

42519-31

5/14/2009

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

OFFICE OF  
PREVENTION, PESTICIDES AND  
TOXIC SUBSTANCES

MAY 14 2009

Mr. Frederick T. Smith  
Senior Regulatory Specialist  
Luxembourg-Pamol, Inc.  
5100 Poplar Avenue, Suite 2700  
Memphis, TN 38137

RE: Notification change of Primary Brand Name: **Catamaran** and other general label changes  
EPA Reg. No.: 42519-31  
Date of Submission: March 13, 2009

Dear Mr. Smith:

The Agency is in receipt of your Application for Pesticide Notification under Pesticide Registration Notice (PRN) 98-10 dated, March 13, 2009, for the product, Catamaran. The Registration Division (RD) has conducted a review of this request for its applicability under PRN 98-10 and finds that the action(s) requested fall within the scope of PRN 98-10. The label submitted with the application has been stamped "Notification" and will be placed in our records.

If you have any questions, please call me directly at 703-305-6249 or Joyce Edwards of my staff at 703-308-5479.

Sincerely,

A handwritten signature in black ink, appearing to be "Linda Arrington".

Linda Arrington  
Notifications & Minor Formulations Team Leader  
Registration Division (7505P)  
Office of Pesticide Programs

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United States  
Environmental Protection Agency  
Washington, DC 20460

<input type="checkbox"/>	Registration
<input type="checkbox"/>	Amendment
<input checked="" type="checkbox"/>	Other

OPP Identifier Number

### Application for Pesticide - Section I

1. Company/Product Number 42519-31	2. EPA Product Manager T. Kish	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) Luxembourg-Pamol, Inc./Catamaran	PM# 22	
5. Name and Address of Applicant (Include ZIP Code)  Luxembourg-Pamol, Inc. 5100 Poplar Ave., Suite 2700 Memphis, TN 38137  <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. <u>NOTIFICATION</u>  Product Name <u>MAY 14 2009</u>	

### 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.)

Change of primary brand name to Catamaran; correction of various typographical errors/omissions; editorial changes to text; minor non-substantive changes.

This notification is consistent with the provisions of PR Notice 98-10 and EPA regulations at 40 CFR 152.46, and no other changes have been made to the labeling or the confidential statement of formula of this product. I understand that it is a violation of 18 U.S.C. Sec. 1001 to willfully make any false statement to EPA. I further understand that if this notification is not consistent with the terms of PR Notice 98-10 and 40 CFR 152.46, this product may be in violation of FIFRA and I may be subject to enforcement action and penalties under sections 12 and 14 of FIFRA.

### 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	<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" Unit Packaging wgt.	No. Per Container	If "Yes" Package wgt.	No. Per Container
3. Location of Net Contents Information <input type="checkbox"/> Label <input type="checkbox"/> Container		4. Size(s) Retail Container		5. Location of Label Directions <input type="checkbox"/> On label. <input type="checkbox"/> On label accompanying product.	
6. Manner in Which Label is Affixed to Product <input type="checkbox"/> Lithograph <input type="checkbox"/> Paper glued <input type="checkbox"/> Stenciled			<input type="checkbox"/> Other _____		

### Section - IV

1. Contact Point (Complete items directly below for identification of individual to be contacted, if necessary, to process this application.)					
Name Frederick T. Smith		Title Agent (SciReg, Inc.)		Telephone No. (Include Area Code) 703/494-6500	
<b>Certification</b> I certify that the statements which I have made on 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 <input type="checkbox"/> (Stamped)
2. Signature 		3. Title Agent (SciReg, Inc.)			
4. Typed Name Frederick T. Smith		5. Date 3/13/09			

3 of 17

**SciReg, Inc.**  
Science and Regulatory Consultants

March 13, 2009

Ms. Sherada Hobgood  
Document Processing Desk (NOTIF)  
Office of Pesticide Programs (7504P)  
U.S. Environmental Protection Agency  
One Potomac Yard  
2777 S. Crystal Drive  
Arlington, VA 22202

Re: Notification Consistent with PR Notice 98-10  
- EPA Reg. No. 42519-31

Dear Ms. Hobgood:

On behalf of Luxembourg-Pamol, Inc. (Co. No. 42519), SciReg, Inc. is submitting a notification consistent with PR Notice 98-10 for EPA Reg. No. 42519-31. The notification consists of a change in the primary brand name of the subject product to Catamaran, corrections of typographical errors, insertion of omitted words, editorial text changes, and other non-substantive changes. Six copies of the revised label, one of which is redlined to show the changes are provided herein.

