

80697-4

08-13-2010

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
WASHINGTON, D.C. 20460

OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

AUG 13 2010

Michael Kellogg  
Agent for Zhejiang Tide CropScience Co., Ltd.  
c/o Pyxis Regulatory Consulting, Inc.  
4110 136<sup>th</sup> St. NW  
Gig Harbor, WA 98332

Subject: Tide Paclo 2SC  
EPA Reg. No. 80697-4  
Your letter dated April 20, 2010  
EPA Decision Number: 432922

Dear Mr. Kellogg:

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, to add a drift control statement requested by the State of South Dakota, is acceptable.

A stamped copy of the label is enclosed for your records. This label supersedes all other previously accepted labels. If you have any questions please call Heather Garvie by phone at: 703-308-0034 or via email at: [garvie.heather@epa.gov](mailto:garvie.heather@epa.gov).

Sincerely,

A handwritten signature in black ink that reads "Tony Kish". The signature is written in a cursive style with a large, sweeping "T" and "K".

Tony Kish  
Product Manager 22  
Fungicide Branch (7504P)  
Registration Division

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# Tide Paclo 2SC

Plant Growth Regulator for Turfgrass & Trees

**ACTIVE INGREDIENT:**

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:** ..... 100.0 %

Tide Paclo 2SC contains 2 lbs active ingredient per gallon.

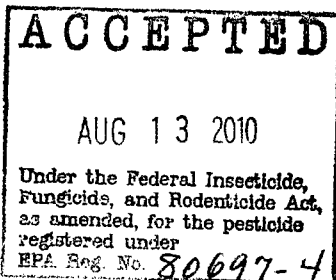
## KEEP OUT OF REACH OF CHILDREN CAUTION

FIRST AID	
<b>If swallowed</b>	<ul style="list-style-type: none"> <li>• Call a poison control center or doctor immediately for treatment advice.</li> <li>• Have person sip a glass of water if able to swallow.</li> <li>• Do not induce vomiting unless told to do so by the poison control center or doctor.</li> <li>• Do not give anything by mouth to an unconscious person.</li> </ul>
<b>If on skin or clothing:</b>	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If in eyes</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If inhaled</b>	<ul style="list-style-type: none"> <li>• Move person to fresh air</li> <li>• If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible.</li> <li>• Call a poison control center or doctor for further treatment advice.</li> </ul>
HOTLINE NUMBER	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact 1-949-679-3535 for emergency medical treatment information.	

**SHAKE WELL BEFORE USE**

**EPA Reg. No. 80697- 4  
EPA Est. No.**

**Manufactured for:**  
Zhejiang Tide CropScience Co., Ltd.  
21 Hubble  
Irvine, CA 92618



**Net Contents:**

**PRECAUTIONARY STATEMENTS  
HAZARDS TO HUMANS AND DOMESTIC ANIMALS**

**CAUTION**

Harmful if swallowed, inhaled or absorbed through the skin. Avoid contact with skin, eyes or clothing. Avoid breathing spray mist.

**PERSONAL PROTECTIVE EQUIPMENT**

**Personal Protective Equipment (PPE)**

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for category F on an EPA chemical resistance category selection chart.

**Applicators and other handlers must wear:**

- Long-sleeved shirt and long pants.
- Chemical-resistant gloves such as barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, polyvinyl chloride, or viton
- Shoes plus socks

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and hot water. Keep and wash PPE separately from other laundry. Wash PPE after each day's use.

**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.
- 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**

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 contaminate water by cleaning of equipment or disposal of equipment washwaters.

**PHYSICAL OR CHEMICAL HAZARDS**

Do not use or store near heat or open flame.

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**DIRECTIONS FOR USE**

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**Failure to follow directions and precautions on this label may result in plant injury or poor disease control.**

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. Read all label directions carefully before use.

