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**Systems Integration Group, Inc.**

PM 91

70688-1

2-11-99

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Pesticide Programs
Biopesticides and Pollution Prevention Division
(7511C) 401 M St., S.W.
Washington, D.C. 20460

EPA Reg. Number:

70688-1

Date of Issuance:

2-11-99

Term of Issuance:

Conditional

Name of Pesticide Product:

Spot-Less™ Biofungicide

NOTICE OF PESTICIDE:

X Registration

Reregistration

(under FIFRA, as amended)

Name and Address of Registrant (include ZIP Code):

Eco Soil Systems, Inc.
10890 Thornmint Road
San Diego, CA 92127

Note: Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Biopesticides and Pollution Prevention Division prior to use of the label in commerce.

On the basis of information furnished by the registrant, the above named pesticide is hereby registered/reregistered under the Federal Insecticide, Fungicide and Rodenticide Act.

Registration is in no way to be construed as an endorsement or recommendation of this product by the Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act.

The registration application referred to above, submitted in connection with registration under § 3(c)(7)(C) of the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, is acceptable provided that you do the following terms and conditions.

- 1. Submit/cite all data required for registration of your product under FIFRA § 3(c)(5) when the Agency requires all registrants of similar products to submit such data.
2. Submit production information for this product to Mr. Owen Beeder of Registration Division (7505C) for the fiscal year in which this product is conditionally registered, in accordance with FIFRA § 29.
3. This registration will automatically expire on midnight February 9, 2001. EPA will evaluate the required non-target organism data before February 9, 2001 and decide on whether to convert the registration to a non-expiring registration.
4. This registration is for turf use via the BioJect® System through over-head sprinkler irrigation only and is limited to multiple applications of Pseudomonas aureofaciens strain Tx-1 on no more than 50,000 acres per year.

Signature of Approving Official:

[Handwritten Signature]

Date:

CONCURRENCES

Table with columns for SYMBOL, SURNAME, DATE, and Date. Includes handwritten entries for symbols 7511C, 7511C, 7511C, 7511C, 7511C and dates 2/11/99, 2/11/99, 2/11/99, 2/11/99, 2/11/99.

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5. This registration is registered under FIFRA § 3(c)(7)(C) because of the outstanding non-target organism data. Submit the following data within the specified time-frames.

Study and Guideline	Test Substance	Due Date
Avian Oral Toxicity/Pathogenicity Bobwhite Quail OPPTS 885.4050	Undiluted BioJect® Fermented <i>Pseudomonas aureofaciens</i> strain Tx-1 Fermentation Broth and Solids	February 9, 2000
Avian Oral Toxicity/ Pathogenicity Mallard Duck OPPTS 885.4050	Undiluted BioJect® Fermented <i>Pseudomonas aureofaciens</i> strain Tx-1 Fermentation Broth and Solids	February 9, 2000
Freshwater Fish Toxicity/Pathogenicity Rainbow Trout OPPTS 885.4200	Undiluted BioJect® Fermented <i>Pseudomonas aureofaciens</i> strain Tx-1 Fermentation Broth and Solids	February 9, 2000
Freshwater Fish Toxicity/ Pathogenicity Bluegill Sunfish OPPTS 885.4200	Undiluted BioJect® Fermented <i>Pseudomonas aureofaciens</i> strain Tx-1 Fermentation Broth and Solids	February 9, 2000
Freshwater Aquatic Invertebrate Toxicity/ Pathogenicity/ <i>Daphnia magna</i> /OPPTS 885.4240	Undiluted BioJect® Fermented <i>Pseudomonas aureofaciens</i> strain Tx-1 Fermentation Broth and Solids	February 9, 2000
Non-Target Insect Toxicity/ Pathogenicity/ Green Lacewing OPPTS 885.4340	Undiluted BioJect® Fermented <i>Pseudomonas aureofaciens</i> strain Tx-1 Fermentation Broth and Solids	February 9, 2000
Non-Target Insect Toxicity/ Pathogenicity/ Parasitic Wasp OPPTS 885.4340	Undiluted BioJect® Fermented <i>Pseudomonas aureofaciens</i> strain Tx-1 Fermentation Broth and Solids	February 9, 2000
Non-Target Insect Toxicity/ Pathogenicity/ Ladybird Beetle OPPTS 885.4340	Undiluted BioJect® Fermented <i>Pseudomonas aureofaciens</i> strain Tx-1 Fermentation Broth and Solids	February 9, 2000
Honey Bee Toxicity/Pathogenicity OPPTS 885.4380	Undiluted BioJect® Fermented <i>Pseudomonas aureofaciens</i> strain Tx-1 Fermentation Broth and Solids	February 9, 2000
Quantitative analysis of 5 batches for phenazine-1-carboxylic acid and other <i>Pseudomonas</i> antibiotics along with a complete literature search and copies of relevant publications regarding antibiotic(including 1- phenazine- carboxylic acid) production in <i>Pseudomonas</i> .	Undiluted BioJect® Fermented <i>Pseudomonas aureofaciens</i> strain Tx-1 Fermentation Broth and Solids	February 9, 2000

