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

JAN 21 2000

OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

Ms. Karen R. Blundell, Senior Registration Specialist
BASF Corporation
26 Davis Drive
Post Office Box 13528
Research Triangle Park, North Carolina 27709-3528

Subject: Cygnus Fungicide
EPA Reg. Number 7969-124
Your Submission dated August 30, 1999

Dear Ms. Blundell,

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, is acceptable provided that you make the following changes to the proposed label:

On page 1, add a period after the last sentence.

On page 2, in the first sentence of the "Application Instructions," correct the typing of "apply 1.0-1.6 ounces."

On page 2, under "Additives," correct the spelling of "organosilicone-based."

On page 4, under "Table 2," add the restriction "Do not use fruit from ornamental plants for food or feed purposes."

A stamped copy of the label is enclosed for your records. Submit one (1) copy of your final printed labeling before you release the product for shipment. If you have any questions, please contact Linda Kutney at (703)-305-7382.

Sincerely,

Mary L. Waller
Product Manager 21
Fungicide Branch
Registration Division (7505C)

Enclosure

Supplemental label

Cygnus® fungicide

For use on ornamentals in nurseries and on commercial plantings around industrial sites

EPA Reg. No. 7969-124

All applicable directions, restrictions, precautions and Conditions of Sale and Warranty on the EPA-registered label are to be followed. This labeling must be in the possession of the user at the time of application.

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.

General Information

This package contains **Cygnus® fungicide**, a 50% water-dispersible granule (WG). **Cygnus** is a foliar fungicide that has protective, curative, and eradicant activity against powdery mildews, and protective activity against leaf spots and rusts. For best results against powdery mildews, leaf spots and rusts, however, a protective barrier of **Cygnus** must be established and maintained on the plant surface (refer to Table 1). **Cygnus** should be used in a rotation program with other effective non-strobilurin fungicides.

Mode of Action

The active ingredient in **Cygnus** is kresoxim-methyl, which belongs to the strobilurin class of fungicides and is a mitochondrial electron transport inhibitor.

Crop Tolerance

The phytotoxic potential of **Cygnus** has been assessed on a wide variety of common ornamental plants with no phytotoxicity observed. Refer to Table 2 for the list of plants shown to be tolerant to **Cygnus**. Refer to Table 3 for those plants not tolerant to **Cygnus**. However, all plant species and their varieties and cultivars have not been tested with possible tank mix combinations, sequential pesticide treatments, and adjuvants or surfactants. Local conditions can also influence crop tolerance and may not match those under which BASF has conducted testing. Therefore, before using **Cygnus**, test the product on a sample of the crop to be treated to ensure that a phytotoxic response will not occur

Cleaning Spray Equipment

Spraying equipment must be cleaned thoroughly before and after applying this product, particularly if a product with the potential to injure crops was used prior to Cygnus.

Resistance Management

The repeated and exclusive use of Cygnus® fungicide, as with many other fungicides, may allow less sensitive strains of the target fungi to build over time and may reduce disease control. To maintain the performance of Cygnus, BASF advises strict adherence to the following resistance management strategies:

- BASF recommends that no more than six applications of Cygnus be made per season.
- BASF recommends that no more than two sequential applications of Cygnus be applied. Then alternate to at least an equal number of sequential applications of effective non-strobilurin fungicides with a different mode of action.

Application Instructions

For the control of crabapple scab, apply 1.0-1.6 ounces of Cygnus in 100 gallons of water at 10-14 day intervals as a preventative treatment. Start applications at bud break or when environmental conditions are favorable for disease development. Use the higher rate of Cygnus when heavy infection pressure exists or is anticipated.

For the control of rose black spot and ornamental leaf spots, apply 1.6-3.2 ounces of Cygnus in 100 gallons of water at 7-14 day intervals as a preventative treatment.

For the control of powdery mildew, apply 1.6-3.2 ounces of Cygnus as a preventative treatment or at the first signs of disease. Applications made at the first signs of powdery mildew will require higher rates and shorter spray intervals. The addition of up to 0.06 % of a non-organosilicone spreader-sticker type adjuvant may improve powdery mildew control.