Should you have any questions, please let me know.

Sincerely,



Frederick T. Smith  
Senior Regulatory Specialist

Enclosures

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# CATAMARAN

A combination fungicide for the control and prevention of diseases on vegetables, field crops, and grasses grown for seed

**ACTIVE INGREDIENTS:**

- Potassium Phosphite\* ..... 38.9%
- Chlorothalonil\*\* ..... 16.7%
- OTHER INGREDIENTS:** ..... 44.4%
- TOTAL**..... 100.0%

\*Phosphorous acid equivalent: 3.17 lbs/gal (25%)

\*\*Chlorothalonil content is 2.1 lbs/gal

**NOTIFICATION**

MAY 14 2009

**KEEP OUT OF REACH OF CHILDREN  
CAUTION**

FIRST AID	
<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 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 swallowed</b>	<ul style="list-style-type: none"> <li>• Call 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 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 by mouth-to-mouth, if possible.</li> <li>• Call a poison control center or doctor for further treatment advice.</li> </ul>
<b>HOT LINE NUMBER</b>	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For emergency information concerning this product, call 1-800-424-9300.	
<b>See back panel for additional precautionary statements</b>	

EPA Reg. No.: 42519-31  
EPA Est. No.: 42519-ISR-001

Net Contents:

**Manufactured for:**  
LUXEMBOURG-PAMOL, INC.  
5100 Poplar Avenue, Suite 2700  
Memphis, Tennessee 38137  
**Customer Service (713) 661-8800**

FOR CHEMICAL SPILL, LEAK,  
FIRE OR EXPOSURE CALL  
TOLL FREE: 1-800-424-9300

**AGRICULTURAL CHEMICAL**  
DO NOT SHIP OR STORE WITH FOODS, FEEDS, DRUGS OR CLOTHING

## PRECAUTIONARY STATEMENTS

### Hazards to Humans and Domestic Animals

**CAUTION.** Causes moderate eye irritation. Avoid contact with eyes or clothing. Wear face shield or safety glasses. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, or using tobacco. Remove and wash contaminated clothing before reuse. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

### Personal Protective Equipment (PPE)

Mixers, loaders, applicators, and all other handlers must wear:

- long-sleeved shirt and long pants
- face shield or safety glasses
- shoes plus socks

In addition, chemical-resistant gloves must be worn by: (1) mixers/loaders, (2) other handlers exposed to the concentrate, (3) cleaners/repairers of equipment, (4) applicators using airblast equipment for golf course applications, (5) and applicators using handheld equipment.

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

### User Safety Recommendations

Users should:

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

### ENGINEERING CONTROLS

When handlers use closed systems, enclosed cabs, or aircraft 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.

**Environmental Hazards:** For terrestrial uses. This pesticide is toxic to aquatic invertebrates and wildlife. Do not apply directly to water or to areas where surface water is present or to intertidal areas below the mean high-water mark. Drift and runoff may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when disposing of equipment washwater or rinsate.

This chemical is known to leach through soil into groundwater under certain conditions as a result of label use. Use of this chemical in areas where soils are permeable, particularly where the water table is shallow, may result in groundwater contamination.

This chemical can contaminate surface water through spray drift. Under some conditions, it may also have a high potential for runoff into surface water for several days to weeks after application. These include poorly draining or wet soils with readily visible slopes toward adjacent surface waters, frequently flooded areas, areas overlaying extremely shallow ground water, areas with infield canals or ditches that drain to surface water, areas not separated from adjacent surface waters with vegetated filter strips, and areas over-laying tile drainage systems that drain to surface water.

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

#### **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 intervals (REI). 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
- shoes plus socks
- protective eyewear

