



U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Pesticide Programs
Biopesticides and Pollution Prevention Division
(7501W) 401 M St., S.W.
Washington, D.C. 20460

EPA Reg.
Number:

64137-8

Date of Issuance:

III - 2 1998

Term of Issuance:

Unconditional

Name of Pesticide Product:

Primastop Biofungicide
Powder

NOTICE OF PESTICIDE:

Registration
 Reregistration

(under FIFRA, as amended)

Name and Address of Registrant (include ZIP Code):

Kemira Agro Oy
c/o Dr. Edgar R. Butts
26 Sherman Court
P.O. Box 764
Fairfield, CT 06430

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. In any correspondence on this product always refer to the above EPA registration number.

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 acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

This product is unconditionally registered in accordance with FIFRA sec.3(c)(5) provided you:

1. Submit and/or cite all data required for registration/reregistration of your product under FIFRA sec.3(c)(5) when the Agency requires all registrants of similar products to submit such data; and submit acceptable responses required for reregistration of your product under FIFRA section 4.
2. Make the labeling changes below before you release the product for shipment:
 - a. Change the label by revising the EPA Registration Number to read, "EPA Reg. No. 64137-8"
 - b. Under the heading "Personal Protective Equipment", replace the phrase "Dust-mist filtering respirator with NIOSH/MSHA approval number prefix TC-21C." with "Dust/mist filtering respirator (MSHA/NIOSH approval number prefix TC-21C), or a NIOSH approved respirator with any N, P, R, or HE filter."
3. Submit five copies of the revised final printed label for the record

Signature of Approving Official:

Kathleen D. K.

Date:

July 2, 1998

278

PRIMASTOP

Biofungicide Powder

ACTIVE INGREDIENT - <i>Gliocladium catenulatum</i> Strain J1446*	% w/w
INERT INGREDIENTS	37.0%
	83.0%
	Total 100.0%

* Contains 1.0 x 10⁸ CFU/gram.

CAUTION

KEEP OUT OF REACH OF CHILDREN
READ ALL DIRECTIONS BEFORE USING

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION: Harmful if swallowed or if absorbed through skin. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Avoid contact with skin, eyes, or clothing. Avoid breathing dust or spray mist. Wash thoroughly with soap and water after handling. Remove contaminated clothing and wash clothing before reuse.

FIRST AID

IF SWALLOWED: Call a physician or poison control center. Drink 1 or 2 glasses of with water or milk. Do not give anything by mouth to an unconscious person. Do not induce vomiting.

IF ON SKIN OR CLOTHING: Remove contaminated clothing. Wash skin with plenty of soap and water. Get medical attention if irritation persists.

IF IN EYES - Flush with plenty of water. Get medical attention if irritation develops.

IF INHALED - Remove to fresh air. If not breathing, give artificial respiration, preferably mouth to mouth. Get medical attention.

PERSONAL PROTECTIVE EQUIPMENT

Applicators and other handlers must wear: Long-sleeved shirt and long pants. Waterproof gloves. Shoes plus socks. Dust-mist filtering respirator with NIOSH/MSHA approval number prefix TC-21C.

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.

EMERGENCY INFORMATION

For spill, leak, fire, exposure, or accident call CHEMTREC at 1-800-424-9300.

ENVIRONMENTAL HAZARDS

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water by disposal of equipment wash waters.

Not for Sale or Use after (Date to Be Inserted)

Net Contents: _____ Ounces; _____ Grams

Kemira Agro Oy
Porkkalankatu 3
P.O. Box 330
00101 Helsinki, FINLAND

EPA Registration Number 64137-____

EPA Establishment Number 64137-FI-001

ACCEPTED
with COMMENTS
In EPA Letter Dated

Made in Finland
Revision 980506

JUL - 2 1998

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

64137-8

3/8

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 interval (REI) of 4 hours. Exception: if the product is soil injected or soil incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

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
- Waterproof gloves
- Shoes plus socks
- Dust-mist filtering respirator with NIOSH/MSHA approval number prefix TC-21C.

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, and greenhouses. Do not enter treated area without protective clothing until sprays have dried.

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.
- Remove personal protection equipment immediately after handling this product. If gloves are worn, wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

GENERAL

PRIMASTOP is used for the control of damping-off, seed rot, root and stem rot, and wilt diseases caused by *Rhizoctonia*, *Pythium*, *Phytophthora*, *Fusarium*, *Didymella*, *Botrytis*, *Verticillium*, *Alternaria*, *Cladosporium*, *Helminthosporium*, *Penicillium* and *Plicaria* on vegetables, herbs, ornamentals and tree and forest seedlings grown in the greenhouse or indoors.

