

65402-7

3/30/2010

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

MAR 30 2010

OFFICE OF  
PREVENTION, PESTICIDES AND  
TOXIC SUBSTANCES

Catherine Rice  
Agent  
FMC Corporation  
Peroxygens Division  
1735 Market Street  
Philadelphia, PA 19103

RE: Product Name: VigorOx Liquid Horticulture Algicide & Fungicide  
EPA Reg. No: 65402-7  
Application for Label Notification Dated January 27, 2010 to update the Storage and Disposal Statement and to delete non-notification label claims.

Dear Ms. Rice:

The Biopesticides and Pollution Prevention Division is in receipt of your application for Notification under Pesticide Registration (PR) Notice 98-10 dated above. A preliminary screen of this request has been conducted for its applicability under PR Notice 98-10 and it has been determined that the action(s) requested falls within the scope of PR Notice 98-10. Our records have been duly noted, and the label submitted with this application has been stamped "Notification Accepted" and will be placed accordingly in our records.

If you have any questions concerning this action, please feel free to contact Ms. Menyon Adams at (703) 347-8496 or email at [adams.menyon@epa.gov](mailto:adams.menyon@epa.gov).

Sincerely,

*Linda Hollis*

Linda Hollis, Chief  
Biochemical Pesticides Branch  
Biopesticides and Pollution Prevention  
Division (7511P)



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 VigorOx Liquid Horticulture Algicide & Fungicide	2. EPA Product Manager Marshall Swindell	3. Proposed Classification <input checked="" type="checkbox"/> None <input type="checkbox"/> Restricted
4. Company/Product (Name) 65402-7	PM# Team 33	
5. Name and Address of Applicant (Include ZIP Code) FMC Corporation Peroxygens Division 1735 Market Street Philadelphia, PA 19103  <input type="checkbox"/> Check if this is a new address	6. <b>Expedited Review.</b> 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**

**Notification Accepted**

<input type="checkbox"/> Amendment - Explain Below	<input type="checkbox"/> Final printed labels in response to Agency Letter dated <u>MAR 30 2010</u>
<input type="checkbox"/> Resubmission in response to Agency Letter dated _____	<input type="checkbox"/> "Me Too" Application. <b>Date: March 30, 2010</b>
<input checked="" type="checkbox"/> Notification - Explain below.	<input type="checkbox"/> Other - explain below. <b>Reviewer: MEnyan Adams</b>

**Explanation:** Use additional page(s) if necessary. (For section I and Section II.)

Notification: Revised Container Disposal language per PR Notice 2007-4 (nonrefillable containers only)

Non-notification: Deleted statement "For more information see Material Safety Data Sheet" per PR Notice 98-10

Please refer to the attached cover letter for additional information.

**Section III**

1. <b>Material This Product Will Be Packaged In:</b>				2. <b>Type of Container</b>	
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
* <b>Certification must be submitted.</b>	If "yes," Unit Package wgt.	No. per container	If "Yes," Package wgt.	No. per container	Other (Specify) _____
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"/> 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 Catherine Rice	Title Scientist, Keller and Heckman, LLP	Telephone No. (Include Area Code) 202-434-4145
I certify that the statements I have made on this form and all attachments thereto are true, accurate and complete. I acknowledge that any knowingly false for misleading statement may be punishable by fine or imprisonment or both under applicable law.		6. Date Application Received (Stamped)
2. Signature 	3. Title Agent for FMC Corporation	
4. Typed Name Catherine Rice	5. Date 1-27-2010	

1001 G Street, N.W.  
Suite 500 West  
Washington, D.C. 20001  
tel. 202.434.4100  
fax 202.434.4646

Writer's Direct Access  
Catherine Rice  
(202) 434-4145  
Rice@khlaw.com

January 27, 2010

Via Messenger

Document Processing Desk (NOTIF)  
US Environmental Protection Agency  
Room S-4900, One Potomac Yard  
2777 South Crystal Drive  
Arlington, VA 22202-4501

To: Marshall Swindell (7510P)  
Product Manager 33  
Regulatory Management Division Branch I