#### **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.

#### Entry Restrictions:

**DO NOT** enter or allow others to enter area until sprays have dried.

## **CHEMIGATION:**

7 of 17

### **General Chemigation Information**

1. Apply this product only through drip (trickle), microjet, center pivot, solid set, hand move, or moving wheel irrigation system that does not contain aluminum components. Do not apply this product through any other type of irrigation system.
2. Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from non-uniform distribution of treated water.
3. If you have questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts.
4. Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless the pesticide label-prescribed safety devices for public water systems are in place.
5. A person knowledgeable of the chemigation system and responsible for its operation or under the supervision of the responsible person, shall shut the system down and make necessary adjustments should the need arise.
6. The pesticide supply tank should be equipped with a means for continuous agitation either recirculation or mechanical agitator. Fill the supply tank with the appropriate amount of water and add the Catamaran slowly followed by any other products that are compatible and labeled for chemigation. Observe all cautions and limitations on the label of all products used in the mixtures. For fixed position irrigation systems such as center pivot etc., the pesticide should be applied toward the end of the irrigation cycle. Exact timing will depend upon the desired Catamaran application rate and the calibration of the system. For moving systems, apply the Catamaran continuously. In all cases, maintain thorough coverage of the crop.

### **For Chemigation Systems Connected to Public Water Systems:**

1. Public water system means a system for the provision to the public of piped water for human consumption if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year.
2. Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, back flow preventer (RPZ) or the functional equivalent in the water supply line upstream from the point of pesticide introduction. As an option to the RPZ, the water from the public water system should be discharged into a reservoir tank prior to pesticide introduction. There shall be a complete physical break (air gap) between the flow outlet end of the fill pipe and the top or overflow rim of the reservoir tank of at least twice the inside diameter of the fill pipe.
3. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection.
4. The pesticide injection pipeline must contain a functional, normally closed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
5. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops, or in cases where there is no water pump, when the water pressure decreases to the point where pesticide distribution is adversely affected.
6. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.

7. Do not apply when wind speed favors drift beyond the area intended for treatment.

8 of 17

**For Drip (Trickle) Chemigation and Sprinkler Chemigation Systems:**

1. The system must contain a functional check valve, vacuum relief valve, and low pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from back flow.
2. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
3. The pesticide injection pipeline must also contain a functional, normally dosed, solenoid-operated valve located on the intake side of the injection pump and connected to the system interlock to prevent fluid from being withdrawn from the supply tank when the irrigation system is either automatically or manually shut down.
4. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor stops.
5. The irrigation line or water pump must include a functional pressure switch which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.
6. Systems must use a metering pump, such as a positive displacement injection pump (e.g., diaphragm pump) effectively designed and constructed of materials that are compatible with pesticides and capable of being fitted with a system interlock.
7. Do not apply when wind speed favors drift beyond the area intended for treatment.

**General Precautions and Restrictions:**

Do not apply this product in a way that will contact workers or other persons, or pets, either directly or through drift. Only protected handlers may be in the area during application. This product must not be applied within 150 feet (for aerial and air-blast applications) or 25 feet (for ground applications) of marine/estuarine water bodies unless there is an untreated buffer area of that width between the area to be treated and the water body.

Avoiding spray drift at the application site is the responsibility of the applicator. The interaction of many equipment and weather related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions. The following drift management requirements must be followed to avoid off-target drift movement from aerial applications to agricultural field crops. These requirements do not apply to forestry applications, public health uses or to applications using dry formulations.

1. The distance of the outer most nozzles on the boom must not exceed  $\frac{3}{4}$  the length of the wingspan or rotor.
2. Nozzles must always point backward parallel with the air stream and never be pointed downwards more than 45 degrees.

Where states have more stringent regulations, these should be observed.

The applicator should be familiar with the information covered in the Aerial Drift Reduction Advisory Information Section and take it into account.



## **Information on Droplet Size**

The most effective way to reduce drift potential is to apply large droplets. The best drift management strategy is to apply the largest droplets that provide sufficient coverage and control. Applying larger droplets reduces drift potential, but will not prevent drift if applications are made improperly, or under unfavorable conditions (see Wind, Temperature).

### **Controlling Droplet Size**

- Volume - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher rated flows produce larger droplets.
- Pressure - Do not exceed the nozzle manufacturer's recommended pressures. For many nozzle types lower pressure produces larger droplets. When higher flow rates are needed, use higher flow rate nozzles instead of increasing pressure.
- Number of nozzles - Use the minimum number of nozzles that provide uniform coverage.
- Nozzle Orientation - Orienting nozzles so that the spray is released parallel to the airstream produces larger droplets than other orientations and is the recommended practice. Significant deflection from horizontal will reduce droplet size and increase drift potential.
- Nozzle Type - Use a nozzle type that is designed for the intended application. With most nozzle types, narrower spray angles produce larger droplets. Consider using low-drift nozzles. Solid stream nozzles oriented straight back produce the largest droplets and the lowest drift potential.

