

PA132

211-25

17/16

DEC 12 1990

Central Solutions, Inc.  
3130 Brinkerhoff Road  
P.O. Box 5276  
Kansas City, KS 66115

Attention: Richard Kraiser  
Director of Plant Operations

Gentlemen:

**BEST AVAILABLE COPY**

Subject: Pheno-Cen  
EPA Registration No. 211-25  
Your Amendment Dated September 19, 1990

This is in response to your request to amend the registration of this product to include additional viruses, bacteria, and a fungus, as well as greenhouse and aquaculture farm uses (as proposed in your Amendment Application dated August 18, 1989). The amendments referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, are acceptable provided that you:

1. Make the following labeling revisions before you release the product for shipment bearing the amended labeling:
  - a. Delete Newcastle Disease virus.
  - b. Delete the following bacteria:
    - Salmonella typhimurium, Salmonella arizonae,
    - Salmonella enteritidis and Pasteurella multocida.
2. Submit five (5) copies of the revised final printed labeling for inclusion in the product file.

56703;I;Douglas;C;Disk;KENC0;12/03/90;CL;VO;EK;CL  
CONCURRENCES

SYMBOL								
SURNAME								
DATE								

-2-

Your release for shipment of the product bearing the amended labeling constitutes acceptance of these conditions.

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

We direct your attention to our letter under separate cover in regard to your response to our letter of September 28, 1989 concerning a minor formulation change for this product.

If you have any questions in this regard, please contact Ms. Ruth Douglas at (702) 557-3842.

Sincerely yours,



Walter C. Francis  
Acting Product Manager (32)  
Antimicrobial Program Branch  
Registration Division (H7505C)

Enclosure

1 BEST AVAILABLE COPY

(CENTER PANEL)  
(REQUIRED)

PHENO-CEN  
Germicidal/Detergent With Organic Soil Tolerance  
Tuberculocidal-Germicidal  
Pseudomonacidal-Fungicidal  
Virucidal\*  
Formulated for Effective  
Health Care Facility Sanitation

ACCEPTED  
with COMMENTS  
in EPA Letter Dated:

DEC 12 1990

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

211-25

**Pheno-Cen**<sup>®</sup>  
HOSPITAL GERMICIDAL DETERGENT  
WITH ORGANIC SOIL TOLERANCE

TUBERCULOCIDAL—PSEUDOMONACIDAL  
GERMICIDAL—FUNGICIDAL

Pheno-Cen is a highly concentrated germicidal detergent formulated for use where broad spectrum disinfection is required in the presence of moderate amounts of organic soil.\*

<b>Active Ingredients</b>	
Potassium ortho-benzyl-para-chlorophenate .....	8.03%
Potassium ortho-phenylphenate .....	6.28%
Potassium para-tertiary-amylphenate .....	4.30%
<b>Inert Ingredients</b> .....	81.39%

CONTAINS SODIUM NITRITE

KEEP OUT OF REACH OF CHILDREN

**DANGER**

**CENTRAL SOLUTIONS, INC.**



3130 BRINKERHOFF RD.  
P.O. BOX 15276  
KANSAS CITY, KANSAS 66115

SEE LEFT PANEL FOR ADDITIONAL PRECAUTIONARY STATEMENTS

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DEC 12 1990

Page 2

Under the Federal Insecticide,  
Fungicide, and Rodenticide Act  
as amended, for the pesticide  
registered under EPA Reg. No.  
211-25

(LEFT PANEL)  
(REQUIRED)

#### DIRECTIONS FOR USE

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

#### CLEANING AND DISINFECTION

For broad spectrum disinfection of gram negative and gram positive bacteria, including *Pseudomonas aeruginosa*, add 1/2 ounce PHENO-CEN to the gallon of water. Remove heavy soil or gross filth then apply solution with a mop, cloth, sponge or mechanical sprayer so as to wet the surface thoroughly. Allow to remain wet for 10 minutes and then let air dry. If higher detergency is desired, increase dilution to 2 ounces per gallon of water. Prepare a fresh solution for each use.

#### PRECAUTIONARY STATEMENTS

Hazards to Humans and Domestic Animals

### DANGER

Keep Out of Reach of Children. Corrosive. Causes severe eye and skin damage. Do not get in eyes, on skin or on clothing. Harmful if swallowed. Wear goggles or face shield and rubber gloves when handling. Avoid contamination of food. Remove and wash contaminated clothing.