Re: Registrant: FMC Corporation, Peroxygens Division  
Product: VigorOx Liquid Horticulture Algicide & Fungicide (EPA Reg. No. 65402-7)  
Notification of Revised Container Disposal Language per PR Notice 2007-4  
Non-Notification Change per PR Notice 98-10

Dear Marshall:

On behalf of our client, FMC Corporation, Peroxygens Division, we are notifying the EPA of revised container disposal language per PR Notice 2007-4. This notification covers nonrefillable containers only and is consistent with the language in the PR Notice. Specifically, this language is:

**Containers greater than or equal to 5 gallons but less than or equal to 55 gallons.**  
Nonrefillable container. Do not reuse or refill this container. Offer for recycling, if available. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ 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. Turn the container over into its other 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 for disposal. Repeat this procedure two more times.

This notification does not cover refillable containers language. This will be submitted to the Agency at a later time.

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**KELLER AND HECKMAN LLP**

Marshall Swindell  
January 27, 2010  
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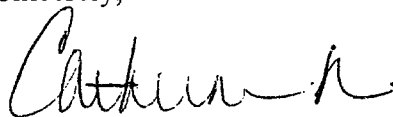
At this time, FMC is also making a second change to its product label – it is deleting the phrase “For more information see Material Safety Data Sheet.” This qualifies as a non-notification allowed under PR Notice 98-10 Section IV.C (Revision, Addition or Deletion of Non-FIFRA Related Label Elements).

No other changes to the label are being made. Attached are five copies of the proposed label along with one highlighted label.

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.

Please contact me at the above number if you have any questions.

Sincerely,



Catherine Rice  
Scientist

Cc: LuAnn Maloney, FMC  
John Dubeck

# VigorOx<sup>®</sup> Liquid Horticulture Algicide & Fungicide

EPA Registration No. 65402-7  
EPA Est. No. 00279-NY-003

VigorOx<sup>®</sup> Liquid Horticulture Algicide & Fungicide is a treatment for the prevention and suppression/control of horticultural diseases in commercial greenhouses, garden centers, landscapes, nurseries, interiorscapes and professional turf care.

VigorOx<sup>®</sup> Liquid Horticulture Algicide & Fungicide may be used as a fungicide on bedding plants, flowering plants, roses, poinsettia, ornamentals, nursery stock, trees, turf, cut flowers, bulbs, cuttings, seedlings, seeds and seedbeds.

VigorOx<sup>®</sup> Liquid Horticulture Algicide & Fungicide may be used as a fungicide and algicide on greenhouse structures, benches, pots, watering systems, evaporative coolers, storage rooms, ventilation equipment, floors and other equipment.

VigorOx<sup>®</sup> Liquid Horticulture Algicide & Fungicide can be used with the HRS<sup>™</sup> foaming agent for treatment of greenhouse structures, benches, pots, watering systems, evaporative coolers, storage rooms, ventilation equipment, floors and other equipment.

VigorOx<sup>®</sup> Liquid Horticulture Algicide & Fungicide works by surface contact with the plants and materials being treated. It is important to ensure that all surfaces are thoroughly wetted. Diluted VigorOx does not produce any visible residue or deleterious effects to plants when used in accordance with label directions. Do not use higher than recommended application rates as leaf burn may result.

Do not apply this product through any irrigation system unless directed by the label. Refer to Chemigation Directions for Use.

**KEEP OUT OF REACH OF CHILDREN  
DANGER – PELIGRO**

Si usted no entiende la etiqueta, busque a alguien para que se la explique a usted en detalle. (If you do not understand this label, find someone to explain it to you in detail.)