For the control of rusts, apply Cygnus strictly as a preventative treatment at 3.2-6.4 oz/100 gallons at 7-10 day intervals. The addition of up to 0.06 % of a non-organosilicone spreader-sticker type adjuvant may improve rust control.

Spray to the point of drip for all applications, making sure not to exceed the maximum seasonal use rate. Refer to Table 1 for specific recommendations for disease control.

Spray Coverage

Apply the appropriate amount of spray solution to cover the foliage to the point of drip. Thorough coverage of the plants is required for optimum disease control.

Additives

Additives or spray adjuvants are usually not necessary for use with Cygnus. The addition of up to 0.06% of a non-organosilicone spreader-sticker type adjuvant may improve spray coverage and control of certain diseases. Do not use organosilicon-based adjuvants with Cygnus, as crop phytotoxicity may result on certain ornamental species. Consult a BASF representative or local agricultural authorities for more information concerning additives.

Mixing Order

1) Water: Begin by agitating a thoroughly clean sprayer tank half full of clean water.

2) Products in PVA bags: The water-soluble PVA bag will dissolve in water to allow the contents to disperse. Wait until all water-soluble PVA bags have fully dissolved and the product is evenly mixed in the spray tank before continuing.

- To prepare spray solution for large volume application, use a mixing tank or mixing vat first to get the product into suspension before transferring suspension to application equipment.

3) Water-dispersible products: such as **Cygnus® fungicide**

4) Water-soluble products

5) Emulsifiable concentrates

6) Water-soluble additives

7) Remaining quantity of water

Maintain constant agitation during application.

General Tank Mixing Information

Cygnus may be tank mixed with most registered fungicides and insecticides. However, all varieties and cultivars have not been tested with possible tank mix combinations. Local conditions can influence crop tolerance and may not match those under which BASF has conducted testing. Before using any tank mix (fungicides, insecticides, plant growth regulators, additives or spray adjuvants), test the combination on a small portion of the crop to be treated to ensure that a phytotoxic response will not occur as a result of applications.

General Restrictions and Limitations

- Do not apply more than a total of 25.6 ounces (1.6 pounds) of **Cygnus** fungicide per acre per season
- Restricted Entry Interval (REI): 12 hours.
- Do not apply to crops subjected to stress conditions, such as excessive heat.
- Do not apply to crops that show injury (leaf phytotoxicity or plant stunting) produced by prior pesticide applications.
- Do not apply through any type of irrigation equipment.

**ACCEPTED
with COMMENTS
In EPA Letter Dated:**

1/21/00

**Under the Federal Insecticide,
Fungicide, and Rodenticide Act,
as amended, for the pesticide
registered under EPA Reg. No.
7969-124**

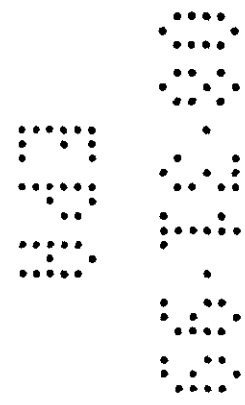


Table 1. Application Rates and Timings

Disease	Application interval	Cygnus rates per 100 gallons
Crabapple scab <i>Venturia inaequalis</i>	Begin at bud break or when environmental conditions are favorable for disease development and continue on a 10-14 day interval.	1.0-1.6 ounces
Powdery mildews <i>Erysiphe</i> sp. <i>Microsphaera</i> sp. <i>Oidium</i> sp. <i>Phyllactinia</i> sp. <i>Sphaerotheca</i> sp. <i>Uncinula</i> sp.	Apply as a protective spray or at the first signs of disease. Continue on a 7-14 day interval. Applications made at the first signs of disease require shorter spray intervals.	1.6-3.2 ounces
Rose black spot <i>Diplocarpon rosae</i> Leaf spots <i>Alternaria</i> sp. <i>Didymellina</i> sp. <i>Septoria</i> sp.	Apply as a protective spray and continue on a 7-14 day interval.	1.6-3.2 ounces
Snapdragon rust <i>Puccinia antirrhini</i> Dianthus rust <i>Puccinia dianthi</i> Chrysanthemum rust <i>Puccinia horiana</i>	Apply strictly as a protective spray and continue on a 7-10 day interval.	3.2-6.4 ounces

Table 2. Plants Tolerant to Cygnus. Plants in this table have been found to be tolerant to Cygnus when it is applied according to the use recommendations stated in this label.

Common name	Scientific name
Ageratum	<i>Ageratum houstonianum</i>
Alberta spruce	<i>Picea glauca</i> var. <i>albertiana</i>
Alstroemeria	<i>Alstroemeria</i> sp.
Aster	<i>Aster</i> sp.
Azalea	<i>Rhododendron</i> sp.
Carnation	<i>Dianthus</i> sp.
Chrysanthemum	<i>Chrysanthemum</i> sp.
Chinese magnolia	<i>Magnolia soulangiana</i>
Crabapple	<i>Malus</i> sp.
Crape myrtle	<i>Lagerstroemia</i> sp.
Currant	<i>Ribes</i> sp.
Dahlia	<i>Dahlia</i> sp.
Dogwood	<i>Cornus</i> sp.
Dracaena	<i>Dracaena marginata</i>
Dusty miller	<i>Centaurea cineraria</i>
	<i>Prunus laurocerasus</i>
	<i>Crataegus monogyna</i>
	<i>Quercus robur</i>

English cherry laurel	<i>Euonymus</i> sp.
English hawthorn	<i>Gazania</i> sp.
English oak	<i>Pelargonium</i> sp.
Euonymus	<i>Gerbera</i> sp.
Gazania	<i>Gladiolus</i> sp.
Geranium	<i>Crataegus</i> sp.
Gerbera	<i>Acer campestre</i>
Gladiolus	<i>Lonicera</i> sp.
Hawthorn	<i>Hydrangea</i> sp.
Hedge maple	<i>Impatiens</i> sp.
Honeysuckle	<i>Iris</i> sp.
Hydrangea	<i>Juniperus</i> sp.
Impatiens	<i>Syringa</i> sp.
Iris	<i>Lilium</i> sp.
Juniper	<i>Limonium</i> sp.
Lilac	<i>Eriobotrya japonica</i>
Lily	<i>Tagetes</i> sp.
Limonium	<i>Monarda</i> sp.
Loquat	<i>Quercus</i> sp.
Marigold	<i>Viola</i> sp.
Monarda	<i>Petunia</i> sp.
Oak	<i>Phlox</i> sp.
Pansy	<i>Euphorbia pulcherrima</i>
Petunia	<i>Portulaca</i> sp.
Phlox	<i>Potentilla fructicosa</i>
Poinsettia	<i>Rosa</i> sp.
Portulaca	<i>Amelanchier ovalis</i>
Potentilla	<i>Antirrhinum</i> sp.
Rose	<i>Acer barbatum</i>
Serviceberry	<i>Asparagus densiflorus</i>
Snapdragon	<i>Tradescantia</i> sp.
Southern maple	<i>Spiraea</i> sp.
Sprenger asparagus	<i>Acer pseudoplatanus</i>
Spiderwort	<i>Quercus prinus</i>
Spirea	<i>Coreopsis</i> sp.
Sycamore maple	<i>Tulipa</i> sp.
Swamp chestnut oak	<i>Verbena</i> sp.
Tick seed	<i>Veronica</i> sp.
Tulip	<i>Viburnum</i> sp.
Verbena	<i>Quercus nigra</i>
Veronica	<i>Taxus</i> sp.
Viburnum	<i>Zinnia</i> sp.
Water oak	
Yew	
Zinnia	

**Table 3. Plants Not Tolerant to Cygnus
(do not expose these species or varieties to Cygnus):**

Common name	Scientific name
Norway maple Sweet cherry Sensitive varieties: Somerset, Sweetheart, Valera, Van, Vandalay	<i>Acer platanoides</i> <i>Prunus avium</i>

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