#### 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 all contaminated clothing before reuse. If swallowed, drink large quantities of water. Call a physician.

#### NOTE TO PHYSICIAN

Probable mucosal damage may contraindicate the use of gastric lavage. Measures against circulatory shock, respiratory depression and convulsion may be needed.

#### STORAGE AND DISPOSAL

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

**STORAGE**—Store in securely closed original container. Store in area that will prevent cross contamination of other pesticides, fertilizer, food and feed. Avoid storage at temperature extremes or in sunlight.

**PESTICIDE DISPOSAL**—Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide is in violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide 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 incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

EPA EST. NO. 211-KS1 , EPA REG. NO. 211-25 NET CONTENTS ONE GALLON

RESERVED

(HEALTH CARE FACILITY USE)

PHENO-CEN is a phosphate free, concentrated, hospital germicidal-detergent effective in 10 minutes at 20 C, in the presence of 5% blood serum, used to simulate organic soil. PHENO-CEN's multi phenolic formula is designed to clean, disinfect and deodorize any washable, inanimate, non-porous surface in one easy step. When used as directed, PHENO-CEN is strong enough to kill a broad spectrum of pathogenic bacteria, yet it is mild enough to have no harmful effects on the surface being disinfected, when used as directed.

PHENO-CEN is recommended for use by hospitals, nursing homes and any health care institutions that are dedicated to controlling the hazards of cross contamination in their establishments. For use on any hard, inanimate surface in patient rooms, restrooms, halls and public areas on carts, bed frames, walls, floors, stainless steel, porcelain, glass and chrome.

PHENO-CEN is a highly concentrated germicidal detergent formulated for use where broad spectrum disinfection is required in the presence of moderate amounts of organic soil.

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Fungicide, and Rodenticide Act  
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211-25

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Page 4

(RIGHT PANEL)  
(HEALTH CARE FACILITY USE)

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

211-25

**DIRECTIONS FOR USE**

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

**CLEANING AND DISINFECTION**

For broad spectrum disinfection of gram negative and gram positive bacteria, including *Pseudomonas aeruginosa*, add 1/2 ounce PHENO-CEN to the gallon of water. Remove heavy soil or gross filth then apply solution with a mop, cloth, sponge or mechanical sprayer so as to wet the surface thoroughly. Allow to remain wet for 10 minutes and then let air dry. If higher detergency is desired, increase dilution to 2 ounces per gallon of water. Prepare a fresh solution for each use.

**EFFICACY PERFORMANCE**

The broad spectrum efficacy of PHENO-CEN has been confirmed using A.O.A.C. protocol testing at a use-dilution of 1:256 in the presence of 5% blood serum (used to simulate organic soil load), at 20 degrees Celcius with an exposure time of 10 minutes.

**GERMICIDAL:**

PHENO-CEN is effective against the broad spectrum of Gram positive and Gram negative pathogens as confirmed against *Salmonella choleraesuis*, *Staphylococcus aureus*, and *Pseudomonas aeruginosa* by the AOAC Use Dilution test, in the presence of 5% organic soil load at 20 degrees Celcius with an exposure time of 10 minutes.

**FUNGICIDAL:**

At 1/2 ounce per gallon of water, PHENO-CEN is also effective against *Trichophyton mentagrophytes*, (the athlete's foot fungus) in use areas such as shower room floors, locker room benches, bathmats or any other hard nonporous, inanimate environmental surfaces.

**TUBERCULOCIDAL**

PHENO-CEN disinfectant's effectiveness against *Mycobacterium bovis* (BCG) is demonstrated through testing using the AOAC Method "Confirmative in Vitro Test for Determining Tuberculocidal Activity" in 15 minutes at 20 C. Where Tuberculocidal activity is required, allow the disinfectant solution to remain on the surface for 15 minutes.

PHENO-CEN

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(MUSHROOM FARM PREMISE USE)

GERMICIDAL-DETERGENT WITH ORGANIC SOIL TOLERANCE  
FORMULATED FOR MUSHROOM FARM SANITATION

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

211-25

PHENO-CEN effectively

Kills fungi and bacteria which prove dangerous to mushroom crops.

DO NOT APPLY TO MUSHROOM CROP. DO NOT APPLY TO COMPOST OR CASING.