See side panel for additional precautionary statements

## For Commercial Horticultural Use Only

Active Ingredients:		
Hydrogen Peroxide	.....	21.7%
Peracetic Acid	.....	5.1%
Other Ingredients:	.....	73.2%
Total	.....	100.0%

FMC Corporation  
Peroxygens Division  
1735 Market Street  
Philadelphia Pennsylvania 19103

### Precautionary Statements

#### Hazards to Humans and Domestic Animals

**DANGER** – Corrosive. Causes irreversible eye damage and skin burns. Harmful if swallowed. May be fatal if absorbed through the skin. Do not get in eyes, on skin or on clothing. Wear protective eyewear (goggles, face shield, or safety glasses). Wear coveralls over long-sleeved shirt and long pants, socks, chemical-resistant footwear and chemical-resistant gloves. Wash thoroughly with soap and water after handling and before eating, drinking or using tobacco. Remove contaminated clothing and wash clothing before reuse.

**Environmental Hazards** – This pesticide is toxic to birds, mammals, fish and aquatic life. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans, or other waters unless in accordance with requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA. This product is highly toxic to bees and other beneficial insects exposed to direct contact on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds while bees are actively visiting the treatment area. Do not apply this product or allow it to drift to crops where beneficials are part of an Integrated Pest Management strategy.

**Physical or Chemical Hazards** – Strong oxidizing agent. Mix only with water. VigorOx<sup>®</sup> Liquid Horticulture Algicide & Fungicide is not combustible; however, at temperatures exceeding 156°F, decomposition occurs releasing oxygen. The oxygen released could initiate or promote combustion of other materials.

**Procedure for Leak or Spill** - Stop leak if this can be done without risk. Shut off ignition sources; no flames, smoking, flares, or spark producing tools. Keep combustible and organic materials away. Flush spilled material with large quantities of water. Undiluted material should not enter confined spaces.

### First Aid

Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

<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 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>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 a poison control center or doctor.</li> <li>- Do not give anything by mouth to an unconscious person.</li> </ul>

**Note to Physician:** Probable mucosal damage may contraindicate the use of gastric lavage.

EMERGENCY TELEPHONE NUMBER (24 HOURS)  
MEDICAL: Collect 303-595-9048

Net Contents: \_\_\_\_\_ gal. (\_\_\_\_ fl. oz.)



FMC and VigorOx® are trademarks of FMC Corporation

### 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 Interval (REI). The requirements in this box apply to the 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 two (2) hours for fogging applications only. There is a restricted entry interval (REI) of zero (0) hours for all other application methods.

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:

- Chemical-resistant suit;
- Chemical-resistant headgear (if applied by fogging); and
- Dust/mist filtering respirator (if applied by fogging).

Notify workers of the application by warning them orally and by posting warning signs at entrances to treated areas.

**Personal Protective Equipment (PPE)** – Applicators and handlers must wear coveralls over long-sleeved shirt, long pants, and chemical resistant footwear plus socks. When mixing and loading wear a chemical resistant apron. For overhead exposure wear chemical-resistant headgear. Wear protective eyewear (goggles, face shield, or safety glasses), and chemical resistant gloves. When cleaning equipment wear a chemical resistant apron. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instruction exists for washables, use detergent and hot water.

### User Safety Recommendations

User should wash hands thoroughly with soap and water before eating, drinking or using tobacco or using the toilet.

Users should remove clothing immediately if contaminated by pesticide. 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.

### Directions for Use

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 the pesticide regulation.

To prevent, suppress, or eliminate Algae – *Alternaria* - *Anthraco*se – *Aphanomyces* – Black Spot – *Botrytis* (grey mold) - Downy Mildew – *Erwinia* - *Fusarium* (root rot) – Leaf Spot – *Phytophthora* (blights, rots) – *Plasmopara* - Powdery Mildew – *Pseudomonas* – *Pythium* - *Rhizoctonia* – Rust - Scab – Smut – *Thielaviopsis* – *Uncinula* (powdery mildew) - Wilts and Blights.

### Compatibility

Do not use at higher than recommended application rates as leaf burn may result. VigorOx® Liquid Horticulture Algicide & Fungicide has been formulated to provide a balanced source of the active ingredient directly to the plant surface and has been shown not to cause adverse cosmetic effects on most plants. Since not all plant species have been tested, it is always advisable to test on a few plants before treating large numbers.