6. Submit five(5) copies of the revised final printed labeling before you release the product for shipment. Refer to the A-79 enclosure for a further description of final printed labeling.

CONCURRENCES

SYMBOL								
SURNAME								
DATE								

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If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA sec. 6(e). Your release for shipment of the product constitutes acceptance of these conditions.

A stamped copy of the label is enclosed for your records.

Sincerely,

*Janet L. Andersen*  
Janet L. Andersen, Ph.D.  
Director  
Biopesticides and Pollution  
Prevention Division (7511C)

Enclosure

CONCURRENCES

SYMBOL							
SURNAME							
DATE							

# Spot-Less™ Biofungicide

BIOLOGICAL FUNGICIDE FOR THE CONTROL OF FUNGAL DISEASES ON TURF

**ACTIVE INGREDIENT**

<i>Pseudomonas aureofaciens</i> strain Tx-1*	1.0%
<b>INERT INGREDIENTS</b>	99.0%
<b>TOTAL</b>	100.0%

\* Contains at least 2.9 x 10<sup>11</sup> viable cells/fl. oz.

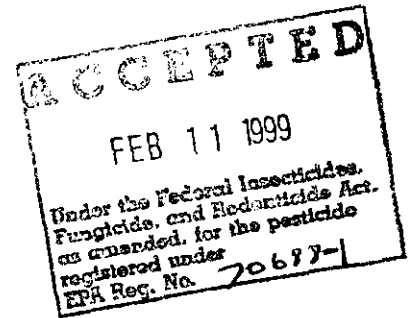
**KEEP OUT OF REACH OF CHILDREN**

**CAUTION**

EPA Registration Number: 70688-1  
EPA Establishment Number: 70571-MN-1  
Net Contents:



Manufactured for:  
Eco Soil Systems, Inc.  
10890 Thornmint Road  
San Diego, CA 92127  
(800) 331-8773



### Precautionary Statements

#### Hazards to Humans and Domestic Animals

Avoid contact with eyes. Wash thoroughly with soap and water after handling.

#### 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.

#### Statement of Practical Treatment (First Aid)

**IF IN EYES:** Flush with plenty of water. Call a physician if irritation persists.

## Directions for Use

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

### Application Site:

Spot-Less Biofungicide is a biological fungicide for use on turfgrass including golf courses. Do not use Spot-Less Biofungicide on turf being grown for sale or other commercial use as sod, or for commercial seed production, or for research purposes.

### Target Pests:

Dollar Spot (*Sclerotinia homeocarpa*); Anthracnose (*Colletotrichum graminicola*, *Pythium* (*Pythium aphanadermatium*); Microdochium patch (pink snow mold) (*Microdochium nivale*).

### Application:

Spot-Less Biofungicide can only be used in conjunction with the BioJect® Automatic Fermentation System. Refer to the BioJect Operators Manual for specific operating and handling instructions. Only trained operators may use the BioJect System.

Application of Spot-Less Biofungicide, using the BioJect system, can only be made when the turf to be treated is not occupied by people (preferably when the golf course or other facility is closed to the public) and in a sufficient time-frame such that turf is not expected to be occupied until mists have settled and sprays have dried.

