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Greenhouses:

Refer to product bulletin #188 "PHYSAN 20 - General Greenhouse Disinfectant" to use PHYSAN 20 to control of plant pathogens and algae on environmental inanimate hard surfaces in greenhouses

to Kill

Swimming Pool Algae Control:

Initial dose should be 2 quarts PHYSAN 20 per 50,000 gallons of water (or 13 ounces per 10,000 gallons of water) followed by cleaning out settled algae next day and retreatment at the same dosage. This is repeated until the pool is clear of visible algae. Then 1 pint of PHYSAN 20 per 50,000 gallons of water (or 3 1/5 ounces per 10,000 gallons of water) is used every 5-7 days to maintain control.

Apply PHYSAN 20 along edges of the pool

After adding the PHYSAN wait 30 minutes before using the pool to allow the PHYSAN 20 to be distributed evenly throughout the pool.

At the beginning of the swimming season or after a storm, remove branches, leaves and other foreign material before treating the pool with PHYSAN 20.

PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS

Keep out of reach of children. Corrosive. Causes severe eye and skin damage. Do not get in eyes, on skin, or on clothing. Wear goggles or face shield and rubber gloves when handling. Harmful if swallowed. Avoid contamination of food, beverages and wash containers used in eating and drinking. Environmental Hazards

This pesticide is toxic to fish. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or public waters unless this product is specifically identified and addressed in an NPDES permit. Do not discharge effluent containing this product to sewer systems without previously notifying the sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.

STORAGE AND DISPOSAL:

- Do not contaminate water, food or feed by storage or disposal.
- Do not store on side
- Do not reuse empty container

PESTICIDE DISPOSAL:

Pesticide wastes are acutely hazardous. Improper disposal of pesticide spray or mixture of residue 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 Agency or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL:

Do not reuse container. Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in sanitary landfill or incineration, if allowed by state or local authorities. If burning, stay out of smoke.

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ACCEPTED

DISINFECTANT - SANITIZER - DEODORIZER
FUNGICIDE - ALGAEICIDE JUN 13 1991
VIUCIDE

ACTIVE INGREDIENTS:

- n-alkyl (60% C14, 30% C16, 5% C12, 5% C18) dimethyl benzyl ammonium chloride 10%
n-alkyl (68% C12, 32% C14) dimethyl ethylbenzyl ammonium chloride 10%

INERT INGREDIENTS:

80%
100%

PHYSAN 20 is a concentrate and must be diluted before using.

KEEP OUT OF REACH OF CHILDREN DANGER

STATEMENT OF PRACTICAL TREATMENT

In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes. For eyes, call a physician. Remove and wash contaminated clothing before reuse.

If swallowed, drink promptly a large quantity of milk, egg whites, gelatin solution, or - if these are not available - drink large quantities of water. Avoid alcohol. Call a physician immediately.

NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate the use of gastric lavage.

See left panel for additional precautionary statements.

EPA Est. #40873 CA-01
EPA Reg. #55364-5

NET CONTENTS
32 FL. OZ. (1 QT.)



MARIL PRODUCTS, INC.

620 South B Street, Suite A, Tustin, CA 92680

DIRECTIONS FOR USE

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

PHYSAN 20 is an effective disinfectant and sanitizer on hard non-porous inanimate surfaces. It is designed for use in homes, hospitals, food processing plants, dairies and other facilities where disinfection and sanitization are major concerns. All surfaces must be thoroughly cleaned and rinsed before disinfection or sanitization.

Apply PHYSAN 20 with a cloth, mop, mechanical spray or by immersion. Treated surfaces must be thoroughly wet and allowed to remain wet for 10 minutes. Fresh solution should be prepared daily or when solution becomes visibly dirty.

General Disinfection - To disinfect previously cleaned hard non-porous inanimate surfaces (such as walls, floors, table tops and lavatories) prepare a solution of 1/2 ounce of PHYSAN 20 in one gallon of water (equivalent to 750 ppm active quaternary).

fluid

At this level PHYSAN 20 is effective against Staphylococcus aureus, Salmonella choleraesuis and Pseudomonas aeruginosa.