PRIMASTOP can be incorporated in the growth substrate as a dry powder or as an aqueous suspension or applied by drenching.

PRIMASTOP is only to be used in greenhouses and indoors.

PRIMASTOP is recommended for use on the following crops grown in the greenhouse or indoors:

VEGETABLES (INCLUDING FRUITING, LEAFY, ROOT CROP AND SEED/POD VEGETABLES):

Artichokes	Cucumbers	Parsnips
Asparagus	Eggplant	Peas
Beans	Endive	Peppers
Beets	Garlic	Potatoes
Broccoli	Horseradish	Pumpkins
Brussels Sprouts	Kale	Radishes
Cabbage	Kohlrabi	Rutabagas
Carrots	Leeks	Spinach
Cauliflower	Lentils	Squash
Celery	Lettuce	Strawberries
Chicory	Melons	Tomatoes
Chinese Cabbage	New Zealand Spinach	Turnips
Corn	Onions	Watermelons

HERBS AND SPICES

Aniseed	Fennel	Rosemary
Basil	Lavender	Sage
Caraway	Marjoram	Savory
Chives	Oregano	Thyme
Dill	Parsley	Watercress

ORNAMENTALS (INCLUDING FLOWERS, FOLIAGE AND POTTED, BEDDING, AND SEEDLING PLANTS):

Achillea	Begonias	Daffodils
African Violet	Calceolaria	Dahlia
Ageratum	Campanula	Daisy
Alyssum	Carnation	Delphinium
Amaryllis	Centaurea	Dianthus
Anemone	Cerastium	Dieffenbachia
Anthurium	Chrysanthemum	Freesia
Aster	Cineraria	Fuchsia
Azalea	Coleus	Gaillardia
Bedding Plants	Cyclamen	Gazania

Geraniums	Lobelia	Rhododendron
Gerbera	Marigolds	Rose
Gладиолус	Matthiola	Rudbeckia
Gloxinia	Monarda	Salvia
Gypsophila	Nigella	Senecio
Hedera	Pansy	Sinningia
Hyacinth	Pelargonium	Statice
Impatiens	Petunias	Sweet Pea
Iris	Phlox	Tulips
Kalanchoe	Poinsettia	Verbena
Liatris	Poppy	Vinca
Lilies	Primrose	Zinnia

TREE AND SHRUB SEEDLINGS

Birch	Juniper	Spruce
Forest Trees	Pine	Vine Crops
Fruit Trees	Shrubs	Woody Ornamentials

OTHERS

Home Ornamentials

PREPARING AN AQUEOUS SUSPENSION OF PRIMASTOP

To prepare an aqueous suspension of PRIMASTOP, mix product with water and agitate sufficiently to evenly disperse product. Agitate during use to avoid settling. The aqueous suspension should be used within one (1) day of preparation. Mixing ratios of PRIMASTOP with water are as follows:

Concentration of PRIMASTOP Suspension	Ounces of PRIMASTOP	Gallons of Water	Grams of PRIMASTOP	Liters of Water
0.2%	3.5 oz.	13	100 grams	50 liters
0.5%	3.5 oz.	5	100 grams	20 liters
1.0%	3.5 oz.	2.5	100 grams	10 liters
2.5%	3.5 oz.	1.0	100 grams	4 liters
5.0%	3.5 oz.	0.5	100 grams	2 liters

INCORPORATION IN POTTING MEDIA

Incorporation of PRIMASTOP in potting media is recommended for vegetables, herbs, ornamentals, and tree or forest seedlings grown in greenhouses or indoors. PRIMASTOP can be mixed in potting mixture at sowing or potting or transplanting as an aqueous suspension or as dry powder.

When incorporating PRIMASTOP as a dry powder use 5-30 oz. of PRIMASTOP per cubic yard (0.2-1.0 gram of PRIMASTOP per 1 liter) of growth substrate. When

incorporating PRIMASTOP as an aqueous suspension, mix 1.5-8.5 gallons of 2.5% PRIMASTOP suspension per cubic yard of growth substrate.