### Solution Preparation

VigorOx® Liquid Horticulture Algicide & Fungicide works best when diluted with water containing low levels of organic or inorganic materials and having a neutral pH. Thoroughly rinse out mixing tank with water before mixing concentrate. VigorOx will readily mix with clean, neutral water and does not require agitation.

VigorOx® Liquid Horticulture Algicide & Fungicide must not be combined or mixed with any other pesticide or fertilizer.

VigorOx® Liquid Horticulture Algicide & Fungicide can be used with surfactants for plants with waxy or hairy surfaces.

### Use Rates and Directions

**For greenhouse surfaces and equipment**, VigorOx® Liquid Horticulture Algicide & Fungicide can be used to suppress/control fungi and slime forming algae on greenhouse structures such as glazing, plastic, benches, walkways, floors, walls, fan blades, ventilation ducts, watering systems, coolers, storage rooms and equipment.

1. Sweep and remove all plant debris. Use power sprayer to wash all surfaces to remove loose dirt.
2. Use 7½ oz. per 5 gallons of clean water. Additional surfactant may be added if needed.
3. Apply solution with mop, sponge, power sprayer or fogger to thoroughly wet all surfaces.
4. Heavy growths of algae and fungi may have to be scrubbed off following application. Use a solution of VigorOx to wash away dead growth.
5. Reapply as often as needed for control.

**For clean, non-porous surfaces**, use 1¼ to 1¾ fl. oz. per 5 gallons of clean water. Additional surfactant may be added, if needed.

**For evaporative coolers**, treat cooler water every week with ¾ to 1¼ fl. oz. per 5 gallons of cooler water.

**For irrigation systems (flooded floors, flooded benches, recycled water systems, humidification and misting systems)**, treat already contaminated water with ¾ to 2½ fl. oz. per 5 gallons of water. Treat clean water with ½ to ¾ gallon of VigorOx per 10,000 gallons of water.

**As a pre-plant dip treatment**, use VigorOx® Liquid Horticulture Algicide & Fungicide, for the control/suppression of damping-off, root and stem rot diseases caused by *Pythium*, *Phytophthora*, *Rhizoctonia*, *Fusarium* or *Thielaviopsis* on ornamental and nursery plants, seed beds, seeds, seedlings, bulbs or cuttings.

1. Use 38 to 75 fl. oz. per 50 gallons of water.
2. Immerse plants or cuttings, remove and allow to drain. Do not rinse.

**As a soil drench**, VigorOx® Liquid Horticulture Algicide & Fungicide is effective for the control/suppression of soil borne plant diseases such as *Pythium*, *Phytophthora*, *Rhizoctonia*, *Fusarium* and *Thielaviopsis*. Use as a soil drench at the time of seeding or transplanting, as well as a periodic drench. VigorOx can also be used on potting soil and growing mediums prior to planting.

1. Use 3¼ to 7½ fl. oz. per 5 gallons of clean water.
2. Apply to soil or growing media to the point of saturation.
3. Wait fifteen minutes before planting or watering.

**As a foliar spray treatment in greenhouses**, VigorOx® Liquid Horticulture Algicide & Fungicide works immediately on contact with any plant surface for control/suppression of plant pathogens. Apply VigorOx to ornamentals, bedding plants, flowering plants, shrubs and trees. Thorough coverage and wetting of the foliage is necessary.

Initial (Curative) Application:

1. Use 3¼ to 7½ fl. oz per 5 gallons of clean water. Do not reuse already mixed solution; make fresh daily.
2. Spray, mist or fog plants in early morning or late evening.
3. Thoroughly wet all surfaces of plant, upper and lower foliage, including stems, branches and stalks to ensure full contact with plant and flower tissue.
4. Apply for one to three consecutive days and then follow directions for preventative treatment after the initial application

Weekly Preventative Treatment:

1. Use ¾ to 1¼ fl. oz. per 5 gallons of clean water.
2. Spray, mist or fog plants.
3. Thoroughly wet all surfaces of plant, upper and lower foliage, including stems, branches and stalks.
4. Spray every five to seven days as a preventative treatment.
5. At the first sign of disease, spray daily with 3¼ to 7½ fl. oz. per 5 gallons of water for three consecutive days and then resume weekly preventative treatment.