Virucidal Activity - PHYSAN 20 when used at 1/2 ounce per gallon of water is effective against Influenza A/Asian Virus (representative of the flu virus), Adenovirus Type 5 (causative agent for upper respiratory infection), Herpes Simplex Virus Type 1 (causative agent of fever blisters and Herpes labialis) and Vaccinia Virus (representative of the pox virus group).

fluid

Sanitization (Food Contact Surfaces) - For sanitizing food processing equipment, dairy equipment, glasses, eating utensils, sink tops and other hard non-porous inanimate surfaces.

fluid

Wash and rinse all food contact surfaces thoroughly. Then apply a solution of 1 ounce PHYSAN 20 in 8 gallons of water (200 ppm active quaternary). Surfaces should remain wet for one minute, then allowed to drain or air dry. No potable water rinse is required. Fresh solution should be prepared daily or when use solution becomes visibly dirty.

Apply to sink tops, chopping blocks, counter tops, tanks and other stationary hard surfaces by cloth, brush or mechanical device.

fluid

Dishes, eating utensils, glasses and small equipment can be immersed in a solution of 1/2 ounce PHYSAN 20 in 4 gallons of water. No potable water rinse is required.

PHYSAN 20 is an effective sanitizer when diluted in water up to 750 ppm hardness (CaCO3).

Manufactured by:
MARIL PRODUCTS, INC. • (714) 544-7719

diseases as root rot and crown rot, anthracnose, mildew, rusts, and blight. USE: 1 tbsp. PHYSAN 20 concentrate in 1 gallon of water.

Disinfecting Cutting Tools

Soak cutting edge of tool for 10 minutes in PHYSAN 20 solution before use to kill such diseases as stem rot and root rot, Tobacco Mosaic Virus (TMV), and botrytis. Use wet tool on plants. Dry and oil tools at the end of work.

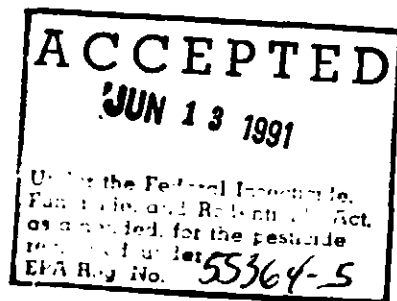
USE: 1 tsp. PHYSAN 20 concentrate in 1 quart of water.

Algae Control for "Bird Baths"

DO NOT USE WITH FISH. Clean to remove algae growth prior to filling bird bath by spraying all exposed surfaces with PHYSAN 20 solution. Allow to air dry, brush off dead algae. USE: 1 fl. oz. PHYSAN 20 concentrate in 2 gallons of water for cleaning.

Seeds and Seedlings - Damping Off

To reduce damping off problems: Treat seeds and seedlings by soaking in a solution of 1½ tsp. of PHYSAN 20 concentrate in 1 gallon of water for five minutes. Fill the flask containing the seeds or seedlings with enough PHYSAN 20 solution to completely cover the seeds/seedlings. Drain the PHYSAN 20 solution off the seeds/seedlings before planting. Use a fresh solution of PHYSAN 20 for each flask.



Seedlings - Damping Off (Ornamental plants only)

To reduce damping off problems: Soak seedlings in PHYSAN 20 for 5 minutes. Make a solution of 1½ tsp. of PHYSAN 20 concentrate in 1 gallon of water. Use a soak container large enough to completely immerse one flask of seedlings at a time. Change the solution daily or more often if solution becomes visibly dirty.

If a garden soil is used for planting seedlings, completely saturate the soil in PHYSAN 20. Place the soil in a pot or tray and add enough PHYSAN 20 solution to completely cover the soil. Let the solution drain through the soil or pour off excess.
USE: 1½ tsp. of PHYSAN 20 concentrate in 1 gallon of water.

PHYSAN 20 solution is effective in stopping the spread of damping off when sprayed on seedlings. Spray seedlings so that all surfaces are thoroughly wet. USE: 1 fl. oz. PHYSAN 20 concentrate in 3 gallons of water or 2 tsp. PHYSAN 20 concentrate in 1 gallon of water.

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Under the Federal Insecticide,
Fungicide, and Rodenticide Act,
this product is registered under
EPA Reg. No. 55364-5

Seedlings - Downy Mildew (Ornamental plants only)

Most common on seedlings. The fungus sporulates on the lower surface of leaves as a white, sparse downy growth. The disease can cause the death of aerial plant parts. Spray seedlings so that all surfaces are thoroughly wet with PHYSAN 20 solution at 5-day intervals until under control. USE: 1 fl. oz. of PHYSAN 20 concentrate in 3 gallons of water.

