTS

Paclobutrazol (R*, R*)-(±)-β[(4-chlorophenyl)Methyl]-(α-(1,1-dimethylethyl)-1H-1,2,4-triazole-1-ethanol):	22.3%
OTHER INGREDIENTS:	77.7%
TOTAL:	100.00%

Contains 2 lbs. active ingredient per gallon

KEEP OUT OF REACH OF CHILDREN CAUTION

See inside panel for First Aid Statements

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.)

EPA Reg. No: 62097-24-74779

EPA Est. No: 102468-MN-001

Product Code: 3111

NET CONTENTS: 1 GAL (3.78L)

Distributed by:

Rainbow Treecare Scientific Advancements

DBA: Rainbow Ecoscience

11571 K-Tel Drive, Minnetonka, MN 55343



Job 255666

FIRST AID

IF SWALLOWED	<ul style="list-style-type: none">• Call a poison control center or doctor immediately for treatment advice.• Have person sip a glass of water if able to swallow.• 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 INHALED	<ul style="list-style-type: none">• Move person to fresh air.• If person is not breathing, call 911 or ambulance, then give artificial respiration, preferably mouth-to-mouth, if possible• Call a poison control center or doctor for further treatment advice.
IF ON SKIN OR CLOTHING	<ul style="list-style-type: none">• Take off contaminated clothing.• Rinse skin immediately with plenty of water for 15-20 minutes.• Call a poison control center or doctor for treatment advice.
IF IN EYES	<ul style="list-style-type: none">• Hold eye open and rinse slowly and gently with water for 15-20 minutes.• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.• Call a poison control center or doctor for treatment advice.
Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact the National Poison Control Hotline at 1-800-222-1222 for emergency medical treatment information 24 hours a day, seven days a week.	

PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION: Harmful if swallowed, absorbed through the skin, or inhaled. Avoid contact with skin, eyes, or clothing. Avoid breathing spray mist. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet. Wear long sleeved shirt and long pants, socks, shoes and gloves. Remove and wash contaminated clothing before reuse.

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 cleaning equipment or disposing of equipment wash water or rinsate.

PHYSICAL OR CHEMICAL HAZARDS

Do not use or store near heat or open flame.

DIRECTIONS FOR USE

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

FAILURE TO FOLLOW THE USE DIRECTIONS AND PRECAUTIONS ON THIS LABEL MAY RESULT IN PLANT INJURY OR POOR DISEASE CONTROL.

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 state or tribal agency responsible for pesticide regulation.

Turfgrass

GENERAL INFORMATION

PAC 223 FLO is a plant growth regulator for non-residential turfgrass that reduces growth for up to 2 months after application. The frequency of mowing can be reduced by up to 50% during the period of effective growth reduction. Use PAC 223 FLO on fine turf accompanied by moderate-to-high fertility to maintain turfgrass appearance and reduce discoloration. Growth and development of some grasses (e.g., *Poa annua*) can be significantly reduced, leading to selective control after prolonged use in mixed populations. When used as directed, PAC 223 FLO results in:

- Slowed vertical growth and reduced mowing for 6-8 weeks on established hybrid Bermuda grass, bentgrass and perennial ryegrass fairways, tees and roughs, and on St. Augustine grass and Kentucky bluegrass/perennial ryegrass turf areas (use reduced rates on bentgrass and over-seeded Bermuda grass greens).
- Improved and extended fertilizer performance for up to 12 weeks when combined with a nitrogen fertilizer while improving turfgrass quality versus fertilizer alone.
- Reduced potential for scalping of all turfgrass areas.
- Better ball playability on hybrid Bermuda grass due to increased turf density and tighter-knit turf areas.
- Suppression of *Poa annua* by reducing its growth and competitiveness.

Growth suppression of warm-season grasses:

Use PAC 223 FLO on established hybrid Bermuda grass and St. Augustine grass when turfgrasses are actively growing and have recovered from dormancy (i.e., green and filled in fully following winter).