**Do not** apply this product when wind speed favors drift beyond the area intended for treatment.

**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), notification to workers, 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 or allow worker entry into treated areas during the restricted entry interval (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 such as barrier laminate, butyl rubber, nitrile rubber, neoprene rubber, polyvinyl chloride, or viton
- Shoes plus socks

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**GENERAL INFORMATION**

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Tide Paclo 2SC is a systemic plant growth regulator that slows vegetative growth by inhibiting gibberellin biosynthesis for use on turfgrass and trees. For turf, when Tide Paclo 2SC is applied as directed, vertical growth of turf will be slowed within 3-10 days, resulting in reduced mowing frequency for a 6- to 8- week period. Following Tide Paclo 2SC applications, turf will gradually undergo increased greening and density, which may persist up to 12 weeks. For trees, Tide Paclo 2SC reduces the above ground vegetative growth and changes specific morphological characteristics of the tree plant. Tide Paclo 2SC is most effective when applied to the soil near the base of the tree either by soil injection or with basal soil drench.

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**TURF**

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Tide Paclo 2SC, a specialty plant growth regulator that slows vertical grass growth and reduces mowing for up to two (2) months after application. The frequency of mowing can be reduced by up to 50% during the period of effective retardation. Use of Tide Paclo 2SC on fine turf should be accompanied by moderate-to-high fertility to maintain turfgrass appearance and reduce discoloration.

## USE DIRECTIONS

Turf	Application Rate (Product amount/a.i.-lbs per acre)	Application(s) May Result
St Augustine, Bermuda & similar warm season grasses	0.5 lbs. a.i. 32 fl. oz prod/A (Sandy soil)  0.75 lbs a.i. 48 fl. oz prod/A (Clay soil)	Reduced mowing for 6-8 weeks on established hybrid bermudagrass, bent grass and perennial ryegrass fairways, tees and roughs and on St. Augustinegrass and Kentucky bluegrass/perennial ryegrass turf  Reduce potential for scalping and increase turf density and tighter-knit of all turfgrass areas.
Bluegrass. Rye. Fescue, Bent & similar cool season grasses (except putting greens)	0.25 to 0.50 lbs a.i. 16 -32 fl oz prod/A  Reduce by 50% if <i>Poa annua</i> is a major turfgrass population	Suppresson of <i>Poa annua</i> by reducing its growth and its compatibility, leading to selective control after prolonged use.
Bentgrass Putting Greens & Overseeded Bermuda	0.10 to 0.25 lbs a.i. 6.4 -16 fl oz prod/A	

Apply Tide Paclo 2SC with standard pressurized application equipment with by-pass or mechanical agitation using 50 mesh strainer to turf in sufficient amount of water (minimum 1 gal water /1,000 sq ft.= 43.5 gals/Ac) to ensure spray coverage uniformly to turf and to avoid skipping and/or overlapping.

For best results, use 2 to 5 gals water /1,000 sq ft. and apply 0.25 inch of water within 24 hours after application to remove product from foliage and onto soil surface.

Tide Paclo 2SC can be used any time when established hybrid bermudagrass and St. Augustinegrass are green, actively growing and have recovered from dormancy after winter.

Tide Paclo 2SC can be applied in spring after green-up and after turf has been mowed once or twice. Apply at least 1 month before onset of high air temperatures. In late summer/early fall, apply at least 1 month before anticipated first killing frost.

Apply anytime after overseeded turf has established itself successfully. Do not apply after March 15<sup>th</sup> to avoid delay in Bermudagrass green-up.

Maintain moderate soil moisture conditions before and after each application to achieve best plant growth retardation effect.

A repeat application of Tide Paclo 2SC within the same growing season may be made 8 weeks apart for growth regulation & 4 to 6 weeks apart for color, quality enhancement after the initial application. Do not make more than 3 applications per calendar year. Do not apply more than 4 quarts per acre per year (2 lbs. a.i./A).

Tide Paclo 2SC will not prevent seedhead production if used alone. A tank mixture for a spray program using a seed head control agent (Embark®) is required when seedhead visibility is a problem. If Embark is used for *Poa annua* seedhead control, apply Tide Paclo 2SC at least 14 days after the Embark application.

**Weed, Insect and Diseases:**

If crabgrass or other annual grassy weeds have been a problem in the past, an application of an appropriate preemergence weed control product should be made before the use of Tide Paclo 2SC. Space applications of Tide Paclo 2SC and preemergence product (Goosegrass/Crabgrass Preventer) at least 4 weeks apart.

Broadleaf weeds are not significantly affected by Tide Paclo 2SC. To control the growth of weeds, treat with an appropriate herbicide when weeds are actively growing. Carefully follow label directions.