### **Boom Length**

For some use patterns, reducing the effective boom length to less than  $\frac{3}{4}$  of the wingspan or rotor length may further reduce drift without reducing swath width.

### **Wind**

Drift potential is lowest between wind speeds of 2-10 mph. However, many factors, including droplet size and equipment type determine drift potential at any given speed. Application should be avoided below 2 mph due to variable wind direction and high inversion potential. NOTE: Local terrain can influence wind patterns. Every applicator should be familiar with local wind patterns and how they affect spray drift.

### **Temperature and Humidity**

When making applications in low relative humidity, set up equipment to produce larger droplets to compensate for evaporation. Droplet evaporation is most severe when conditions are both hot and dry.

### **Temperature Inversions**

Applications should not occur during a temperature inversion because drift potential is high. Temperature inversions restrict vertical air mixing, which causes small suspended droplets to remain in a concentrated cloud. This cloud can move in unpredictable directions due to the light variable winds common during inversions. Temperature inversions are characterized by increasing temperatures with altitude and are common on nights with limited cloud cover and light to no wind. They begin to form as the sun sets and often continue into the morning. Their presence can be indicated by ground fog; however, if fog is not present, inversions can also

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be identified by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

### GENERAL INFORMATION

Catamaran is a product which contains chlorothalonil and potassium phosphite. This product is effective in the control of specified crop diseases and also provides protection through activation of the plants' natural resistance mechanism. Catamaran is intended for use as part of an Integrated Pest Management (IPM) system. When used in conjunction with good cultural management practices and as part of a complete disease control program, Catamaran will control diseases on vegetables, field crops, and grasses grown for seed. In order to achieve maximum results in controlling the disease, spraying should be carried out before the appearance of the disease or when disease conditions are favorable.

#### Mixing and Application Instructions:

Apply in sufficient water to ensure thorough coverage. Fill spray tank halfway with clean water. Add the required amount of Catamaran to the tank as indicated in the table below. While agitating, add the remaining amount of water. Apply solution directly to crop and avoid spray drift. For optimum control, thorough coverage is required.

#### Compatibility:

Phytotoxicity has been noted when chlorothalonil is combined with Dipel<sup>®</sup>, Latron B-1956<sup>®</sup>, Latron AG-98<sup>®</sup>, horticultural oil, and products containing xylene. Test tank mix combinations on a small number of plants before treating large areas, especially with products specifically identified above.

DO NOT combine Catamaran in the spray tank with other pesticides, surfactants or fertilizers, unless your prior use has shown the combination physically compatible, effective and noninjurious under your conditions of use.

#### Potential Plant Injury:

Catamaran has been evaluated for phytotoxicity on a number of plant species under various normal field conditions. However, testing all species, in all mixtures and combinations is not feasible. Where feasible, test for phytotoxicity on a small portion of the area to be treated, prior to treating the entire area.

#### NOTES:

- (1) DO NOT water after treatment until the spray deposit is dry. Use Catamaran in conjunction with good disease management practices.
- (2) Under severe disease pressure use the highest rate and shortest interval corresponding with the application selected from the table below.
- (3) For best results apply Catamaran preventatively.
- (4) If spraying during the heat of the day and/or tank mixing with several products, we suggest a short irrigation prior to application to reduce the potential for tip burn.

#### Application Instructions:

Do not apply at more than the following application rates. Unless specified, there is no limit to the number of applications.

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**Important:**

Do not apply to plants when they are under water stress, or during severe weather conditions such as high or very low temperatures.

