


PM 25, 2217-759

pg 1 of 8  
Notification

Please read instructions on reverse before completing form.

Form Approved OMB No. 2070-0060. Approval expires 11-30-93

<b>(A)</b> 	United States Environmental Protection Agency Office of Pesticide Programs (H7505C) Washington, DC 20460	<input type="checkbox"/> Registration <input type="checkbox"/> Amendment <input checked="" type="checkbox"/> Other	OPP Identifier Number <b>192070</b>
	<b>Application for Pesticide:</b>		
	<b>Section I</b>		

1. Company/Product Number <b>2217-759</b>	2. EPA Product Manager <b>Robert Taylor</b>	3. Proposed Classification <input type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) <b>Embark® 2-S Plant Growth Regulator</b>	PM# <b>(PM 25)</b>	
5. Name and Address of Applicant (Include ZIP Code) <b>PBI/Gordon Corporation PO Box 4090 1217 West 12th Street Kansas City, MO 64101</b> <input type="checkbox"/> Check if this is a new address	6. Expedited Review. In accordance with FIFRA Section 3(c)(3)(b)(i), my product is similar or identical in composition and labeling to:  EPA Reg. No. _____ Product Name _____	

**Section II**

<input type="checkbox"/> Amendment - Explain below	<input type="checkbox"/> Final printed labels in response to Agency letter dated _____
<input type="checkbox"/> Resubmission in response to Agency letter dated _____	<input type="checkbox"/> "Me Too" Application.
<input checked="" type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - explain below.


**Explanation:** Use additional page(s) if necessary. (For section I and Section II.)  
**NOTIFICATION:**  
 Revision of the wetlands warning statement within the Environmental Hazards section according to definition stated in Pesticide Regulation (PR) Notice 93-3, "Labeling Statement Prohibiting Application to Water", March 9, 1993. This is to certify that this notification meets every requirement of PR-Notice 88-6.  
 Three copies of the revised labeling are enclosed.

**NOTIFICATION LABEL NOT REVIEWED PER PR NOTICE 88-6**  
DATE 7/12/93

**Section III**

1. Material This Product Will Be Packaged In:				2. Type of Container	
Child-Resistant Packaging <input type="checkbox"/> Yes* <input type="checkbox"/> No	Unit Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	Water Soluble Packaging <input type="checkbox"/> Yes <input type="checkbox"/> No	If "Yes," Unit Package wgt.      No. per container		<input type="checkbox"/> Metal <input type="checkbox"/> Plastic <input type="checkbox"/> Glass <input type="checkbox"/> Paper <input type="checkbox"/> Other (Specify) _____
* Certification must be submitted.		If "Yes," Package wgt.      No. per container			
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) of Retail Container		5. Location of Label Directions <input type="checkbox"/> On Label <input type="checkbox"/> On Labeling accompanying product	
6. Manner in Which Label Is Affixed To Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Other (_____) <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled					

**Section IV**

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)		
Name <b>James A. Armbruster, Ph.D.</b>	Title <b>Mgr. Regulatory Services</b>	Telephone No. (Include Area Code) <b>(316)421-4070</b>
I certify that the statements I have made in this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.		6. Date Application Received (Stamped)
2. Signature 	3. Title <b>Mgr. Regulatory Services</b>	
4. Typed Name <b>James A. Armbruster, Ph.D.</b>	5. Date <b>July 20, 1993</b>	

# EMBARK<sup>(R)</sup> 2-S PLANT GROWTH REGULATOR

Reduces Frequency of Mowing and Trimming of Certain Grasses and Ornamentals

**NOTIFICATION  
LABEL NOT REVIEWED  
PER PR NOTICE 93-6**  
DATE. 7/12/93

**ACTIVE INGREDIENT:**

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

INERT INGREDIENTS ..... 72.0%  
TOTAL 100.00%

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

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

**KEEP OUT OF REACH OF CHILDREN**

## CAUTION

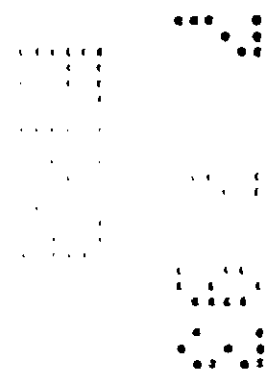
See other panels for Precautionary Statements  
and Statement of Practical Treatment