\*USE ONLY AS DIRECTED\*

EFFICACY PERFORMANCE

GERMICIDAL:

PHENO-CEN has been tested and found effective against bacteria detrimental to the mushroom crop including:

- Pseudomonas fluorescens (Biotype G)...Bacterial Blotch Disease
- Pseudomonas aeruginosa.....Mummy Disease

FUNGICIDAL:

Fungi specific to the mushroom industry which PHENO-CEN has been tested against and found effective include:

- Verticillium fungicola..(Verticillium disease, Brown spot or Fungus spot)
- Mycogone perniciosa.....(Mycogone disease or Wet bubble)
- Tricoderma viride.....(Tricoderma spot, Tricoderma blotch Tricoderma mildew, Green mold)
- Dactylium dendroides....(Hypomyces mildew, Cobweb, Soft decay)

MUSHROOM FARM INDUSTRY USE

General Information

PHENO-CEN is a phosphate free, germicidal detergent effective in the presence of moderate amounts of organic soil on a variety of surfaces found at mushroom farms. PHENO-CEN's tri-phenolic formula is designed for ( 3-step cleaning and disinfecting of hard inanimate non-porous environmental surfaces. PHENO-CEN is strong enough to kill a broad spectrum of microbial mushroom pests, yet mild enough to have no harmful effects on the surfaces being treated when used as directed.

Areas of Use

PHENO-CEN has been designed for use between crops on surfaces that do not come in contact with the crop. Areas of intended use include tools, breezeways and track alleys before mowing, inside and outside walls of mushroom houses, lofts, floors, storage sheds, spawning machines, tampers and casing rings. Use of PHENO-CEN should be limited to areas where compost and mushrooms are not present.

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(MUSHROOM FARM PREMISE USE)

DIRECTIONS FOR USE

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

SITE PREPARATION

The first step in any on-going sanitation program should be the removal of gross contamination and debris. This may be accomplished using a shovel, broom, or vacuum depending on the area to be disinfected. The efficacy of even the most efficient germicidal cleaner is reduced in the presence of heavy organic matter.

CLEANING AND DISINFECTION

For all general cleaning and disinfection, use 1/2 ounce of PHENO-CEN per gallon of water (1:256 dilution). Apply PHENO-CEN as a spray, wetting surfaces thoroughly. Treated surfaces should be allowed to remain wet for 10 minutes and let air dry. For heavily soiled areas, a precleaning step is required. Prepare a fresh solution for each use. When greater detergent action is desired, dilute PHENO-CEN two ounces of concentrate to each gallon of water. Heavily soiled areas may require repeated cleaning before treatment.

Apply PHENO-CEN only on surfaces that DO NOT come in contact with the crop. USE AS A PREMISES SPRAY, DO NOT APPLY TO THE CROP, COMPOST, OR CASING. Rinse treated surfaces with potable water before they contact the crop, compost or casing.

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Under the Federal Insecticide,  
Fungicide, and Rodenticide Act  
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211-25

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## (POULTRY AND SWINE PREMISE USE)

Formulated for Effective  
Poultry & Swine Premise Sanitation

## DIRECTIONS FOR USE

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

SITE PREPARATION

The first step in any on-going sanitation program should be the removal of gross contamination and debris. This may be accomplished using a shovel, broom, or vacuum depending on the area to be disinfected. The efficacy of even the most efficient germicidal cleaner is reduced in the presence of heavy organic matter. Once the heavy debris is eliminated, disinfection can be accomplished in a single step.

CLEANING AND DISINFECTION

For all general cleaning and disinfection, use 1/2 ounce of PHENO-CEN per gallon of water (1:256 solution). Apply PHENO-CEN using a cloth, mop, or pressure sprayer so as to thoroughly wet surface to be disinfected. Allow to remain wet for 10 minutes and then let air dry. For heavily soiled areas, a precleaning step is required. Prepare a fresh solution for each use.

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211-25

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DEC 12 1990

Page 8

(POULTRY AND SWINE PREMISE USE)

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

211-25

#### EFFICACY PERFORMANCE

The broad spectrum efficacy of PHENO-CEN has been confirmed using A.O.A.C. protocol testing at a use-dilution of 1:256 in the presence of 5% blood serum (used to simulate organic soil load), at 20 degrees Celcius with an exposure time of 10 minutes.

