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EMBARK[®] 2S IVM

PLANT GROWTH REGULATOR

Inhibits Seedheads and Reduces Frequency of Mowing and Trimming on Certain Grasses.

ACTIVE INGREDIENT:

Diethanolamine salt of mefluidide* (N-[2,4-dimethyl-5-[[trifluoromethyl)sulfonyl]amino]phenyl] acetamide) 28.0%**

OTHER INGREDIENTS: 72.0%
100.0%

* U.S. Patent Nos. 3,639,474; 3,894,078; 4,013,444.

** Equivalent to 2.0 lbs. (21% by weight) of N-[2,4-dimethyl-5-[[trifluoromethyl)sulfonyl]amino]phenyl]acetamide per gallon.

KEEP OUT OF REACH OF CHILDREN CAUTION

See below for additional Precautionary Statements and First Aid.



**READ THE ENTIRE LABEL FIRST.
OBSERVE ALL PRECAUTIONS AND
FOLLOW DIRECTIONS CAREFULLY.**

PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals:

CAUTION: Causes eye irritation. Harmful if inhaled, swallowed or absorbed through the skin. Avoid breathing spray mist. Avoid contact with skin, eyes or clothing. Wear protective clothing including rubber gloves when handling.

FIRST AID

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.
If inhaled:	<ul style="list-style-type: none">• 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 treatment advice.
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 the poison control center or doctor.• Do not give anything by mouth to an unconscious person.
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.

Have the product container or label with you when calling a poison control center or doctor or going for treatment. You may also contact 1-877-800-5556 for emergency medical treatment advice.

Environmental Hazards:

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 con-

taminate water when disposing of equipment washwater. Do not allow spray to drift onto nontarget crops or vegetation.

DIRECTIONS FOR USE

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

Not for use on turf being grown for sale or other commercial use as sod, or for commercial seed production, or for research purposes.

STORAGE AND DISPOSAL

Pesticide Storage:

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

Pesticide Disposal:

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

Container Disposal:

Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

Embark 2S IVM PGR can be incorporated into highway vegetation management programs to eliminate seedhead production and to reduce the mowing requirements. Embark 2S IVM PGR may be applied to bermudagrass and six species of established cool season grasses in noncropland sites. Embark 2S IVM PGR may be useful in the following noncropland areas:

- Highway rights-of-way (principal, interstate, state, and county highways), interchange ramps, waysides, service areas, and unpaved roads.
- Municipal, state, and federal lands such as airports, military installations, schools/universities, libraries, and hospitals.
- Commercial/Industrial areas including industrial parks, tank farms, plant sites, storage areas, fencerows, and utility rights-of-way.

Embark 2S IVM PGR inhibits the growth of tall fescue, Kentucky bluegrass, perennial ryegrass, smooth brome grass, orchardgrass, reed canarygrass and common bermudagrass. Mixed stands of these coarse textured species may respond unevenly to applications of Embark 2S IVM PGR and the tank mixtures. All established perennial grasses should be at least one year old.

SPRAY EQUIPMENT AND MIXING INSTRUCTIONS

Spray Equipment:

Use conventional power spray equipment with bypass or mechanical agitation and fitted with a spray boom, off-center nozzles, or a spray gun.

It is essential that spray equipment is properly adjusted and calibrated to assure proper dosage and uniform spray coverage. Follow the spray equipment manufacturer's directions for cleaning, adjusting pressure and selecting appropriate nozzles.

Spray Volumes:

Spray volumes of 15 to 150 gallons per acre are recommended. Uniform application is essential. Avoid spray overlaps that will increase the dosage above those recommended.

Spray Colorants:

The use of Gordon's Spray Colorant (or similar markers) is recommended to allow the applicator to make uniform applications.

Nonionic Surfactants:

The use of a nonionic surfactant may be used to increase the extent and consistency of the growth regulation. The suggested surfactant rate is 0.25 to 0.50% v/v or 1 to 2 quarts per 100 gallons of spray solution. Temporary, slight discoloration of the turf may increase with the use of a surfactant.

Spray Preparation for Tank Mixtures:

Embark 2S IVM PGR may be applied in combination with one or more of the specified herbicides or plant growth regulators. These tank mixtures must be used according to the most restrictive label limitations and precautions. No label dosage rate should be exceeded. Follow the labeling of each companion product for precautionary statements, directions for use, dosage rates, and application schedules. Tank mixture recommendations are for use only in the states where the companion products and application site are registered.

Follow these guidelines and refer to the labeling of the companion product for further instructions.

1. Add 1/2-2/3 of the required amount of water into the spray tank.
2. Add the appropriate amount of the companion product (dispersible granules, ammonium salt formulations, or dimethylamine salt formulations) into the spray tank with agitation.
3. Pour the appropriate amount of Embark 2S IVM PGR into the spray tank.
4. Continue agitation while adding the remainder of water and add the measured amounts of nonionic surfactant and spray colorant.
5. Continue agitation throughout the spraying operation.

Seedhead Suppression:

The application window or timing is critical for the optimum seedhead control.

Generally, the application window for the best results will range from 2-3 weeks. The beginning of the application window for Embark 2S IVM PGR occurs in the spring after full green-up with rapid vertical growth. The end of the application window occurs approximately 2 weeks prior to the seedhead appearance or when the seedhead can be felt at the base of the stem. Applications of Embark 2S IVM PGR after the optimum window will result in reduced seedhead suppression.

Inconsistencies of seedhead suppression may occur with mixed stands. Different grass species may vary in the inflorescence development and in their responses to the plant growth regulators.