**As a foliar spray treatment in the field**, VigorOx works immediately on contact with any plant surface for control/suppression of disease. Apply VigorOx to nursery stock such as woody ornamentals, bedding plants, flowering plants, roses, container plants, azaleas, rhododendrons, conifers and shade trees. Complete coverage and wetting of the foliage is necessary.

Initial (Curative) Application:

1. Use 3¼ to 7½ fl. oz. per 5 gallons of clean water. Do not reuse already mixed solution; make fresh daily.
2. Spray, mist or fog plants and trees including application through irrigation or chemigation systems.
3. Thoroughly wet all surfaces of plant, upper and lower foliage, including stems, branches and stalks to ensure full contact with plant and flower tissue.
4. Apply for one to three consecutive days and then follow directions for preventative treatment after the initial application.

Weekly Preventative Treatment:

1. Use 3¼ to 7½ fl. oz. per 5 gallons of clean water.
2. Spray, mist or fog plants and trees, including application through irrigation or chemigation systems.
3. Thoroughly wet all surfaces of plant, upper and lower foliage, including stems, branches and stalks.
4. Spray every five to seven days as a preventative treatment.
5. At the first sign of disease, spray daily with 7½ fl. oz. per 5 gallons of water for three consecutive days and then resume weekly preventative treatment.

**For cut flowers**, use VigorOx® to prevent *Botrytis*, Downy Mildew and Powdery Mildew on flowers in cold storage or in transit. Apply as a post harvest treatment. Use ¾ to 1¼ fl. oz. per 5 gallons of clean water. Spray flowers after grading and prior to storage or shipment. Repeat weekly for flowers in storage.

**For bareroot nursery stock**, use VigorOx® Liquid Horticulture Algicide & Fungicide to prevent *Botrytis* on budwood and nursery stock in storage. Use 7½ fl. oz. per 5 gallons of water. Dip plants or spray until dripping wet. Repeat weekly if necessary.

**Turf Applications**

Broad spectrum treatment for control of algae, fungi and bacteria on turf. For use on all turf types such as commercial turf, lawns, athletic fields and golf course fairways, greens and tees.

Use VigorOx® Liquid Horticulture Algicide & Fungicide to control *Anthraxnose*, Brown Spot, Dollar Spot, Copper Spot, Fairy Ring, Pink Snow Mold, *Pythium*, *Phytophthora*, Summer Patch, *Rhizoctonia*, Scum, *Fusarium* Blight, Stripe Smut, Leaf Spot, Algae, Slime Molds and their spores.

VigorOx® Liquid Horticulture Algicide & Fungicide controls on contact.

**For algicide/bactericide treatment**, use VigorOx to control algae and bacterial diseases and the odors and the conditions these organisms may cause.

1. Typical treatment rates involve treating approximately 1000 square feet of lawn area with 1 to 10 gallons of diluted solution. Spray entire area until run-off; saturation of the entire area will help ensure the solution penetrates algal crusts and deposits. Add a spreader surfactant for best results.
2. For initial (curative) treatment of heavy infestations of algae or bacterial disease, dilute 3¼ to 15 fl. oz. in 5 gallons of clean water. Apply 5 – 10 gallons of dilute solution per 1000 square feet.
3. For preventative treatment of algae and bacterial disease, dilute 1½ to 37½ fl. oz. in 5 gallons of clean water. Apply 1 – 5 gallons of dilute solution per 1000 square feet.
4. Repeat applications every 5 to 7 days or as needed to control new or established disease conditions. For best results, apply immediately after grass has been cut.

Optimum treatment time is early morning or late afternoon. Applications can be made during wet or rainy weather. Use spray solution the same day it is prepared; do not store and reuse mixed spray solution. VigorOx® can be injected through automatic irrigation systems in turf areas. Refer to Chemigation Directions for Use for specific instructions on using this product through irrigation systems.