Use the higher rate for higher disease pressure. It is important to incorporate PRIMASTOP evenly to assure best performance. Potting media containing PRIMASTOP should be used within 1 week after preparation. Do not store above 77°F (25°C). Incorporation of PRIMASTOP can be followed with a drench application within 2-8 weeks as described below under soil drench applications.

SOIL DRENCH APPLICATIONS

Drenching treatment can be done with 0.2-0.5% suspension.

Seedling Trays or Beds (Recommended Rate per area):

Seedling trays or beds can be drenched with PRIMASTOP. Recommended rate is 2-10 oz./100 sq. ft. (5-25 g/m²). For example, use 0.5% suspension at 0.2-1 pint/sq. ft. Use the higher rate for higher crop density or higher disease pressure.

Pots, Plugs or Rockwool Cubes (Recommended Rate per 100 plants):

Crops grown in pots or rockwool cubes can be drenched with PRIMASTOP. Use a 0.2-0.5% suspension. Dose rate depends on the root plug/ball size and disease pressure. Use the higher rate for bigger root volume and higher disease pressure.

Please see recommended application rates for different pot or root plug sizes in the following table:

Pot Size (Root Volume)	0.2% Suspension Fluid Ounces/100 Plants	0.5% Suspension Fluid Ounces/100 Plants
1 inch (16 ml)	5-30	3-10
1.5 inch (55 ml)	10-40	4-20
2 inch (125 ml)	50-250	20-80
3 inch (420 ml)	150-650	60-300
5 inch (2 L)	650-3000	250-1300

Timing of Treatments

Drenching at sowing is recommended for vegetables (except for tomato and leek), herbs and ornamentals (except pansy) grown in peat or soil mixture. Drenching after emergence is recommended for tomato, leek, pansy, and all seedlings grown in rockwool, such as cucumbers. Repeat treatment at transplanting.

FOLIAR SPRAY

Aqueous suspension of PRIMASTOP can be sprayed or spread on the plant stems or foliar parts for control of *Didymella* or *Botrytis*. Use 0.5-2 pints of PRIMASTOP suspension per 100 sq. ft. Recommended concentration is up to 1% (up to 0.3 oz. of PRIMASTOP per 100 sq. ft.). Under high disease pressure, concentrations up to 5% can be used.

TREATMENT OF CUTTINGS, BULBS OR TUBERS

Cuttings, bulbs, or tubers can be dipped in or sprayed with 0.2%-1% PRIMASTOP suspension before planting or storage. The product can also be incorporated in the storage mixture, such as sand or peat, at a rate up to 1 gram of PRIMASTOP per liter of storage mixture.

IMPORTANT NOTES

Spraying Treatment

If a spray treatment is used, pay attention to the large particle size (up to 0.5 mm) of the product and use screens and nozzles of appropriate size and rinse the nozzles and screens if needed. The aqueous suspension should be agitated before and during use in order to prevent settling of the powder.

Chemigation

Do not apply PRIMASTOP through any type of irrigation system.

Tank Mixes

Do not tank mix PRIMASTOP with any pesticides or with concentrated fertilizers.

Integrated Pest Control Programs

PRIMASTOP can be used in integrated pest-control programs. However, it should not be tank mixed with any pesticide. PRIMASTOP can be used the same day, if registered and not prohibited, with propamocarb hydrochloride, triadimefon, deltamethrin, diazinon, malathion, mevinphos, pirimicarb and pyrethrins. Except for the pesticides included in the previous sentence, all other pesticides used in conjunction with PRIMASTOP must have a minimum 4-day interval between applications.

STORAGE AND DISPOSAL

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

STORAGE: PRIMASTOP consists of living microbes, which are packed in unit packages. Unopened packages can be stored up to one year in cool (below 46°F, 8°C), dry place and for 2 weeks at room temperature (maximum 77°F, 25°C). Opened packages should be closed tightly and stored in a cool dry place and used within one month.

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: Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill or by incineration, or if allowed by State and local authorities, by burning. If burned, stay out of smoke.

NOTICE TO USER

Kemira Agro Oy warrants only that this product conforms to the product description on this label and is reasonably fit for the purposes set forth in the Directions for Use when used in accordance with them. However, ineffectiveness or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the use, storage or handling of the product contrary to the label instructions, all of which are beyond the control of Kemira Agro Oy. All such risks shall be assumed by the user. In no case shall Kemira Agro Oy be liable for indirect or consequential damages resulting from the use, storage or handling of this product. KEMIRA AGRO OY MAKES NO WARRANTIES OR MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE.