

# SysTec 1998<sup>®</sup>



## Specimen Label

### Systemic Turf and Ornamentals Fungicide

#### ACTIVE INGREDIENTS:

Thiophanate-methyl (dimethyl [(1,2-phenylene)-bis  
(iminocarbonothioyl)] bis [carbamate])\* ..... 46.2%

INERT INGREDIENTS: ..... 53.8%

TOTAL .... 100%

\*Also known as dimethyl 4,4-o-phenylenebis [3-thioallophanate]

\*4.5 lbs. Active Ingredient per Gallon Flowable

### KEEP OUT OF REACH OF CHILDREN CAUTION

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#### FIRST AID

**If on skin or clothing** - Take off contaminated clothing. Rinse skin immediately with plenty of water for 15 -20 minutes. Call poison control center or doctor for treatment advice.

**If in eyes** - Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present after the first 5 minutes, then continue rinsing. Call poison control center or doctor for treatment.

**If inhaled** - Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth to mouth, if possible. Call a poison control center or doctor for further advice.

#### HOT LINE NUMBER

Have the container or label with you when calling poison control center or doctor, or going for treatment. You may also contact 1-800-621-5208 for emergency medical treatment information.

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EPA REG. NO. 48234-12

EPA EST. NO. 48234-GA-1



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## PRECAUTIONARY STATEMENTS

### HAZARDS TO HUMANS AND DOMESTIC ANIMALS CAUTION

**HARMFUL IF INHALED OR ABSORBED THROUGH SKIN. AVOID CONTACT WITH SKIN, EYES OR CLOTHING. WASH THOROUGHLY WITH SOAP AND WATER AFTER HANDLING.**

**AVOID BREATHING SPRAY MIST. REMOVE CONTAMINATED CLOTHING AND WASH CLOTHING BEFORE REUSE**

### PERSONAL PROTECTIVE EQUIPMENT

Applicators and other handlers must wear:

- long sleeved shirt and pants
- chemical-resistant gloves made of any waterproof material.
- 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.

### User Safety Recommendations:

Users should wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet

Users should remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

Users should 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. Runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when disposing of equipment wash water.

## 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 pesticide regulation.

## 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. 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 level (REI) of 12 hours.

PPE required for early entry to treated areas that is permitted under Worker Protection Standard and that involves contact with anything that has been treated such as plants, soil, or water, is:

- Coveralls
- Chemical-resistant gloves made of any waterproof material
- Shoes plus socks

## 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. DO NOT enter treated areas without protective clothing until spray has dried.

## GENERAL INFORMATION

Apply SysTec 1998 FL with ground equipment, using sufficient volume of spray to provide thorough coverage. Add required amount of SysTec 1998 FL to partially filled tank agitated by mechanical or hydraulic means and then add remaining required amount of water. Continuous agitation is required to keep the material in suspension. Do not tank mix with copper-containing materials or with highly alkaline pesticides, such as Bordeaux mixture or lime sulfur. No claim of compatibility with other pesticides is implied. Use the higher rates under conditions of severe disease pressure. Also, see local State Extension Service recommendations for application schedules. Chemigation instructions follow Directions for Use. Do not apply through any irrigation system unless these instructions are followed. Do not use on turf being grown for sale as sod.

Not for homeowner use. For use by individuals / firms licensed or registered by the state to apply ornamental or turf pest control products.

**IMPORTANT:** If, after using SysTec 1998 FL as recommended, treatment is not effective, a tolerant strain of fungi may be present (consult your local Regal representative). Consult your State Agricultural Experiment Station or your State Agricultural Extension Service for advice on the prompt use of some other suitable fungicide.

## TURF

For use on all fine turf applications such as industrial lawns, athletic fields, residential and public areas (home lawns, parks, athletic fields, schools and day care centers Professional application only), cemeteries, golf course greens, tees, and fairways of Bentgrasses, Blue Grasses, Bermudagrasses, Fescues, Ryegrasses, St. Augustine grasses or their mixtures. SysTec 1998 FL is not phytotoxic to any of the above mentioned grasses when used in accordance with the label. SysTec 1998 FL is to be used for the prevention and control of the below mentioned diseases (provides both curative and protective action). Apply recommended amounts in sufficient water to obtain thorough coverage, usually three to five gallons per 1,000 square feet of turf area. When treating golf greens, always treat aprons and approaches. Use the highest recommended rate under conditions of severe disease pressure. Do not apply with fixed-wing or rotary aircraft.