**For severe conditions of crusted algae** VigorOx® Liquid Horticulture Algicide & Fungicide may be diluted at 14 to 25 fl. oz. per 5 gallons of clean water, and applied to 1000 square feet of affected area. Severe conditions can require increased rates of active ingredient and increases in water volume to help penetrate layers of algae. Under severe conditions, applications can be doubled either by increasing the amount of active ingredient per 1000 square feet of turf or by applying twice over the same area.

**For fungicide treatment of turf**, use on golf course fairways, greens and tees of Bentgrass, Bluegrass, Bermudagrass, Fescue, Ryegrass, St. Augustinegrass and their mixtures.

1. Typical treatment rates involve treating approximately 1000 square feet of lawn area with 1 to 10 gallons of diluted solution. Spray entire area until run-off. Add a spreader surfactant for best results.
2. Start applications at the first sign of disease and repeat every 5 to 7 days or as needed to control new or established disease conditions. For best results, apply uniformly over the area immediately after grass has been cut.
3. For initial (curative) treatment of heavy infestations of fungal disease, dilute 1¾ to 7½ fl. oz. in 5 gallons of clean water. Apply 5 - 10 gallons of dilute solution per 1000 square feet.
4. For preventative treatment of fungal disease, dilute ¾ to 18¾ fl. oz. per 5 gallons of clean water. Apply 1 - 5 gallons of dilute solution per 1000 square feet.

Optimum treatment time is early morning or late afternoon. Applications can be made during wet or rainy weather. Use spray solution the same day it is prepared; do not store mixed spray solution for later use.

**For seedbed treatment**, prior to sowing seed, use 7½ fl. oz. per 5 gallons of clean water. Thoroughly wet or drench the seed bed, to the point of saturation, with 60 to 100 gallons of dilute solution per 1000 square feet. Let sit for one hour then immediately seed soil.

After seeds have germinated, use 2½ to 3½ fl. oz. per 5 gallons of clean water. Lightly spray or irrigate the soil and seedlings until thoroughly wetted. Retreat once per week until seed is well established.

**For soil treatment prior to inoculation with beneficial microorganisms,** use VigorOx® Liquid Horticulture Algicide & Fungicide to reduce the number of plant pathogenic microorganisms in the soil. Use 3¼ to 7¼ fl. oz. per 5 gallons of clean water. Thoroughly wet or drench the area to be inoculated. Wait one day before inoculating the soil.

**To treat turf following inoculation of soil with beneficial microorganisms,** use VigorOx® Liquid Horticulture Algicide & Fungicide to control plant pathogens on the foliar portion of turf. Do not drench the root system, or a temporary reduction in beneficial soil microorganisms may occur.

Use 2½ to 5 fl. oz. per 5 gallons of clean water. Apply to the turf by lightly spraying leaf surfaces. Do not allow solution to be drenched into the soil and root systems. Drenching of VigorOx® into the soil may result in temporary reduction of beneficial microorganisms.

**CHEMIGATION DIRECTIONS FOR USE**

**General Requirements**

1. Apply this product through one of the following types of irrigation systems: center pivot, lateral move, end tow, side wheel roll, traveler, solid set, hand move, flood basin or drip trickle irrigation system. Do not apply this product through any other type of irrigation system.
2. Crop injury or lack of effectiveness can result from non-uniform distribution of treated water.
3. Ensure that the irrigation system is properly calibrated. If you have questions about calibration, contact the State Extension Service specialist, the equipment manufacturer, or other experts.
4. Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system unless proper safety devices for public water systems are in place. Read specific requirements provided below.
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 any necessary adjustments should the need arise.

**Specific Requirements for all Irrigation 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 throughout the year.
2. Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone (RPZ), backflow preventer 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 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 liquid back towards the injection pump.
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 drawn 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 or equivalent, effectively designed and constructed of materials that are compatible with pesticides and capable of being filled with a system interlock.
7. Do not apply outdoors when wind speed favors drift beyond the area intended for treatment.