#### GERMICIDAL

PHENO-CEN is effective against the broad spectrum of Gram positive and Gram negative pathogens including:

Staphylococcus aureus	<del>Salmonella enteritidis</del>
Pseudomonas aeruginosa	Salmonella puilorum
Salmonella choleraesuis	Salmonella gallinarum
Mycoplasma synoviae	<del>Salmonella typhimurium</del>
Mycoplasma gallisepticum	<del>Salmonella arizonae</del>
Pseudomonas fragi	<del>Pasteurella multocida</del>

#### FUNGICIDAL

PHENO-CEN's fungicidal efficacy has been confirmed through testing using the AOAC Fungicidal Test against the pathogenic fungi, Trichophyton mentagrophytes and Aspergillus fumigatus

#### \*VIRUCIDAL

Virucidal testing using prescribed E.P.A. testing procedures has verified PHENO-CEN's effectiveness against the following viruses commonly associated with poultry and swine areas including:

Avian Influenza Virus	Avian Herpes Virus 2 (Mareks Disease)
Avian Bronchitis Virus	Hog Cholera Virus
Avian Laryngotracheitis Virus	Pseudorabies Virus
Avian Adenovirus	African Swine Fever Virus
Avian Reovirus	<del>New Castle Disease Virus</del>

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DEC 12 1980

Page 9

(POULTRY AND SWINE PREMISE USE) Under the Federal Insecticide,  
Fungicide, and Rodenticide Act  
as amended, for the pesticide  
registered under EPA Reg. No.

AREAS OF USE

POULTRY PREMISE SANITATION (HATCHERIES) 2-11-25

- |                     |                             |
|---------------------|-----------------------------|
| -Egg Receiving Area | -Tray Dumping Area          |
| -Egg Holding Area   | -Chick Processing Area      |
| -Setter Room        | -Chick Holding Room or Area |
| -Hatchery Room      | -Chick Loading Area         |
| -Poultry Buildings  | -Hauling Equipment          |

APPLICATION AND USE DILUTIONS

POULTRY HOUSES:

1. Remove all poultry and feeds from premises, trucks, coops, and crates. Remove all litter and droppings from floors, walls and surfaces of facilities occupied or traversed by poultry. Empty all troughs, racks, and other feeding and watering appliances. Thoroughly clean all surfaces with soap or detergent and rinse with water.
2. Use 1/2 ounce of PHENO-CEN per gallon of water. Saturate surfaces with the recommended disinfecting solution for a period of 10 minutes. Ventilate buildings, coops, and other closed spaces. Do not house poultry or employ equipment until treatment has been absorbed, set or dried. Thoroughly scrub treated feed racks, troughs, automatic feeders, fountains and waterers with soap or detergent, and rinse with potable water before reuse.

HATCHERIES:

1. Use 1/2 ounce of PHENO-CEN per gallon of water to treat hatchers, setters, trays, racks, carts, sexing tables, delivery trucks and other hard surfaces. Leave all treated surfaces exposed to disinfectant solution for 10 minutes or more.

EQUIPMENT:

1. Empty all troughs, racks, feeding and watering bins, buckets and fountains.
2. Use 1/2 ounce of PHENO-CEN per gallon of water to treat all equipment. Leave all treated surfaces exposed to disinfectant solution for 10 minutes or more.

VEHICLES:

1. Clean all vehicles including mats, crates, cabs and wheels with high pressure water and PHENO-CEN disinfectant. Use 1/2 ounce per gallon of water to treat all vehicles. Leave all treated surfaces exposed to disinfectant solution for 10 minutes or more.

SHOEBATHS:

1. Shoebath containing one inch of freshly made disinfectant solution should be placed at all entrances to buildings and hatcheries. Change the disinfectant solution in the bath daily or when solution appears dirty.

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(POULTRY AND SWINE PREMISE USE)

POULTRY AND ANIMAL INDUSTRY USE

FOR CLEANING AND DISINFECTION OF:

EQUIPMENT including feeders, waterers, fans, racks, troughs, bins and buckets.

VEHICLES including live haul poultry delivery trucks, feed trucks, service person cars, tractors and all other vehicles.

HATCHERIES including floors, walls, equipment, incubators, hatchers, tray and buggies.

SHOEBATHS including all entrances to buildings and hatcheries.