**FUSARIUM BLIGHT (*Fusarium roseum*), SUMMER PATCH (*Magnaporthe poae*), NECROTIC RING SPOT (*Leptosporia korrae*)** – Apply SysTec 1998 FL at 5 fluid ounces per 1,000 square feet.

Water into the root zone by irrigating with one inch of water immediately after application. Make two applications at 14 day intervals, beginning applications when the disease first appears.

**GRAY LEAF SPOT (*Pyricularia grisea*)** – Apply SysTec 1998 FL at 3 1/2 to 5 fluid oz/1,000 sq. ft. beginning when conditions are favorable for disease development. Continue at 14 day intervals. Spray should dry on leaves with no “watering in.”

**DOLLAR SPOT (*Sclerotinia homoeocarpa*), ANTHRACNOSE BASAL AND FOLIAR (*Colletrichum graminicola*)** – Apply SysTec 1998 FL at 1 to 2 fluid ounces per 1,000 square feet beginning when the disease first appears. Spray should dry on leaf surfaces with no watering in. Continue at 14 day intervals through the season or as needed.

**LARGE BROWN PATCH (*Rhizoctonia solani*), ZOYSIA PATCH (*Rhizoctonia solani*), COPPER SPOT (*Gloeocercospora sorghi*), ASCOCHYTA LEAF SPOT, RED THREAD (*Corticium fuci-forme*), FUSARIUM PATCH (*Fusarium nivale*)** – Apply SysTec 1998 FL at 1 to 2 fluid ounces per 1,000 square feet beginning when the disease first appears and continue at 14 day intervals through the season or as needed. Spray should dry on leaf surfaces with no “watering in”.

**STRIPE SMUT (*Ustilago striiformis*)** – Apply SysTec 1998 FL at 5 fluid ounces per 1,000 square feet. Water into the root zone by irrigating with one inch of water immediately after application. Make two applications at 14 to 21 day intervals. Begin applications when the disease first appears, either in the spring or fall.

**Observe the maximum individual application rates and maximum seasonal application limits in the SysTec 1998 FL Maximum Application Rates table.**

Site	Maximum Individual Application Rate Per Acre OR Per 1000 Square Feet	Minimum Retreat Interval In Days	Maximum Seasonal Total SysTec 1998 FL Per Acre	
			Product	Active Ingredient
Residential / Public areas	77.5 FL OZ/Acre OR 1.8 FL OZ/1000 Square Feet	14 Days	310 FL OZ/Acre OR 7.12 FL OZ/1000 Square Feet	10.88 LB Ai /Acre
Golf Course Greens / Tees/Aprons	233 FL OZ/Acre OR 5.35 FL OZ/1000 Square Feet	14 Days	620 FL OZ/Acre OR 14.23 FL OZ/1000 Square Feet	21.8 LB Ai/Acre
Golf Course Fairways	155 FL OZ/Acre OR 3.56 FL OZ/1000 Square Feet		155 FL OZ/Acre OR 3.56 FL OZ/1000 Square Feet	5.45 LB Ai/Acre
FL Golf Course Fairways Overseeded	77.5 FL OZ/Acre OR 1.8 FL OZ/1000 Square Feet		77.5 FL OZ/Acre OR 1.8 FL OZ/1000 Square Feet	2.72 LB Ai/Acre

**ORNAMENTALS (FIELD AND GREENHOUSE)**

SysTec 1998 FL is a broad-spectrum systemic fungicide, which controls a variety of diseases on woody and herbaceous ornamental crops. SysTec 1998 FL is also effective as a preplant dip on cutting and bulbs. SysTec 1998 FL may be used to control the listed diseases on noncommercial bearing, and non-bearing fruit trees, almond, apple, apricot, cherry, nectarine, peach, pecan, plum, and prune trees. Do not apply to home orchards / fruit trees after fruit set, if fruit is intended for consumption