Growth suppression of cool-season grasses:

Apply PAC 223 FLO in spring after green-up and after turf has been mowed once or twice. Apply PAC 223 FLO at least 1 month before onset of high air temperatures. In late summer to early fall, apply PAC 223 FLO at least 1 month before anticipated first killing frost.

Suppression of *Poa annua*:

Apply PAC 223 FLO when the *Poa annua* is actively growing. In moderate climates, apply PAC 223 FLO from fall through late spring. In northern climates, spring and fall timings are recommended. In climates with a prolonged winter dormancy, fall applications of PAC 223 FLO can be made up to 1 month prior to anticipated first killing frost. Make repeat applications as part of a *Poa annua* suppression program.

Color and quality enhancement of winter over-seeded turf and suppression of *Poa annua*:

Apply PAC 223 FLO after over-seeded turf has successfully established itself (cool-season turf species should be near 85% of turf composition). Do not apply PAC 223 FLO after March 15th to putting greens to avoid delay in Bermuda grass green-up. Moderate soil moisture conditions should be present before and after applications of PAC 223 FLO in order to achieve the best growth regulating effect.

APPLICATION INSTRUCTIONS

Apply PAC 223 FLO evenly and uniformly to turfgrass. Do not use on residential turf. Do not apply PAC 223 FLO to turf within rights-of-ways. After PAC 223 FLO application, water-in within 24 hours to limit surface movement, but not to the point of runoff. For best results, apply 0.25 inch of irrigation, within 24 hours after application to move product from foliage onto soil surface. To prevent product runoff, time applications to allow for watering-in and maximum absorption into treated turf prior to a rain event.

Apply with standard pressurized spray application equipment with bypass mechanical agitation using strainer screens of 50 mesh or coarser. Add PAC 223 FLO with water when filling the applicator tank. If applicator tank is allowed to stand, agitate vigorously prior to use to assure material suspension before application.

Apply PAC 223 FLO in a sufficient amount of water (minimum 1 gallon treatment solution per 1,000 sq ft = 43.5 gals/acre) to ensure thorough and uniform coverage. For best results, use a spray volume of 2-3 gallons of water per 1,000 sq ft. A color agent or other marking device is suggested to avoid skipping and/or overlapping.

Table 1. Dilution Chart¹

Rate of active ingredient (a.i.) per acre	Fluid ounces of PAC 223 FLO per acre
0.10 lb	6.4
0.16 lb	10.0
0.25 lb	16.0
0.50 lb	32.0
0.75 lb	48.0

¹Mix product with minimum of 1 gal of water per 1,000 sq ft. Use 2-3 gals/1,000 sq ft. for best results.

Table 2. PAC 223 FLO use rates

Warm season grasses	Cool season grasses ¹ (except putting greens)	Bentgrass putting greens	Over-seeded Bermuda grass
0.50 lb a.i./A (32 fl oz/A) (sandy soils)	0.25-0.50 lb a.i./A (16-32 fl oz/A)	0.10-0.25 lb a.i./A (6.4-16 fl oz/A)	0.10-0.16 lb a.i./A (6.4-10 fl oz/A)
0.75 lb a.i./A (48 fl oz/A) (clay soils)			

¹Reduce application rate by 50% if *Poa annua* is a significant portion, i.e., greater than 50% of turfgrass population.

Apply 0.5-0.9 lb nitrogen/1,000 sq ft of a non-burning fertilizer product on warm and cool season grasses. Apply 0.25-0.5 lb nitrogen/1,000 sq ft on bentgrass greens and over- seeded Bermuda grass.

When using PAC 223 FLO as directed, vertical growth of turf will be slowed within 3-10 days following application, resulting in reduced mowing frequency for a 6-8 week period. Following treatment with PAC 223 FLO, turf will gradually undergo increased greening and density, which may persist up to 12 weeks.

Following application of PAC 223 FLO, weed populations should not be any greater than on untreated turf, although weed visibility may be higher on regulated turf. Growth and competitiveness of *Poa annua* will be reduced within 1-2 weeks after application; regulation will last 3-8 weeks. With proper fertilization, desired turfgrasses will be stimulated to crowd out weakened *Poa annua*.