Plant Cuttings

Begonia, Fuchsia, Geranium, Chrysanthemum, for controlling powdery mildew, crown gall, and gray mold leaf spots. Soak completely immersed cuttings 2-5 minutes in PHYSAN 20 concentrate in 1 gallon of water.

Plant in compost completely saturated in PHYSAN 20 solution.
USE: 2 tsp. PHYSAN 20 concentrate in 1 gallon of water.

Narcissus, Gladioli, Iris, Easter Lilies, Tulips, Daffodil, Hyacinth - BULBS

Pre-storage and pre-planting treatments: Treat the corms and bulbs immediately after they are "cleaned" and treat again immediately before planting by soaking them 10 minutes in PHYSAN 20 solution to control fusarium basal rot. Air dry. USE: 1 tbsp. PHYSAN 20 concentrate in 1 gallon of water.

Iris - Botrytis Leaf Spots

Circular spots, yellowish, then light brown with red border. Spray weekly while plants are growing. USE: 2 tsp. PHYSAN 20 concentrate in 1 gallon of water.

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78

Iris - Botrytis Crown Rot of Iris, Gray Mold Rot on Rhizomatous Iris

Treat all new rhizomes before planting with PHYSAN 20 solution. Submerge rhizomes and 3 to 4 inches of leaves for 30 minutes, plant at once (while still wet with PHYSAN 20 solution). USE: 1 fl. oz. of PHYSAN 20 concentrate in 3 gallons of water.

Roses - Powdery Mildew, Rusts, Black Spot, Stem Gall

Spray with PHYSAN 20 solution when symptoms appear. Spray upper and lower surface of leaves and branches with PHYSAN 20 solution until thoroughly wet. Spray with PHYSAN 20 solution several times, 7 to 10 days apart. USE: 2 tsp. of PHYSAN 20 concentrate in 1 gallon of water.

Roses - Brown Canker

Use regular spraying. Application should begin in early Spring as soon as new growth starts and should be made often enough to provide protection throughout the rainy periods and to keep the new growth covered. On the average, an application once a week will be needed from early Spring until plants are dormant. USE: 2 tsp. of PHYSAN 20 concentrate in 1 gallon of water.

Calendulas, China Asters, Lilac, Crepe Myrtle, Live Oak, Chrysanthemums, Dahlias - Powdery Mildew

Spray with PHYSAN 20 solution when symptoms appear. Spray upper and lower surface of leaves and branches with PHYSAN 20 solution until thoroughly wet. Spray when buds burst in Spring and repeat in 2 weeks. Spray with PHYSAN 20 solution every two weeks during mildew season. Also, spray Live Oaks at bud break and again in April. USE: 1 fl. oz. PHYSAN 20 concentrate in 3 gallons of water.

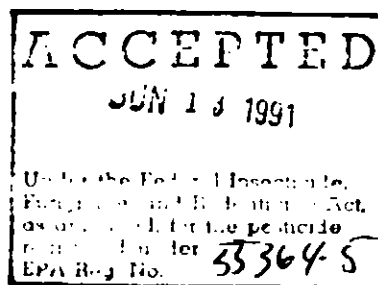
Cactus - Root Rot, Bacterial Leaf Spot, Top Rot

For rotting of underground parts by fungi and bacterial leaf spot or rot of the tops, sterilize seeds and disease free cuttings by dipping in PHYSAN 20 solution for 5 minutes before planting. Spray at 10-14 day intervals. USE: 1 fl. oz. of PHYSAN 20 concentrate in 3 gallons of water.

Cactus - Slimy Collar Rot

Just before planting, dip entire plant in PHYSAN 20 solution. USE: 2 tsp. PHYSAN 20 concentrate in 1 gallon of water.

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Hawthorn (crataegus) - Leaf Blights

After a very wet Spring, small reddish brown spots appear on the upper surfaces of leaves. When spots are numerous, leaves drop. Make 3 spray applications: First, as soon as the leaves emerge from the buds; then when leaves are half grown; and again when fully grown. USE: 1 fl. oz. of PHYSAN 20 concentrate in 3 gallons of water.