Crop	Disease	Application Rate	Remarks	Use Restrictions
<b>Beans (snap, lima)</b>	Rust ( <i>uromyces</i> ) Pythium Cottony leak	4 pints/acre	Begin applications when disease first threatens on a 7 to 10 day interval in 50 gal of water/acre.	Do not apply more than 32 pints/acre/season. Do not apply within 7 days of harvest.
<b>Beans (dry)</b>	Rust ( <i>uromyces</i> ) Anthracnose Downy mildew Cercospora Ascochyta blight	4 pints/acre	Begin applications at the first onset of disease. Repeat on a 7 to 10 day interval, in 50 gal of water/acre by ground or 20 gal of water/acre by air. For use on beans to be harvested dry with pods removed. Apply by ground, air or chemigation.	Do not apply more than 20 pints/acre/season. Do not apply within 14 days of harvest.
<b>Blueberries</b>	Phytophthora Alternaria Anthracnose Mummy berry Septoria leafspot Rust	4 pints/acre	Begin applications at budbreak and repeat on a 10 day interval through bloom. Apply in sufficient water to obtain thorough coverage (50 gal/acre or more by ground). Initiate applications post-harvest to maintain healthy leaves for the following season. Repeat on a 10 day interval.	Do not apply more than 32 pints/acre/season. Do not apply between bloom and harvest or within 42 days of harvest.
<b>Brassica such as broccoli, brussels sprouts, cabbage, cauliflower, Chinese cabbage (tight headed varieties)</b>	Alternaria leafspot, Downy mildew	4 pints/acre	Make preventive foliar applications on a 7 to 10 day interval. Use sufficient water to obtain thorough coverage.  Can be applied by ground, air, or chemigation.	Do not apply more than 40 pints/acre/season. Do not apply within 7 days of harvest.

Crop	Disease	Application Rate	Remarks	Use Restrictions
Carrot	Cercospora leafspot Alternaria leaf blight	4 pints/acre	Start applications when disease threatens and repeat on a 7 to 10 day interval to maintain control. Use 50 or more gal of water/acre by ground.	Do not apply more than 50 pints/acre/season. May be applied up to the day of harvest.
Celery Celery seedbeds	Early blight ( <i>cercospora apii</i> ) late blight ( <i>septoria apicola</i> ) Rhizoctonia stalk rot	4 pints/acre	Start applications when transplants are set in the field and repeat on a 7 day interval as needed to maintain control. Use in sufficient water to obtain adequate coverage. Can be applied by ground, air, or chemigation.  Start applications after emergence twice weekly in 125 gal of water/acre.	Do not apply more than 60 pints/acre/season. Do not apply within 7 days of harvest.
Cucurbits	Anthracnose Downy mildew Target spot	4 pints/acre	Begin applications at first true leaf or when conditions are favorable for disease development. Repeat applications on a 7 day schedule using 40-100 gal of water/acre depending on plant size to obtain adequate coverage.	Do not apply more than 50 pints/acre/season. Do not apply on the day of harvest.

Crop	Disease	Application Rate	Remarks	Use Restrictions
	<p>Cercospora leaf spot Gummy stem blight Alternaria leaf spot Scab</p>	<p>6 pints/acre</p>	<p>Spraying Catamaran on watermelons may result in sunburn on the fruit surface. Do not apply under the following conditions: (1) Intense heat and sunlight (2) Drought conditions (3) Poor vine canopy (4) Other stress conditions conducive to natural sunburn</p>	
<p><b>Grasses Grown for Seed</b></p>	<p>Stem rust Leaf rust Stripe rust Septoria leaf spot Glume blotch Bipolaris Drechslera leaf spots</p>	<p>3-5 pints/acre</p>	<p>Begin applications during stem elongation when conditions favor disease development. Re-apply at flag leaf emergence and repeat on a 14 day interval using sufficient water for adequate coverage. Apply by ground, air, or chemigation.</p>	<p>Do not apply more than 16 pints/acre/season/ Do not apply within 14 days of harvest. Do not allow livestock to graze in treated fields, or feed hay produced before harvest. Feeding after harvest is permitted.</p>
<p><b>Mango</b></p>	<p>Anthrachnose</p>	<p>5-7 pints/acre</p>	<p>Begin applications at early bloom and repeat on a 7-14 day interval until early fruit development. Under high disease pressure, increase the rate and shorten the spray interval. Use at least 100 gal of water/acre by ground and 20 gal of water/acre by air.</p>	<p>Do not apply more than 80 pints/acre/season. Do not apply within 21 days of harvest.</p>