If a weed, disease, or insect problem occurs after application of Tide Paclo 2SC, apply control product at the recommended rate. Tide Paclo 2SC is compatible with most existing control products. A compatibility test should be conducted with product(s) with which you do not have prior experience.

**Regulator response and Turf cultivar**

Excessive irrigation and/or nitrogen fertilization may shorten period of growth regulation. Regulator response will vary somewhat according to turf variety. For St. Augustinegrass, Bitter Blue will be the most responsive and Floratam the least responsive.

**HYBRID BERMUDAGRASS**

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

**ST. AUGUSTINEGRASS**

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

**GENERAL PRECAUTIONS**

**Not** for use on bermudagrass putting greens except for winter overseeding enhancement use.

**Not** for use on athletic fields under heavy traffic where maximum growth potential of turf is desired.

**Not** for 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 product when soil is already saturated. Heavy rainfall or irrigation in the treated areas may cause active ingredient to move laterally on slopes and collect in low areas. These areas may undergo more severe growth control for a longer period of time.

**Do not** use on areas containing greater than 70% *Poa annua*, since discoloration of *Poa* may be unacceptable.

Delay treatment of newly-sodded or sprigged turf until grass has knitted down and rooted firmly.

Delay sprigging for at least 4 weeks and sodding at least 2 weeks after application is made.

Withhold application on large turf areas that have been thinned from winter drainage, disease, or insects until desired fill-in is achieved.

Assure that dosage rates are measured accurately since rates greater than those recommended may cause undesirable turf growth control and may discolor areas temporarily.

**Do not** mow treated grass for at least three days following application.

**Do not** use on areas to be cultivated for food or food crops or to be resown with grasses within two years of treatment.

**Do not** apply more than 4 qts. per acre per year (2 lbs. a.i./A).

**Do not** graze treated areas or harvest for forage or hay.

**Do not** apply this product through any type of irrigation equipment.

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## TREES

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Tide Paclo 2SC as tree growth regulator is a xylem mobile plant growth regulator that slows vegetative growth by inhibiting gibberellin biosynthesis. Tide Paclo 2SC reduces vegetative growth thereby reducing the volume of woody growth that must be removed from trees when trimming occurs and may extend the trimming cycle. Tide Paclo 2SC is equally effective when applied as a basal soil drench or by soil injection.

Tide Paclo 2SC can be used on listed trees found in areas such as utility rights-of-way, urban environments, residential areas and other non-crop areas.

### Symptoms of Growth Regulation

Tide Paclo 2SC demonstrates little or no phloem mobility. Activity occurs following root uptake and xylem translocation throughout the tree canopy. Symptoms of growth regulation may not be visible for up to 18 months following application of Tide Paclo 2SC. Initial effects of Tide Paclo 2SC may be observed as intense greening of foliage with no resulting phytotoxicity. At the time when normal vegetative growth extension should occur, trees treated with Tide Paclo 2SC will exhibit shortened internodes which may be somewhat thickened. Smaller leaf size and enhanced flowering may also be observed in some species.

## USE DIRECTIONS

### Application Timing

Applications can be made throughout the year, weather permitting, except when soil is frozen or saturated with water.

**Note:** Tide Paclo 2SC is absorbed by plant roots and translocated to the growing tissues in response to evaporative water loss (transpiration). If applications are made after fall leaf drop, uptake of Tide Paclo 2SC will not occur until development of new leaves in the spring and resumption of transpiration.

### Mixing Directions

Mix 317 ml (10.7 fl oz) of Tide Paclo 2SC with water to make one gallon of diluted mixture. One gallon of Tide Paclo 2SC will make 12 gallons of diluted mixture. To improve the handling characteristics of the diluted mixture, the addition of a suspension aid is recommended such as, nonionic and organosilicone surfactants.

Follow all label directions and precautions on the product label of the suspension aid.

### Application Methods

Tide Paclo 2SC may be applied as a basal drench or by soil injection. Treat only trees that are well established in their final location. Treatment of trees less than 4 inches in diameter is not recommended.

#### Basal Drench

Apply the required dose [total ml required for the application rate and tree size (DBH)] uniformly around the base of the tree at the point of contact between the soil and the tree trunk (Figure 1). The diluted mixture of Tide Paclo 2SC may be carefully poured around the tree or an applicator which provides a controlled rate of flow may be used. If there is potential for rainfall or irrigation to move surface applied product to non-target plants, apply Tide Paclo 2SC diluted mixture to the bottom of a shallow furrow around the base of the tree. After applying, refill the furrow with untreated soil.