As density of treated fairways increases due to altered growth habit, ball playability may improve, causing ball to sit higher on turf. This result is most evident on hybrid Bermuda grass.

Use of PAC 223 FLO will delay, but not prevent, seedhead formation. Mow off seedheads as they grow above turf cutting height to maintain desirable-looking turfgrass.

Excessive irrigation and/or nitrogen fertilization may reduce the residual activity of PAC 223 FLO.

Growth regulator response to PAC 223 FLO may vary according to turf variety. For St. Augustine grass, Bitter Blue will be the most responsive and Floratam the least responsive.

Table 3. Response of hybrid Bermuda grass cultivars to PAC 223 FLO

Cultivar	Sensitivity/ Activity	Period of Growth Regulation	Period of Color Response
Tifway I,II	Medium/Good	5-6 weeks	6-8 weeks
Tifgreen	High/Excellent	6-8 weeks	8-10 weeks
Ormond	High/Excellent	6-8 weeks	8-10 weeks

Table 4. Response of hybrid St. Augustine grass cultivars to PAC 223 FLO

Cultivar	Sensitivity/ Activity	Period of Growth Regulation	Period of Color Response
Floratam	Low/Moderate	4-6 weeks	5-8 weeks
Floralawn	Low/Moderate	4-6 weeks	5-8 weeks
Floratine	Medium/Good	6-7 weeks	7-8 weeks
Raleigh, Texas Common	Medium/Good	6-7 weeks	7-8 weeks
BitterBlue, Seville	High/Excellent	7-8 weeks	8-10 weeks

Use of PAC 223 FLO with other pest control products:

If crabgrass or other annual grassy weeds have been a problem in the past, make an application of an appropriate pre-emergence weed control product before the use of PAC 223 FLO. Space the applications of PAC 223 FLO and oxadiazon-based pre-emergence products at least 4 weeks apart on putting greens. If a weed, disease or insect problem occurs after application of PAC 223 FLO, apply an appropriate control product at its recommended rate. PAC 223 FLO is compatible with most existing control products. PAC 223 FLO, when applied in combination with fungicides containing propiconazole, fenarimol, triadimefon, and myclobutanil, can result in increased growth inhibition of *Poa annua* on putting greens.

Use of PAC 223 FLO for plant growth regulation:

Repeat applications can be made within the same growing season as long as the turf is actively growing. Turfgrass species and growth rate will dictate rate and timing of applications. Do not apply more than 4 quarts per acre per year (2 lbs a.i./A).

Use of PAC 223 FLO for suppression of *Poa annua*:

PAC 223 FLO will suppress the growth and competitive ability of *Poa annua*. Apply when *Poa annua* is actively growing at 16 to 32 ounces per acre. Lower rates and more frequent applications can be made if *Poa annua* discoloration cannot be tolerated. However, only moderate *Poa annua* suppression may be achieved. Do not apply more than 4 quarts per acre per year (2 lbs a.i./A).

Use of PAC 223 FLO for enhanced turf quality, color and suppression of *Poa annua*:

On bentgrass greens and over-seeded Bermuda grass, repeat applications can be made as long as the turf is actively growing. Do not apply more than 4 quarts per acre per year (2 lbs a.i./A). Apply to over-seeded turf when seed has established and turf composition is near 85% of the cool season species.

Do not apply PAC 223 FLO to over-seeded Bermuda grass greens after March 15th to avoid delay of spring green-up of dwarf-type Bermuda grass.

Do not aerify or top dress and drag greens with steel mats while growth regulator effects are evident.

Do not seed within 6 weeks prior to or 2 weeks following application of PAC 223 FLO.

If Embark® is used for *Poa annua* seedhead control, apply PAC 223 FLO **at least** 14 days after application of Embark.