Vegetative Growth Suppression:

Embark 2S IVM PGR will provide growth inhibition for 6-8 weeks under favorable growing conditions. Apply Embark 2S IVM PGR after full green-up of turfgrass in the spring. At the time of treatment, turf should have developed the desired appearance, the desired height, and sufficient leaf area for uptake.

Apply 24-32 fl. oz. (1 1/2-2.0 pints) of Embark IVM PGR per acre to actively growing turf for growth suppression up to 8 weeks. If temporary discoloration of the turfgrass occurs and is objectionable, reduce the rate from 2 pints of product to 1 1/2 pints of product per acre. Refer to Tables 1 and 2 for the recommended rates for tank mixtures applied to low maintenance turf. Refer to Table 3 for the recommendations appropriate for California.

Embark 2S IVM PGR may be applied more than once per season, however follow an application interval of at least 6 weeks between applications.

CULTURAL RECOMMENDATIONS

Mowing:

1. **Mowing before application:** Grass may be mowed up to two days before applying Embark 2S IVM PGR. Clippings and other debris should be removed before spraying. If mowing removes most of the green leaf tissue, spraying should be delayed until sufficient new growth develops to assure product absorption into green leaves.
2. **Mowing after application:** For an evenly trimmed appearance grass may be mowed 3-7 days after Embark 2S IVM PGR is applied.
3. **When mowing is not desired or practical:** Apply Embark 2S IVM PGR after full green-up in the spring, but before mowing is necessary.

Irrigation and Rainfall:

Optimum results may not be obtained if rainfall or overhead irrigation occurs within 8 hours following application.

Stresses:

Applications of Embark 2S IVM PGR to turfgrass that is stressed because of high air temperatures, drought, excessive soil water, diseases, or insects may cause temporary discoloration. Management practices to promote the health and vigor of the turfgrass should be continued on the treated areas.

SEE NEXT COLUMN FOR TABLES 1, 2 AND 3

Table 1: Application Rate Recommendations for Embark® 2S IVM PGR and tank mixtures for six cool season turfgrasses (tall fescue, Kentucky bluegrass, perennial ryegrass, orchardgrass, smooth bromegrass and reed canarygrass) established in noncropland sites.

Product Name	Amount of Product	
	fl. oz./acre	ounces/acre
1. Embark® 2S IVM	24-32	—
2. Embark® 2S IVM plus Event™ Grass Growth Regulator	8 4	— —
3. Embark® 2S IVM plus Telar® Herbicide Dispersible Granule	12-16 —	— 0.25
4. Embark® 2S IVM plus Event™ Grass Growth Regulator plus Arsenal® Herbicide 2 #/gal.	8 4 1.5	— — —
5. Embark® 2S IVM plus Arsenal® Herbicide 2 #/gal.	8 2	— —
6. Embark® 2S IVM plus Escort® Herbicide Dry Flowable	8 —	— 0.125-0.25

Table 2: Application Rate Recommendation for Embark® 2S IVM PGR mixtures for common bermudagrass established in noncropland sites.

Product Name	Amount of Product	
	fl. oz./acre	ounces/acre
Embark® 2S IVM	64	—

Table 3: Application Rate Recommendations for use on roadsides and low maintenance turfgrass in California only.

Turfgrass	Amount of Product	
	pints/acre	fl. oz./acre
Kentucky Bluegrass, Tall Fescue, Perennial Ryegrass, Reed Canarygrass	1 1/2 pints	24
Common Bermudagrass	4 pints	64
Native Grasses: Wild Barley, Red Brome, Ripgut Brome, Wild Oats Broadleaf Vegetation: Cheeseweed, Sour Clover, Fiddleneck, Redstem Filaree, Black Mustard	2 pints	32

PRECAUTIONS AND LIMITATIONS

1. Do not apply this product through any irrigation system.
2. Turf treated with Embark 2S IVM PGR may appear less dense and temporarily discolored when compared with untreated, actively growing turf.
3. Do not allow animals to graze treated areas.
4. In turfgrass renovation programs, areas treated with Embark 2S IVM PGR may be reseeded 3 days following application (except California where reseeding may not occur within 2 weeks).
5. Do not apply to any body of water such as lakes, streams, rivers, canals, ponds, reservoirs, or bays. Also, do not apply to areas where water is present on the soil surface such as swamps, bogs, potholes, or marshes. However, it is allowable to treat seasonally dry swamps, bogs, potholes, or marshes, berms of ditches, and road shoulders.

LIMITED WARRANTY AND DISCLAIMER

The manufacturer warrants only that the chemical composition of this product conforms to the ingredient statement given on the label, and that the product is reasonably suited for the labeled use when applied according to the Directions for Use.

THE MANUFACTURER NEITHER MAKES NOR INTENDS ANY OTHER EXPRESS OR IMPLIED WARRANTIES, INCLUDING ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, WHICH ARE EXPRESSLY DISCLAIMED.

This limited warranty does not extend to the use of the product inconsistent with label instructions, warnings or cautions, or to use of the product under abnormal conditions such as drought, excessive rainfall, tornadoes, hurricanes, etc. These factors are beyond the control of the manufacturer or the seller. Any damages arising from a breach of the manufacturer's warranty shall be limited to direct damages, and shall not include indirect or consequential damages such as loss of profits or values, except as otherwise provided by law.

The terms of this Limited Warranty and Disclaimer cannot be varied by any written or verbal statements or agreements. No employee or agent of the seller is authorized to vary or exceed the terms of this Limited Warranty and Disclaimer in any manner.

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