AREAS OF USE

SWINE AND CATTLE SANITATION

- Farrowing Barns and Areas
- Waterer & Feeder
- Blocks
- Nursery
- Creep Area
- Hauling Equipment

MISCELLANEOUS

- Horse Stables
- Sales Barn Stalls
- Dressing Plants
- Chutes/Loading Equipment
- Sick Pens
- Veterinary Hospitals
- Cat and Dog Kennels

General Disinfection Uses: Can be used in the routine disinfection of hog houses, farrowing houses, finishing houses, growers, feeders and other equipment; horse stables and sick pens at race tracks or sale barns, hospital pens, calf pens and equipment. Disinfecting houses used for poultry, turkeys, ducks and game birds and for equipment used in brooding, growing and laying quarters. Disinfecting dog and cat kennels as well as laboratory animal facilities, at veterinary hospitals, research laboratories and medical institutions. Spraying cattle pens, chutes, loading equipment trucks and animal manure pits for the control of odor and ammonia.

Dressing Plant Use:

Disinfect equipment, utensils, walls and floors in poultry and animal dressing plants. Equipment and utensils must be thoroughly rinsed with potable water before operations are resumed. Disinfect offal rooms, exterior walls and loading platforms of dressing plants.

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Under the Federal Insecticide,  
Fungicide, and Rodenticide Act  
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211-25

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DEC 12 1990

Page 11

(POULTRY, SWINE AND FARM USE)  
APPLICATION AND USE DILUTIONS

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

21-25

FARM PREMISE:

DO NOT USE IN MILKING STALLS, MILKING PARLORS OR MILK HOUSES.

1. Remove all animals and feed from premises, vehicles and enclosures. Remove all litter and manure from floors, walls and surfaces of barns, pens, stalls, chutes, and other facilities and fixtures occupied or traversed by animals. Empty all troughs, racks and other feeding and watering appliances. Thoroughly clean all surfaces with soap or detergent and rinse with water.

2. Use 1/2 ounce of PHENO-CEN per gallon of water (1/2part PHENO-CEN to 256 parts of water). Saturate all surfaces with the recommended solution for a period of 10 minutes.

3. Use 25-50 gallons of disinfectant solution per 1000 square feet of floor space. Totally immerse equipment to be treated in disinfectant solution. Ventilate building and other closed spaces. Do not house livestock or employ equipment until treatment has been absorbed, set or dried. Thoroughly scrub all treated feed racks, troughs, automatic feeders, fountains, and waterers with soap or detergent and rinse with potable water before reuse.

EQUIPMENT:

1. Empty all troughs, racks, feeding and watering bins, buckets and fountains.

2. Use 1/2 ounce of PHENO-CEN per gallon of water (1/2part PHENO-CEN to 256 parts of water) to saturate all equipment. Leave all treated surfaces exposed to disinfectant solution for 10 minutes or more.

VEHICLES:

1. Clean all vehicles including mats, crates, cabs and wheels with high pressure water and PHENO-CEN solution.

Use 1/2 ounce of PHENO-CEN per gallon of water (1/2part PHENO-CEN to 256 parts of water) to treat all vehicles. Leave all treated surfaces exposed to disinfectant solution for 10 minutes or more.

HATCHERIES:

1. Treat all surfaces thoroughly with PHENO-CEN solution by scrubbing with brush under high water pressure with emphasis on cracks and moulding where fungus and mold are usually located. 2. Use 1/2 ounce of PHENO-CEN per gallon of water (1/2part PHENO-CEN to 256 parts of water) to treat hatching, setters, trays, racks, carts, sexing tables, delivery trucks and other hard surfaces. Leave all treated surfaces exposed to disinfectant solution for 10 minutes or more.

SHOEBATHS SANITIZER: 1. Shoebath containing one inch of freshly made disinfectant solution should be placed at all entrances to buildings and hatcheries. Change the disinfectant solution in the bath daily or when solution appears dirty.