Crop	Disease	Application Rate	Remarks	Use Restrictions
Onion (dry bulb) Garlic	Botrytis leaf blight Purple blotch Downy mildew	4-7 pints/acre	Apply prior to the onset of disease on a 10 day schedule. Once disease is present, increase the rate and shorten the spray interval to 7 days. Apply in 20-50 gal of water/acre*. Apply by ground, air, or chemigation.	Do not apply more than 42 pints/acre/season/ Do not apply within 7 days of harvest.
Onion (green bunching) Leek Shallots	Botrytis leaf blight Purple blotch Downy mildew	4-7 pints/acre	Begin applications prior to the onset of disease and repeat on a 7-10 day interval for as long as conditions favor disease, using the higher rate and shorter interval under high disease pressure. Apply in 20-50 gal of water/acre*. Apply by ground, air, or chemigation.	Do not apply more than 20 pints/acre/season. Do not apply within 7 days of harvest on garlic and 14 days of harvest for green bunching onions, leeks, or shallots.
Peanut	Early leaf spot Late leaf spot Pepper spot	3-5.5 pints/acre	Apply by ground or air. Chemigation applications at 5.5 pints/acre may be alternated with ground or air applications. Initiate sprays 30 days after planting or when leaf wetness occurs. Repeat on a 14 day interval.	Do not apply more than 32 pints/acre/season. Do not apply within 14 days of harvest. Do not allow livestock to graze on treated fields, or feed hay from treated fields to livestock.
	Rust Web blotch Pythium pod rot	5.5 pints/acre		

Crop	Disease	Application Rate	Remarks	Use Restrictions
<b>Potato</b>	Late blight Early blight Botrytis vine rot Black dot	4-5.5 pints/acre	Begin applications at the low rate when vines emerge and leaf wetness occurs on a 5-10 day interval. Begin applying higher rates on a 5-10 day interval when: - Vines close within the rows - or Late blight forecast measures 18 disease severity values (DSV) - or the crop reaches 300 P-days. Increase the rate and shorten the interval when plants are growing rapidly and disease conditions are severe. Apply by ground, air, or chemigation. Full season spray program results in suppression of tuber: pink-rot and pythium leak	Do not apply more than 40 pints/acre/season. Do not apply within 7 days of harvest.
<b>Soybean</b>	Anthracnose Diaporthe pod and stem rot Frogeye leaf spot Purple seed strain Cercospora leaf blight Septoria brown spot Stem Canker  Rust: (suppression)	5.5-7 pints/acre	For optimal disease control apply at R1 (flowering) R3 (seed formation) and R5 (pod set) in 30-50 gal of water/acre by ground, or 20 gal of water/acre by air, or apply via chemigation. On determinant varieties under less intensive disease, two applications may be made at R3 and R5. Use the higher rate as disease pressure increases.	Do not apply more than 17 pints/acre/season. Do not apply within 6 weeks of harvest. Do not feed the hay or threshings from treated fields to livestock.

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Crop	Disease	Application Rate	Remarks	Use Restrictions
Tomato foliage	Early blight Late blight Gray leaf mold Gray leaf spot Target spot	5 -7 pints/acre	Apply on a 7-10 day interval in sufficient water to ensure thorough coverage. Apply highest rate at the shortest interval under severe disease conditions.	Do not apply more than 50 pints/acre/season. May be applied on the day of harvest.
Tomato fruit	Anthracnose Alternaria rot Botrytis Late blight rot Rhizoctonia rot	7 pints/acre	Apply on a 7-10 day interval in sufficient water to ensure thorough coverage. Apply highest rate at the shortest interval under severe disease conditions.	Do not apply more than 50 pints/acre/season. May be applied on the day of harvest.

\* Limit spray run-off.



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### STORAGE AND DISPOSAL

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

**Pesticide Storage:** Store in a dry, cool place.

**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 (2.5 gallons):** Nonrefillable container. Do not reuse or refill this container. Triple rinse (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  $\frac{1}{4}$  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 or dispose of in a sanitary landfill, or by incineration. Do not burn unless allowed by state and local ordinances.

**Container Disposal (250 gallons):** Nonrefillable container. Do not reuse or refill this container. Triple rinse (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into the application equipment or a mix tank. Fill the container  $\frac{1}{4}$  full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. Then offer for recycling, if available, or puncture or dispose of in a sanitary landfill, or by incineration. Do not burn unless allowed by state and local ordinances.

### WARRANTY LIMITATIONS AND DISCLAIMER

To the fullest extent permitted by law, Luxembourg warrants that at the time of delivery, the product will conform to its chemical description on the label, that it will pass without objection in the trade under the contract description, that seller will convey good title thereto, and that such product will be delivered free from any lawful security interest, lien or encumbrance. This is the only warranty made on this product. Luxembourg EXPRESSLY DISCLAIMS ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE AND, EXCEPT AS SET FORTH IN THE ABOVE PARAGRAPH, ANY OTHER EXPRESS OR IMPLIED WARRANTIES. Buyer assumes all risk of use of this material when such use is contrary to label instructions. Read and follow the label directions carefully.