NET CONTENTS ONE GALLON

686 AP052093

EPA REG. NO. 2217-759  
EPA EST. NO. 2217-KS-2

Mfd. BY PBI/GORDON CORPORATION  
KANSAS CITY, MISSOURI 64101



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

### **PRECAUTIONARY STATEMENTS**

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

**CAUTION:** Harmful if 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.

#### **Statement of Practical Treatment**

**IF SWALLOWED:** Drink 1 or 2 glasses of water and induce vomiting by touching back of throat with finger. Get medical attention.

**IF IN EYES:** Flush with plenty of water and get medical attention if irritation persists.

**IF INHALED:** Remove victim to fresh air.

**IF ON SKIN:** Wash with plenty of soap and water.

**Environmental Hazards:** For terrestrial uses, 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 washwaters. Do not allow spray to drift onto non-target crops or vegetation.

### **DIRECTIONS FOR USE**

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

### **STORAGE AND DISPOSAL**

**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 incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

EMBARC 2-S Plant Growth Regulator (PGR) may be applied to various species of turfgrass, ground covers, ornamental shrubs and trees in public, commercial, or industrial areas for reducing the frequency of mowing and trimming.

Do not apply this product through any type of irrigation system.

**SPRAY EQUIPMENT:** The following spray equipment is recommended for:

**Ornamentals and Groundcovers:** Use a power sprayer equipped with hand-held spray gun or vehicular-mounted equipment that will deliver sufficient spray to penetrate dense foliage and provide thorough coverage of all parts of shrubs or plants.

**Turfgrasses and Low Maintenance Grasses:** Use conventional power spray equipment fitted with a spray boom, off-center nozzles, or handgun. Handpump sprayers are suitable for edging or spot treatments.

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**Mixing:** Pour the required amount of EMBARK 2-S PGR into the spray tank containing approximately 1/2 the required amount of water. Fill the tank as required with water and spray as recommended. Minimal agitation in the spray tank is necessary since EMBARK 2-S PGR is soluble in water.

**Calibration:** 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.

**Rinsing:** Triple rinse the EMBARK 2-S PGR container with water and pour the rinse solution into the spray tank prior to spraying. Do not use spray equipment for other purposes until thoroughly cleaned. Flush spray equipment with plenty of water immediately after use to avoid contamination of later sprays.

**- TURFGRASS -**

**- RECOMMENDED APPLICATIONS -**

**Recommended Use Areas:** EMBARK 2-S PGR may be applied to specified turfgrasses in commercial and public areas such as:

**Commercial-Industrial:** Highway rights-of-way, utility rights-of-way, buildings, industrial parks, tank farms, airports.

**Public:** Schools, libraries, hospitals, cemeteries, golf courses, parks, roads, walkways, condominiums, and apartment complexes.

**Uncultivated Agricultural Areas:** Around farm buildings, storage sheds, implement storage sheds, implement storage areas, and roadsides.

**MOWING:**

**When mowing after application:** For an evenly trimmed appearance grass may be mowed 3-7 days after EMBARK 2-S PGR is applied.

**When mowing before application:** Grass may be mowed up to two days before applying EMBARK 2-S 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.

**When mowing is not desired or practical:** Apply EMBARK 2-S PGR in the spring, after greenup, but before mowing is necessary, thus avoiding mowing until growth regulation wears off.