Snapdragons - Phyllosticta Blight, Anthracnose, Powdery Mildew, Downy Mildew, Stem Rot, Rusts, and Wilts

Spray with PHYSAN 20 solution when symptoms appear. Spray upper and lower sides of leaves until thoroughly wet, every 7 to 10 days. Collect and burn the tops in the Fall. USE: 2 tsp. PHYSAN 20 concentrate in 1 gallon of water.

Carnations - Leaf Spots, Carnation Rust, Gray Mold Rot, Stem Rot, Canker Rot, Crown Rot, and Root Rot

For RUST, completely immerse cuttings in PHYSAN 20 solution before planting. For GRAY MOLD, apply PHYSAN 20 solution 1 to 2 times just before bud bloom. Apply a light mist spray as the flowers are opening. Carefully collect and burn infected buds, blossoms, and stems. USE: 2 tsp. of PHYSAN 20 concentrate in 1 gallon of water.

Cut Flowers - Bacterial Stem Plugging

Containers - Tubes - and Decorative Vases

To eliminate stem plugging, which restricts uptake of water and controls bacteria and fungi which create ethylene gas, a cause of petal drop. Flower spikes should be hardened by keeping the stems in PHYSAN 20 solution during harvesting, storage and shipping. USE: 1 tsp. of PHYSAN 20 concentrate in 1 gallon of water.

Lawn - Grass - Dichondra - For Control of Certain Fungal Diseases and Rusts

1 pt. of concentrate diluted treats 6,400 sq. ft. Control the following fungal disease (Sclerotium rolfsii, Fading-Out, Dollar Spot, Rust, Leaf Spot, Fairy Ring, Toad Stools), and Algae. Spray with PHYSAN 20 solution at a rate of 5 gallons solution per 1,000 sq. ft. of turf. Be sure all surfaces or grass are treated and the area is thoroughly soaked with solution. When disease re-appears, repeat application. Do not graze treated areas or feed clippings to livestock. USE: 1 tbsp. PHYSAN 20 concentrate in 1 gallon of water.

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Palms - Heart Rot, and Penicillium Leaf Base Rot

At the first sign of rot, completely fill cup, or "Heart", formed by palm branches at top center of plant. Repeat every 7 days until controlled. USE: 1 fl. oz. PHYSAN 20 concentrate in 3 gallons of water.

Evaporative Coolers - Algae, Fungus, Odors

Controls algae, slime forming fungi on cooler pads, and certain fungal plant pathogens that may carry over in the cooler, as well as bacterial odors. USE: 1 tsp. PHYSAN 20 concentrate in 15 gallons of water every other week.

House Plants

To control algae and cross contamination in Terrariums, bubbles, etc. Wipe inside of glass with paper towel dampened with PHYSAN 20 solution. USE: 1 tsp. PHYSAN 20 concentrate in 1 gallon of water.

Aucuba, Dahlia, Pieris, Geranium, Fuchsia, Peony, and Gladiolus - Botrytis Gray Mold, Rusts, Downy Mildew

Downy mildew primarily effects new growth with symptoms of soft decay of flowers, leaves or stems, followed by a covering of downy gray mold. Control of disease consists of quick removal of dead plant parts and application of PHYSAN 20 at the first signs of disease. For Rust, apply at 7 to 14 day intervals during wet periods starting in early Summer. For botrytis, spray buds and blooms lightly 2 to 3 times a week using a fine mist. Before shipping, dip spikes in PHYSAN 20 solution. USE: 2 tsp. of PHYSAN 20 concentrate in 1 gallon of water.

Ferns, Begonias, and Gesneria (corytholoma, isoloma, allopiectus, episcia, trichosporum) - Leaf Spots, Gray Mold Bud Rot, and Shoot Rot

All phases of culture. Remove all plant refuse or dead leaves. Garden clean-up is important in control. Spray PHYSAN 20 solution before the buds open. Then spray when blossom petals have fallen. Spray when 3/4 of the blossom petals have fallen. Spray again two weeks after petal fall. USE: 1 tsp. of PHYSAN 20 concentrate in 1 gallon of water.