#### Soil Injection

The diluted mixture of Tide Paclo 2SC should be injected approximately 6 inches deep. Use soil injection equipment capable of delivery at 100 to 200 psi. Injection orifices should be oriented to release the diluted product horizontally at the point of injection. The required dose should be divided evenly among injection sites spaced as uniformly as possible around the tree trunk. The injection sites should be positioned to release Tide Paclo 2SC diluted mixture as close as possible to the point of contact between soil and unthickened bark beneath the soil so that the active ingredient may be readily absorbed by the tree (Figure 2). Injection sites should also be located next to buttress roots (Figure 2). For trees less than 6 inches DHB, use at least 4 evenly spaced injection sites per tree.



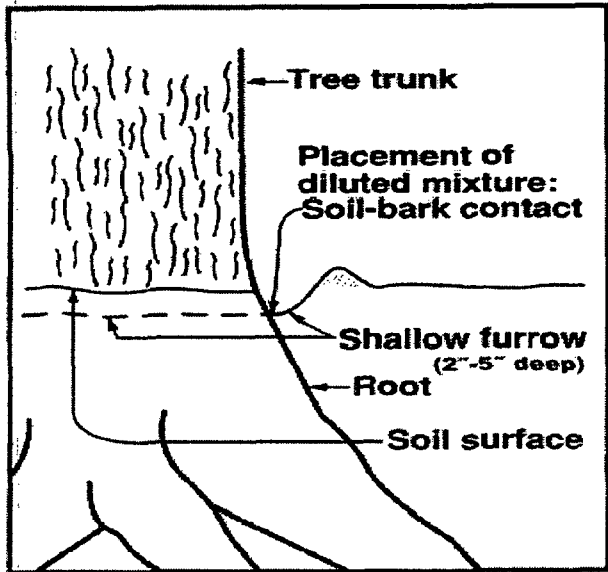


Figure 1. Placement Tide Paclo 2SC as basal drench

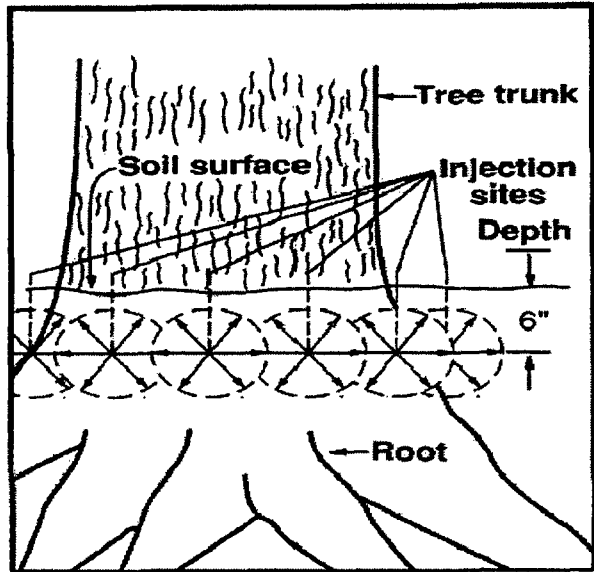


Figure 2. Placement of Tide Paclo 2SC as a soil injected treatment.

**Application Rate**

Application Rate Ranges for Diluted Mixture of Tide Paclo 2SC for Treatment of Various Tree Species <sup>2</sup>				
50 to 100 ml (1 to 2 grams a.i.) per inch DBH	100 to 150 ml (2 to 3 grams a.i.) per inch DBH		150 to 200 ml (3 to 4 grams a.i.) per inch DBH	
Australian Pine Dogwood Redbud Sweetgum	Basswood Beech Boxelder Buckeye Catalpa Elm(s) Hickory Horse Chestnut Linden Locust, Honey	Maple Mountain Ash Olive, Russian Sassafras Walnut	Alder Ash Aspen Birch Bradford Pear Cedar, Red Cherry, Black Cottonwood Eucalyptus Hackberry	Locust, Black Magnolia Mulberry Oak Pines Poplar Redwood Sycamore Willow

<sup>2</sup>For acidic soils (low pH), soils with high organic matter content or soils with high clay content, use the higher rate, not to exceed 4 grams a.i. per inch DBH.