**FOLIAR SPRAY  
PLANT TYPES AND DISEASES CONTROLLED**

<b>DISEASE(S)</b>	<b>PLANT TYPES</b>
Anthracnose	woody ornamentals, shade trees <sup>1</sup>
Ascochyta Blight	herbaceous ornamentals
Black spot	Roses
Botrytis (Grey Bold)	woody and herbaceous ornamentals
Brown Rot	woody and herbaceous ornamentals
Cercospora Leaf Spot	woody and herbaceous ornamentals
Colletotrichum	woody and herbaceous ornamentals
Corynespora Leaf Spot	ligustrum
Didymellina Leaf Spot	Iris
Diplodea Tip Blight (Diplodea piea)	shade and ornamental trees
Ovulinia	azalea, rhododendron <sup>2</sup>
Entomosporium Leaf Spot	woody and herbaceous ornamentals
Fusicladium Leaf Scab	woody and herbaceous ornamentals
Phomopsis Blight	woody and herbaceous ornamentals
Pine Tip Blights	woody
Powdery Mildew	woody and herbaceous ornamentals, ornamental nut and fruit trees
Ramularia Leaf Spot	herbaceous ornamentals
Scab	pyracantha, flowering crab, ornamental fruit and nut trees
Septoria Leaf Spot	woody and herbaceous ornamentals
Venturia Leaf Scab	woody and herbaceous ornamentals

**KEY TO NOTES:**

- <sup>1</sup> Begin at bud and make 2 or 3 additional applications at 10 to 14 day intervals.
- <sup>2</sup> Begin treatment as flowers open. Addition of a surfactant to the spray mixture improves distribution of the spray on hard-to-wet plants such as roses.

**I. FOLIAR SPRAY-HYDRAULIC APPLICATION**

Mixing instructions: Add required amount of SysTec 1998 FL to partially filled tank agitated by mechanical or hydraulic means and then add remaining required amount of water. Maintain continuous agitation to keep the material in suspension and apply with properly calibrated spray equipment. Apply until leaves glisten, but not to point of runoff.

**Application Rates and Timing for Diseases:** Begin applications when disease first appears and repeat at 10 to 14 day intervals, during the growing season. Shorten the interval during humid, rainy weather.

**Ground Application:** Use 20 Fluid ounces of SysTec 1998 FL per 100 gallon of water. For control of Powdery Mildew and Botrytis (Gray Mold), use 10 fluid ounces of SysTec 1998 FL per 100 gallons of water; or 1 teaspoonful per 2 gallons of water.

**II. DRENCH  
PLANT TYPES AND DISEASES CONTROLLED**

<b>DISEASE(S)</b>	<b>PLANT TYPES</b>
Botrytis	herbaceous annuals, perennials and bedding plants
Fusarium	herbaceous annuals, perennials and bedding plants
Sclerotinia stem, crown & roots	herbaceous annuals, perennials and bedding plants
Cylindrocladium rot	woody ornamentals (such as azaleas, rhododendrons, conifers, poinsettias)
Thielaviopsis rot	woody ornamentals (such as azaleas, rhododendrons, conifers, poinsettias)

NOTE: SysTec 1998 FL does not control Phytium spp. or Phytophthora spp.

**Mixing instructions:** Add required amount of SysTec 1998 FL to partially filled tank agitated by mechanical or hydraulic means and then add remaining required amount of water. Maintain continuous agitation to keep the material in suspension.