Fuchsia, Gardenia, Geranium, Heliotrope - Gray Mold Bud Rot and Stem Rot

At the first sign of disease, pick off and burn infected leaves and blossoms, spray, mist or fog weekly as needed. USE: 2 tsp. of PHYSAN 20 concentrate in 1 gallon of water.

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Kalanchoe, Crassula and Sedum - Root Rot and Crown Rot, Crown Gall

Destroy infected plants or plant parts and drench the remainder with PHYSAN 20 solution. Spray plants weekly to assure solution getting around and in the base of leaves. USE: 2 tsp. of PHYSAN 20 concentrate in 1 gallon of water.

Rubber Plant - Anthracnose on Leaves and Stems, Crown Gall on Stems

At the first sign of disease, pick off and burn infected leaves, spray, mist or fog weekly with PHYSAN 20 solution as needed. USE: 1 tsp. of PHYSAN 20 concentrate in 1 gallon of water.

Hawthorn, Hollyhock, Snapdragons - Rust

Spraying for protection should begin with the development of new leaves following Winter cleanup or dormancy. Spraying should begin before the onset of the rainy season. Be sure the undersides of infected leaves are covered by PHYSAN 20 spray solution.

For Hollyhocks, apply at weekly intervals. Start as soon as growth begins. Repeat applications in late Summer.

For snapdragons, collect and burn the tops in the Fall. Avoid sprinkling the foliage while indoors. Apply PHYSAN 20 solution at 7-10 day intervals. Start when plants are set in the garden. USE: 2 tsp. of PHYSAN 20 concentrate in 1 gallon of water.

Flowering Dogwood (cornus florida) - Leaf Spots, Leaf Blights, Anthracnose

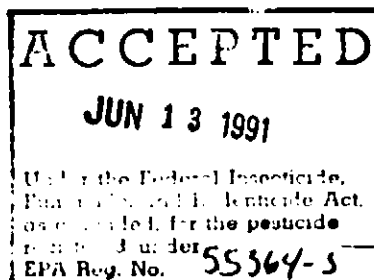
Small, circular, dirty yellow spots with reddish purple margins on flowers, leaves, and young shoots. Spray 4 times. When flower buds begin to open, as soon as flower bracts have fallen, 4 weeks later, and in late Summer after flower buds are well formed. If possible, spray just before rainy periods. USE: 1 fl. oz. of PHYSAN 20 concentrate in 3 gallons of water.

Lightly mist plants with PHYSAN 20 solution. USE: $\frac{1}{4}$ tsp. (scant) in 1 quart of water.

Trees (Sycamore, Ash, etc.) - Anthracnose

Spray upper and underside of leaves and twigs until thoroughly wet. A large tree requires 50-60 gallons of spray per treatment for adequate coverage. Treat tree with three applications. As buds start to swell in April. As leaves start to expand, and a sleeves are about $\frac{3}{4}$ grown. USE: 1 fl. oz. PHYSAN 20 concentrate in 3 gallons of water.

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Algae - Walkways

For heavy infestation, spray or swab. Let stand for an hour or more. Brush and wash away dead algae. Soak area again with PHYSAN 20 solution. Do not rinse. This product will inhibit the growth of algae on walkways. Allow to dry on surface and repeat application when algae growth returns. USE: 1 tbsp. PHYSAN 20 concentrate in 1 gallon water.

Mildewstat - Table Tops, Floors

To control mold and mildew on pre-cleaned hard, non-porous surfaces (such as floors, walls, table tops). Apply solution with a cloth, mop or sponge, making sure to wet all surfaces completely. Let air dry. Prepare a fresh solution for each use. Repeat application at weekly intervals or when mildew growth reappears. USE 1½ fl. oz. of PHYSAN 20 concentrate in 2 gallons of water.

Saintpaulia (African Violets) - Gray Mold Rot (Botrytis) Bud Rot, Downey Mildew, Powdery Mildew, Root Rots, and Crown Rots

Dip plant and pot in PHYSAN 20 solution. Spraying is okay, but complete coverage of all surfaces is important. Spray every 10 days until controlled. USE: 1 tbsp. PHYSAN 20 concentrate in 4 gallons of water.

DO NOT APPLY THIS PRODUCT THROUGH ANY TYPE OF IRRIGATION SYSTEM.

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PLANT INDUSTRY DIVISION
WASHINGTON, D.C. 20250
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