<b>Amount of Tide Paclo 2SC Diluted Mixture Required for Specific Application Rates and Tree Sizes</b>				
<b>Dia. of Tree at Breast Height (DBH) (inches)</b>	<b>50 ml per inch DBH</b>	<b>100 ml per inch DBH</b>	<b>150 ml per inch DBH</b>	<b>200 ml per inch DBH</b>
	<b>Total ml required</b>	<b>Total ml required</b>	<b>Total ml required</b>	<b>Total ml required</b>
4	200	400	600	800
5	250	500	750	1000
6	300	600	900	1200
7	350	700	1050	1400
8	400	800	1200	1600
9	450	900	1350	1800
10	500	1000	1500	2000
12	600	1200	1800	2400
14	700	1400	2100	2800
16	800	1600	2400	3200
18	900	1800	2700	3600
20	1000	2000	3000	4000
22	1100	2200	3300	4400
24	1200	2400	3600	4800
26	1300	2600	3900	5200
28	1400	2800	4200	5600
30	1500	3000	4500	6000
32	1600	3200	4800	6400
34	1700	3400	5100	6800
36	1800	3600	5400	7200

**GENERAL PRECAUTIONS**

- Apply at recommended rates and follow safety procedures.
- Trees not used for food production that are not specifically listed on this label may be treated if all other label directions are followed.
- Trees which are severely stressed due to moisture, temperature, low soil fertility, or exhibit mechanical or chemical injury should not be treated.
- Do not reapply Tide Paclo 2SC until symptoms from previous applications begin to subside.
- If soil is heavily compacted or a high water table exists, use of a registered tree growth regulator such as Cutless\* Tree Implants may be more satisfactory.
- Basal drench and soil injection application of Tide Paclo 2SC may result in localized, temporary discoloration of turfgrass immediately adjacent to the treatment site.
- Avoid basal drench applications on slopes or other areas where Tide Paclo 2SC or treated soil may be washed away from the base of the tree by rainfall or irrigation.
- Treatment of trees bordered by shrubs and/or herbaceous ornamentals may cause these plants to be affected if their roots extend into the treatment zone.

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- Do not treat sugar maple trees or any other trees that are or could be tapped for sugar.
- Do not treat nut or fruit trees that will be harvested within one year.

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

### 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 wastes 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 DISPOSAL:** Nonrefillable container. Do not reuse or refill this container. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container 1/4 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, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

### LIMITED WARRANTY AND DISCLAIMER

Zhejiang Tide CropScience Co., Ltd. warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated on the label when used in strict accordance with the directions, subject to the inherent risks set forth below.

Our recommendations for use of this product are based upon tests believed to be reliable. The use of this product being beyond control of the manufacturer, no guarantee, expressed or implied, is made as to the effects of such use or the results to be obtained if not used in accordance with printed directions and established safe practice. To the fullest extent permitted by law, buyer's exclusive remedy and manufacturer's or seller's exclusive liability for any and all claims, losses, damages or injuries resulting from the use or handling of this product, whether or not based in contract, negligence, strict liability in tort or otherwise shall be limited, at the manufacturer's option to replacement of, or the repayment of the purchase price for, the quantity of product with respect to which damages are claimed.

#### Inherent Risks of Use

It is impossible to eliminate all risks associated with use of this product. Crop injury, lack of performance, or other unintended consequences may result because of such factors as use of the product contrary to label instructions (including conditions noted on the label, such as unfavorable temperatures, soil conditions, etc.), abnormal conditions (such as excessive rainfall, drought, tornadoes, hurricanes), presence of other materials, the manner of application, or other factors, all of which are beyond the control of Zhejiang Tide CropScience Co., Ltd. or the seller.

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All such risks shall be assumed by buyer.

**Terms and Conditions of Use**

If terms of the Limited Warranty & Disclaimer and Inherent Risks of Use are not acceptable, return unopened package at once to the seller for a full refund of purchase price paid. Otherwise, use by the buyer or any other user constitutes acceptance of the terms under Warranty Disclaimer and Inherent Risks of Use.

Embark® is a trademark of PBI/Gordon Corp  
\*Trademark of SePRO Corporation.

[EPA approval date]