**Application Rates and Timing for Disease Control:** Use 10-20 fluid ounces of SysTec 1998 FL per 100 gallons of water. Apply as a drench or heavy spray to 800 sq. ft. of bench area (1 to 2 pints per square foot) after transplanting into propagation beds or containers. Repeat at 2 to 4 week intervals during periods favorable for disease

**III. PREPLANT DIP TREATMENT  
PLANT TYPES AND DISEASES CONTROLLED**

<b>DISEASE(S)</b>	<b>PLANT TYPES</b>
Botrytis	herbaceous annuals, perennials and bedding plants
Fusarium	herbaceous annuals, perennials and bedding plants
Sclerotinia stem, crown & roots	herbaceous annuals, perennials and bedding plants
Cylindrocladium rot	woody ornamentals (such as azaleas, rhododendrons, conifers, poinsettias)
Thielaviopsis rot	woody ornamentals (such as azaleas, rhododendrons, conifers, poinsettias)
Fusarium and Penicillium rots	bulbs (Easter Lily, Tulip, Gladiolus, Daffodil, Iris)

**Application Rates and Timing for Disease Control:** Plants or Cuttings – Use 20 fluid ounces of SysTec 1998 FL per 100 gallons of water, immerse plants or cuttings for 10 to 15 minutes; remove and allow to drain. Wear rubber gloves. Bulbs – Use 33 fluid ounces of SysTec 1998 FL per 100 gallons of water; or 2 teaspoonfuls of SysTec 1998 FL per gallon of water. Soak cleaned bulbs for 15 to 30 minutes in warm dip ( 80° to 85°F) preferably within 48 hours after digging. Dry bulbs after treatment. If bulbs are for forcing, treat bulbs that have been heat-cured.

**NOTICE TO USER:** Plant tolerance to SysTec 1998 FL has been found to be acceptable on all ornamentals that it has been tested on. Due to the large number of species and varieties of ornamental and nursery plants, it is impossible to test every one for tolerance to SysTec 1998FL. Neither the manufacturer nor the seller has determined whether or not SysTec 1998 FL can be used safely on ornamental plants not specified on this label. The professional user should determine if SysTec 1998 FL can be used safely prior to commercial use. In a small area test the recommended rates on a small number of plants for phytotoxicity prior to widespread use. Before using SysTec 1998FL in tank mixture with other products, test the mixture on a small number of plants for phytotoxicity prior to widespread use.

## Foliar Spray for bearing and nonbearing fruit trees

Plant Type	Disease	Rate FL.OZ/100 gal	Remarks
Almonds	Brown Rot Blossom, Blight, Scab	10.0	Apply at pink bud and petal fall.
Apples	Apple Scab, Flyspeck, Powdery Mildew, Sooty Blotch, Black Rot, Brooks Fruit Rot	5.0-10.0	Apply at 5°C 10 day intervals from green tip through petal fall; Repeat 7 -14day intervals or as needed.
Pecans	Scab, Brown Spot, Downy Spot, Powdery Mildew, Liver Spot, Stem End Blight, Zonate Leaf Spot	10.0	Begin applications when first leaves are showing and repeat at 3 - 4 week intervals until shuck split. <u>Do not apply after shuck split.</u>
Stone Fruit, Apricots, Cherries, Nectarines, Peaches, Plums and Prunes	Brown Rot Blossom, Fruit Brown Rot	10.0	Apply at early bloom. Make a second application at full bloom. In addition for Fruit Brown Rot, apply 1 to 2 sprays starting 3 weeks before harvest. If needed under severe disease pressure, apply additional sprays at 10-14 day intervals between pre-harvest sprays. <u>Do not apply within 1 day of harvest.</u>
Cherries	Powdery Mildew	10.0 Plus 10.0	Apply at early bloom. Make a second application at full bloom. Plus Apply at shuck fall and first cover. Do not apply within 1 day of harvest.
Peaches	Peach Scab	10.0-15.0 Plus 5.0-10.0	Apply at early bloom. Make second application at full bloom if conditions favor disease development. Plus Apply at shuck split at first cover sprays. Do not apply within one day of harvest.
Plums and Prunes	Leaf Spot	10.0	Apply at petal, fall, shuck, and at first, second, and third cover sprays at 10 -14 day intervals and 1 spray 14 to 21 days after harvest. Do not apply within 1 day of harvest.