**Application Instructions**

1. Remove scale, pesticide residues and other foreign matter from the chemical supply tank and entire injector system. Flush with clean water. Failure to provide a clean tank, void of scale or residue may cause product to lose effectiveness of strength.
2. Determine the treatment rates as indicated in the directions for use and make proper dilutions.
3. Prepare a solution by filling the tank with the required volume of water and then adding product as required. The product will immediately go into solution without any required agitation.
4. VigorOx® Liquid Horticulture Algicide & Fungicide must not be applied in conjunction with any other pesticides or fertilizers; this may cause reduced performance of the product and should be avoided.

**Posting of areas to be chemigated** is required when 1) any part of a treated area is within 300 feet of sensitive areas such as residential areas, labor camps, businesses, day care centers, hospitals, in-patient clinics, nursing homes or any public areas such as schools, parks, playgrounds, or other public facilities not including public roads, or 2) when the chemigated area is open to the public such as golf courses or retail greenhouses.

Posting must conform to the following requirements. Treated areas shall be posted with signs at all usual points of entry and along likely routes of approach from the listed sensitive areas. When there are no usual points of entry, signs must be posted in the corners of the treated areas and in any other location affording maximum visibility to sensitive areas. The printed side of the sign should face away from the treated area towards the sensitive area. The signs shall be printed in English. Signs must be posted prior to application and must remain posted until foliage has dried and soil surface water has disappeared. Signs may remain in place indefinitely as long as they are composed of materials to prevent deterioration and maintain legibility for the duration of the posting period.

All words shall consist of letters at least 2 ½ inches tall, and all letters and the symbol shall be a color which sharply contrasts with their immediate background. At the top of the sign shall be the words KEEP OUT, followed by an octagonal stop sign symbol at least 8 inches in diameter containing the word STOP. Below the symbol shall be the words "PESTICIDES IN IRRIGATION WATER."

**WARRANTY**

This material conforms to the description on the label and is reasonably fit for the purposes referred to in the directions for use. Timing, method of application, weather, watering practices, nature of soil, potting medium, disease problem, condition of crop, incompatibility with other chemicals, pre-existing conditions and other conditions influencing the use of this product are beyond the control of the seller. Buyer assumes all risks associated with the use, storage, or handling of this material not in strict accordance with directions given herewith. TO THE EXTENT ALLOWABLE BY STATE LAW, NO OTHER EXPRESS OR IMPLIED WARRANTY OF FITNESS OR MERCHANTABILITY IS MADE.



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## Storage and Disposal

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

### Pesticide Storage

Avoid damage to containers. Keep container closed at all times when not in use. Keep container out of direct sunlight. To maintain product quality, store at temperatures below 86°F. Do not store on wooden pallets.

**NEVER RETURN VigorOx® Liquid Horticulture Algicide & Fungicide TO THE ORIGINAL CONTAINER AFTER IT HAS BEEN REMOVED.** Avoid all contaminants, especially dirt, caustic, reducing agents, and metals. Contamination and impurities will reduce shelf life and can induce decomposition. In case of a decomposition, isolate container, douse container with cool water and dilute with large volumes of water.

### Pesticide Disposal

Pesticide wastes are acutely hazardous. 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. If material has been spilled, an acceptable method of disposal is to dilute with at least 20 volumes of water followed by discharge into suitable treatment system in accordance with all local, state, and Federal environmental laws, rules, regulations, standards, and other requirements. Because acceptable methods of disposal may vary by location, regulatory agencies should be contacted prior to disposal.

VigorOx® Liquid Horticulture Algicide & Fungicide which is to be discarded should be disposed of as hazardous waste after contacting the appropriate local, state, or Federal agency to determine proper procedures.

### Container Disposal

**Containers greater than or equal to 5 gallons but less than or equal to 55 gallons.** Nonrefillable container. Do not reuse or refill this container. Offer for recycling, if available. Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container ¼ 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. Turn the container over into its other 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 for disposal. Repeat this procedure two more times. Empty drums are not returnable to FMC unless special arrangements have been made. Triple rinse drums with water [DELETE]. Dispose of drums in accordance with local, state, and Federal regulations. **DO NOT REUSE [DELETE].**

**For more information see Material Safety Data Sheet  
[delete]**

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