A quality control check is required for each BioJect system fermentation cycle. The "BioJect System Quality Control Checklist" must be followed for each fermentation cycle. If any of the items listed in the checklist do not function properly, the resulting batch must be aborted and appropriately disposed.

NOTE: Only potable quality water can be used as a water source for the BioJect system both for operation (fermentation) and disinfection.

### Frequency of Application:

Apply at 1-7 times per week through over-head irrigation systems.

### Chemigation:

Refer to the section entitled **Chemigation Instructions** for use directions for chemigation. Do not apply this product through any irrigation system unless the labeling on chemigation is followed.

**BIOJECT SYSTEM QUALITY CONTROL CHECKLIST**

THE FOLLOWING PROCEDURES MUST BE FOLLOWED PRIOR TO THE INITIATION OF EACH FERMENTATION CYCLE FOR SPOT-LESS BIO- FUNGICIDE. IF ANY OF THE PROCEDURES ARE NOT FOLLOWED, THE RESULTING BATCH MUST BE ABORTED AND APPROPRIATELY DISPOSED.

Item	Quality Control Check
UV light is operating properly.	Visually observe and confirm that the UV light is attached to the make-up water input line and that the light gives off a purple glow. Verify that scheduled maintenance and replacement, as per bulb manufacturer's instructions, are followed.
Inoculum is properly added to the BioJect fermentation tank.	Visually observe and confirm the inoculum's pump activity during addition.
Disinfecting cycle has occurred immediately prior to fermentation.	Visually observe and confirm that the peracetic acid pump is operating during the clean-in-place (CIP) cycle.
Appropriate media is added to fermentation tank	Confirm that the nutrient medium added to the BioJect is MD 1/2.

### **STORAGE AND DISPOSAL**

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

Storage: Store in original bags and keep closed. To preserve the live bacterial active ingredient of Spot-Less Biofungicide, store at temperatures between 40-55°F.

Bag Disposal: After the Spot-Less Biofungicide bag has been completely used, dispose of empty bag in a sanitary landfill or by incineration, or if allowed by state and local authorities, by burning. If burned, keep out of smoke.

Disposal of Defective Batches: Prior to disposal, defective (including partially used batches) must be disinfected with peracetic acid, a high-level disinfectant. Add 1 liter (0.25 gal) of peracetic acid per 25 gal fermentation batch (1% v/v or 10,000 ppm). Then dispose of the disinfected batch in the sewer system.



### CHEMIGATION INSTRUCTIONS

Apply Spot-Less Biofungicide (after the fermentation cycle in the BioJect Automatic system) only through over-head sprinkler systems. Do not apply this product through any other type of irrigation system. Check the irrigation system and emitters to ensure the system is operating normally before injecting Spot-Less Biofungicide. Lack of effectiveness and crop injury can result from nonuniform distribution of treated water. If you have any questions about calibration, you should contact State Extension Service Specialist, equipment manufacturer or other experts.

Do not connect an irrigation system (including greenhouse systems) used for pesticide application to a public water system, unless the safety devices, prescribed below, are in place. In addition, check local and state regulations regarding pesticide injection into public water systems.

A person knowledgeable about 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.

#### The over-head sprinkler system must meet the following requirements:

- 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 backflow.
- The pesticide injection pipeline must also contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- The pesticide inject pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the irrigation 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.
- The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor system stops.
- 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 a point where pesticide distribution is adversely affected.
- Systems must use a metering pump, such as 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.

- Do not apply when wind speed favors drift beyond the area intended for treatment.
- Application of Spot-Less Biofungicide can be continuous for the duration of the water application.

Over-Head Irrigation Systems Connected to Public Water Systems must meet the following requirements:

- Public water systems 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.
- Chemigation systems connected to public water systems must contain a functional, reduced-pressure zone, backflow 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 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.
- The pesticide injection pipeline must also contain a functional, automatic, quick-closing check valve to prevent the flow of fluid back toward the injection pump.
- The pesticide inject pipeline must also contain a functional, normally closed, solenoid-operated valve located on the intake side of the irrigation 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.
- The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor system stops.
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- Do not apply when wind speed favors drift beyond the area intended for treatment.
- Application of Spot-Less Biofungicide can be continuous for the duration of the water application.