**TANK MIXING WITH HERBICIDES:** EMBARK 2-S PGR may be tank mixed with one of the following herbicides to control broadleaf weeds:

HERBICIDE	MAXIMUM RATE
Trimec® Classic Broadleaf Herbicide	4 pints of product/acre
2,4-D low volatile ester and amine salt formulations	2 lbs. active ingredient/acre
MCPP in amine salt formulations	2 lbs. active ingredient/acre

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**Roadside, Low Maintenance Grasses and Uncultivated Agricultural Areas:** Maximum benefits, including season-long seedhead suppression of cool-season grasses, can be attained by applying 2 pints/acre of EMBARK 2-S PGR with surfactant after uniform grass greenup until approximately 2 weeks before seedhead appearance. EMBARK 2-S PGR applications will give vegetative growth suppression for up to 8 weeks, however, a mowing will be necessary to eliminate escape seedheads which have not emerged. If temporary discoloration of turf occurs and is objectionable, reduce the 2 pint rate to 1-1/2 pints/acre. For roadside and low maintenance turf in California, follow the recommended rates according to the California rate table.

**Surfactants:** The use of a non-ionic surfactant (except Calif.) is recommended to increase the extent and consistency of turfgrass regulation on roadside and low maintenance turf only. The recommended surfactant rate is 0.25 to 0.5% V/V (1 to 2 quarts/100 gallons finished spray solution). Temporary, slight discoloration of turf may increase with the use of a surfactant.

**Limitations on Turfgrass:** Do not apply EMBARK 2-S PGR to golf greens. Do not apply to turf areas within 4 growing months after seeding and do not reseed within 3 days following application (except Calif. where reseeding may not occur within 2 weeks). Turf treated with EMBARK 2-S PGR may appear less dense and temporarily discolored when compared with untreated, actively-growing turf. However, with increasing time, turf may appear darker green than untreated areas. Optimum results may not be obtained if rainfall or overhead irrigation occurs within 8 hours following application. Do not allow animals to graze on treated areas.

**Recommendations:** EMBARK 2-S PGR, applied to turfgrass, reduces mowing requirements for 6 weeks following treatment by regulating growth and preventing seedhead formation. Apply EMBARK 2-S PGR uniformly to green, actively growing turf. For season-long seedhead suppression of cool-season grasses, apply no later than when the seedhead can be felt at the base of the stem (approximately 2 weeks prior to seedhead appearance). Do not apply to closely mowed areas, where most of the green growth has been cut. Remove excessive grass clippings and leaves prior to treatment. Avoid spray overlaps that will increase dosage above those recommended. EMBARK 2-S PGR may be applied more than once per season, however, wait at least 6 weeks between applications. In turfgrass renovation programs, areas treated with EMBARK 2-S PGR may be reseeded 3 days following application (except Calif. where reseeding may not occur within 2 weeks).

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APPLICATION RATE TABLE FOR TURFGRASS			
Species	Recommended Rate of EMBARK 2-S PGR		Remarks
	pints per acre in 15-150 gal. water	fl. oz. per 1000 sq. ft.	
Annual Bluegrass™ (Poa annua) (seedhead suppression only)	1/2 pint	1/5 fl. oz.	For seedhead suppression only-apply after uniform greenup but before the first appearance of seedheads. Applications after first seedhead appearance will suppress seedheads which have not emerged.
Kentucky & Annual Bluegrass Tall, Red and Chewing Fescues Perennial Ryegrass Timothy Reed Canarygrass Quackgrass Kikuyugrass Crested Wheatgrass™ Orchardgrass™ Smooth Bromegrass Centipedegrass	1 1/2 pints	3/5 fl. oz.	For those grasses recommended at 1 1/2 pint rate, a slightly longer period of growth regulation can be attained with a 2 pint/acre rate. If temporary discoloration of turf occurs and is objectionable reduce the 1 1/2 pint rate to 1 pint/acre.
St. Augustinegrass	1 pint	2/5 fl. oz.	
Common Bermudagrass	4 pints	1 1/2 fl. oz.	
CALIFORNIA USE ONLY			
Kentucky & Annual Bluegrass Tall, Red & Chewing Fescues Perennial Ryegrass Timothy Reed Canarygrass Quackgrass Centipedegrass Kikuyugrass	1 1/2 pints	3/5 fl. oz.	For grasses recommended at the 1 1/2 pint rate, reduce the rate to 1 pint/acre if temporary discoloration of turf occurs and is objectionable. In turfgrass renovation programs, areas treated with EMBARK 2-S PGR may be reseeded 2 weeks following application.
St. Augustinegrass	1 pint	2/5 fl. oz.	
Common Bermudagrass	4 pints	1 1/2 fl. oz.	
<u>Native Grasses &amp; Broadleaf Vegetation Grasses:</u> Wild Barley, Red Brome, Ripgut Brome, Wild Oats <u>Broadleaves:</u> Cheeseweed, Sour Clover, Fiddleneck, Redstem Filaree, Black Mustard	2 pints	4/5 fl. oz.	For native grass and broadleaf vegetation, areas with high soil fertility may require up to 4 pints/acre.