### CHEMIGATION

#### GENERAL INSTRUCTIONS

Apply this product only through sprinkler irrigation systems including center pivot, lateral move, end tow, side (wheel) roll, traveler, big gun, solid set, or hand move. Do not apply this product through any other type of irrigation system. Crop injury, lack of effectiveness, or illegal pesticide residues in the crop can result from nonuniform distribution of treated water. If you have any questions about calibration, you should contact State Extension Service specialists, equipment manufacturers or other experts. 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.

Do not connect chemigation system to any public water system. Public water system means a system for the provision 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.

#### SYSTEM 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 back flow. The pesticide injection pipeline must contain a functional, automatic, quick-closing valve to prevent the flow of fluid back toward the injection pump. The pesticide injection pipeline must also 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.

The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the water pump motor 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 the 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.

#### INSTRUCTION FOR SPRINKLER (OVERHEAD) IRRIGATION:

Observe the requirements in the System Requirements section above.

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

Maintain a gentle continuous agitation in mix tank during mixing and application to assure a uniform suspension.

Greater accuracy in calibration and distribution will be achieved by injecting a larger volume of a more dilute suspension per unit time. Application of more than recommended quantities of irrigation water per acre may result in decreased product performance. Do not apply when wind speed favors drift, when system connections or fittings leak, when nozzles do not provide uniform distribution or when lines containing the product cannot be flushed and must be dismantled and drained. In a center pivot system, block the nozzle set nearest the well/pivot/injection unit to prevent spray being applied to this area.

When sprinkler distribution patterns do not overlap sufficiently, unacceptable disease control may result.

Allow sufficient time for pesticide to be flushed through all lines and all nozzles

before turning off irrigation water.

SysTec 1998 FL may be applied in conjunction with chemically neutral liquid fertilizers. Application in conjunction with highly alkaline fertilizers, such as aqueous ammonia, may cause a degradation of the pesticide, resulting in reduced performance and should be avoided. Check local restrictions and requirements regarding sprinkler irrigation applications, as they may vary from state to state.

#### SPRAY PREPARATION

Remove scale, pesticide residues, and other foreign matter from the chemical tank and entire injector system. Flush with clean water.

Prepare a suspension of SysTec 1998 FL in a mix tank. Fill the tank with 1/2 to 3/4 the desired amount of water. Start mechanical or hydraulic agitation. Slowly add the required amount of SysTec 1998 FL and then the remaining volume of water.

#### APPLICATION INSTRUCTIONS

Set sprinkler system to deliver 0.1 to 1.25 inches of water per acre. Volumes of water higher than this may reduce efficacy. Start sprinkler and then uniformly inject the suspension of SysTec 1998 FL into the irrigation water line so as to deliver the desired rate per acre. The suspension of SysTec 1998 FL should be injected with a positive displacement pump into the main line ahead of a right angle turn to insure adequate mixing.

NOTE: When treatment with SysTec 1998 FL has been completed, do not irrigate the treated area for 24 to 48 hours to prevent washing the chemical off the crop.

### STORAGE AND DISPOSAL

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

**PESTICIDE STORAGE:** Store in original container in a dry area. Do not store in a manner where cross-contamination with other pesticides, fertilizers, food or feed could occur. If spilled during storage or handling sweep up spillage and dispose of in accordance with Pesticide Disposal Instructions listed below.

**PESTICIDE DISPOSAL:** Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If wastes cannot be disposed of according to label instructions, contact your State or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

**CONTAINER DISPOSAL:** Triple rinse (or equivalent). Then offer for recycling or reconditioning, 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.

#### WARRANTY AND LIMITATION OF DAMAGES

REGAL CHEMICAL COMPANY  
Alpharetta, Georgia 30004

Regal Chemical Company warrants that this product conforms to the chemical descriptions on its label. When used in accordance with label directions under normal conditions, this product is reasonably fit for its intended purpose. Since timing, method of application, weather, plant and soil conditions, mixtures with other chemicals, and other factors affecting the use of this product are beyond our control no warranty is given concerning the use of this product contrary to label directions or under conditions which are abnormal or not reasonably foreseeable. The user assumes all risks of any such use.