General use precautions:

- **Do not** use PAC 223 FLO on residential lawns.
- **Do not** use PAC 223 FLO on Bermuda grass putting greens except for winter over-seeding enhancement.
- **Do not** use PAC 223 FLO on athletic fields under heavy traffic where maximum growth potential of turfgrass is desired.
- **Do not** use on shrubs, flowers, fruits, or vegetable plants (applications to turf areas under trees will not affect/harm trees).
- **Do not** use during periods of extreme dry or cold weather conditions, or during heavy insect or disease activity.
- **Do not** apply PAC 223 FLO when soil is saturated. Heavy rainfall or excessive irrigation in the treated areas may cause the active ingredient to move laterally on slopes and collect in low areas, resulting in excessive growth control.
- **Do not** use PAC 223 FLO on areas containing greater than 70% *Poa annua*.

- Delay treating newly-sodded or sprigged turf until turfgrass has knitted down and rooted firmly.
- Delay sprigging for at least 4 weeks and sodding at least 2 weeks after PAC 223 FLO is applied.
- **Do not** apply PAC 223 FLO through any type of irrigation equipment.
- Withhold applications of PAC 223 FLO on large turf areas that have been thinned from disease, insect damage or winter drainage until fill-in is achieved.
- Assure that dosage rates are measured accurately since rates greater than those recommended may cause undesirable growth and discoloration.
- Shake container thoroughly before use.
- For best residual activity, remove PAC 223 FLO from leaf surfaces, i.e., by irrigation or rainfall prior to mowing.
- Broadleaf weeds are not significantly affected by PAC 223 FLO.
- **Do not** use PAC 223 FLO on areas to be cultivated for food or feed crops, or to be re-sown with grasses within 2 years of treatment.
- **Do not** graze treated areas or harvest for hay or forage.
- **Do not** apply more than 4 quarts (2 lbs a.i.) of PAC 223 FLO per acre per year.

STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal. Open dumping is prohibited. Do not reuse empty container.

Pesticide Storage: Keep container closed when not in use. Do not store near food or feed. Protect from freezing. In case of spill or leak on floor or paved surfaces, soak up with sand, earth, or synthetic absorbent. Remove to chemical waste area.

Pesticide Disposal: Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these cannot be disposed of by use according to label instructions, contact your state pesticide or environmental control agency, or the hazardous waste representative at the nearest EPA regional office for guidance.

Container Handling: Non-refillable container. Do not reuse this container to hold materials other than pesticides or dilute pesticides (rinsate). After emptying and cleaning, it may be allowable to temporarily hold rinsate or other pesticide related materials in the container. Contact your state regulatory agency to determine allowable practices in your state. Triple rinse container (or equivalent) promptly after emptying.

Triple rinse as follows: Empty the remaining contents into the application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling, if available, or puncture and dispose of in a sanitary landfill, or by incineration. Do not burn unless allowed by state and local ordinances.

WARRANTY DISCLAIMER AND LIMITATION OF LIABILITY

RAINBOW ECOSCIENCE ("RAINBOW") warrants that this Product conforms to the specifications on this label. To the extent consistent with applicable law, RAINBOW makes no other warranties and disclaims all other warranties, express or implied, including but not limited to warranties of merchantability and fitness for a particular purpose. No agent of RAINBOW or any other person is authorized to make any representation or warranty beyond those contained herein.

It is impossible to eliminate all risks associated with this Product. Plant injury, lack of performance, or other unintended consequences may result because of factors such as abnormal weather conditions, use of the Product other than in strict accordance with this label's instructions, presence of other materials, the manner of application or other factors, all of which are beyond the control of RAINBOW or the seller. To the extent consistent with applicable law, all such risks shall be assumed by the Buyer.

To the extent consistent with applicable law: 1) RAINBOW disclaims any liability whatsoever for special, incidental or consequential damages resulting from the handling or use of this Product and 2) RAINBOW's liability under this label shall be limited to the amount of the purchase price or, at the election of RAINBOW, the free replacement of the Product.

ArmorTech®

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11571 K-Tel Drive, Minnetonka, MN 55343



PF 255666

PROOF

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8-19-25	255666	Rainbow Ecoscience
LABEL SIZE	BOOKLET SIZE	
5" x 6"	5" x 5.25"	
LABEL COLORS	BOOKLET OUTSIDE COLORS	BOOKLET INSIDE COLORS
 BLK	 BLK  348  7621	 BLK
PATTERN VARNISH: <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		

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