The amount of water used to give adequate and uniform spray coverage is dependent on the type of spray equipment used.

†Except California.

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## ORNAMENTALS AND GROUNDCOVERS

**Recommended Use-Areas :** EMBARK 2-S PGR may be applied to specified ornamentals and groundcovers in commercial and public areas such as:

**Commercial-Industrial:** Highway rights-of-way, utility rights-of-way, buildings, industrial parks, tank farms, airports.

**Public:** Schools, libraries, hospitals, cemeteries, golf courses, parks, roads, walkways, condominiums, office and apartment complexes.

**Limitations:** Avoid spray drift on non-target foliage. Avoid drift on food crops. Do not wash foliage for at least 8 hours after application. If rain occurs within 8 hours, dilution of spray may occur. Do not apply to plants that are stressed, diseased, or otherwise unhealthy. Do not apply to plants grown in containers. Before using EMBARK 2-S PGR on ornamentals, thoroughly clean spray tank to remove any broadleaf herbicide that may be present.

### APPLICATION RATE TABLE - ORNAMENTALS AND GROUNDCOVERS

**Recommendations:** EMBARK 2-S PGR applied as a full cover spray to specified ornamental shrubs, hedges, trees and groundcovers reduces trimming and pruning for up to 8 weeks by regulation growth.

Recommended Rate of EMBARK 2-S PGR for Ornamentals Throughout the U.S.			
Species	Pints per 100 gallons water	Fl. oz. per gallon water	Remarks
<b>Groundcover:</b> African Daisy Capeweed Iceplant Ivy, English Ivy, Algerian <b>Shrubs &amp; Trees:</b> Acacia Bottlebrush Brazilian Pepper Tree Carob Ficus Hibiscus Holly, Burford Holly, Japanese Ligustrum, Japanese Melaleuca Oleander Photinia Pittosporum Podocarpus Privet ( <i>Ligustrum sp.</i> ) Pyracantha Raphinlepis Viburnum Xylosma	4 pints	2/3 fl. oz.	For growth regulation, apply EMBARK 2-S PGR as a full cover spray to the point of runoff with foliage penetration. Applications should be made to healthy, actively growing plants 7-14 days after pruning or trimming. Once the plant resumes active growth, pruning and repeat applications may be made.
Ornamental Olive Trees	1 pint	1/8 fl. oz.	For fruit suppression of olive trees, apply EMBARK 2-S PGR as a full cover spray at pre-bloom (tight bud stage) through the 5% bloom stage. See note

\*except California

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Note: Embark 2-S PGR will reduce or eliminate undesirable fruit from olive trees. Two foliar applications are recommended during the pre-bloom or tight bud stage through the 5% bloom stage of the trees. Mix 1 pint of product per 100 gallons of water per application. The interval between the first and the second applications ( $\pm$  2 weeks) may vary between seasons and will be determined by the local environmental conditions. Full cover sprays are required, and all surfaces of the leaves and flower buds should be sprayed to the drip point. Flowers that have pollinated will set fruit. Spray volumes will depend on tree size. Generally, trees 20-30' in height may require 10-15 gallons of spray solution per tree.

**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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