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Page 12

(OPTIONAL SWINE AND POULTRY PREMISE

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

DIRECTIONS FOR USE

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

SWINE AND POULTRY BUILDINGS,  
HATCHERIES, DRESSING PLANTS

The first step in any sanitation program should be to remove gross contamination and debris. The efficacy of even the most efficient germicide/ cleaner is reduced in the presence of heavy organic matter. Remove all animals, poultry, and feeds from buildings, vehicles and enclosures. Empty all troughs, racks and other feeding and watering equipment. Mix PHENO-CEN at the rate of 1/2 ounce per gallon of water (1:256) and saturate all surfaces for 10 minutes. Use 25-50 gallons of disinfectant solution per 1000 square feet of floor space. Ventilate buildings and other closed spaces. Do not house livestock or poultry or use equipment until treatment has been absorbed set or dried. Rinse equipment with potable water before reuse. Thoroughly scrub all treated feed racks, troughs, automatic feeders, fountains and waterers with soap or detergent and rinse with water before reuse.

In poultry and animal dressing plants, disinfect equipment, utensils, interior and exterior walls, floors, offal and loading platforms with PHENO-CEN at the 1:256 dilution rate. Again, equipment and utensils must be thoroughly rinsed with potable water before reuse.

Equipment

Empty all troughs, racks and other feeding and watering appliances. Thoroughly clean all surfaces with soap or detergent and rinse with water. Mix 1/2 ounce of PHENO-CEN Disinfectant per gallon of water (1:256) and treat all equipment for 10 minutes or more. Thoroughly scrub treated feeding and watering appliances with soap or detergent and rinse with potable water before reuse. Clean all vehicles including mats, crates, cabs and wheels with high pressure water and PHENO-CEN (1:256 dilution). Leave all treated surfaces exposed to disinfectant solution for 10 minutes or more.

BEST COPY AVAILABLE

(AQUACULTURE USE)  
Germicidal-Detergent Formulated  
For Disinfecting Tools, Equipment,  
and Surfaces in Greenhouses, Micropropagation  
Laboratories, Aquaculture and Hydroponic Farms  
Facilities, or Plants

ACCEPTED  
with COMMENTS  
in EPA Letter Dated

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

211-25

**WARNING!!!**

**\*\*MUST NOT COME IN CONTACT WITH EDIBLE CROPS\*\***

**GENERAL INFORMATION:**

PHENO-CEN disinfectant is a phosphate free, germicidal detergent effective in the presence of moderate amounts of organic soil on a variety of surfaces found in greenhouses, micropropagation laboratories, aquaculture and hydroponic farms. PHENO-CEN's multisynthetic phenolic formula is designed for one-step cleaning and disinfecting hard inanimate nonporous surfaces. PHENO-CEN is strong enough to kill a broad spectrum of plant pathogens and pests, yet mild enough to have no harmful effects on the surfaces being treated when used as directed.

**AREAS OF USE:**

PHENO-CEN is designed to be used between crops, or between daily work procedures on surfaces, tools and equipment that do not come in contact with edible crops. Areas of intended use include tools, floors, walls, bench tops, potting areas, headhouses, dry storage areas, sheds, barns, automated potting equipment, cultivating and planting equipment, pruning and budding equipment, pallets and pallet moving equipment.

**DO NOT APPLY TO CROP, SOIL OR GROWING MEDIA IN WHICH A CROP GROWS OR WILL BE GROWN!** To assure compliance, rinse treated surfaces and tools with potable water before they contact the crop or the substrate in which the crop is or will be growing.

**DIRECTIONS FOR USE**

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

The first step in any on-going sanitation program should be the removal of gross contamination and debris. This may be accomplished using a shovel, broom, or vacuum depending on the area to be disinfected. The efficacy of even the most efficient germicidal cleaner is reduced in the presence of heavy organic matter. Once the heavy debris is eliminated, disinfection can be accomplished in a single step.

**CLEANING AND DISINFECTION**

For all general cleaning and disinfection, use 1/2 ounce of PHENO-CEN per gallon of water (1:256 solution). Apply PHENO-CEN using a cloth, mop, or pressure sprayer so as to thoroughly wet surface to be disinfected. Allow to remain wet for 10 minutes and then let air dry. For heavily soiled areas, a precleaning step is required. Prepare a fresh solution for each use.

**BEST AVAILABLE COPY**

(AQUACULTURE USE)

EFFICACY PERFORMANCE

The broad spectrum efficacy of PHENO-CEN has been confirmed using A.O.A.C. protocol testing at a use-dilution of 1:256 in the presence of 5% blood serum (used to simulate organic soil load), at 20 degrees Celcius with an exposure time of 10 minutes.

GERMICIDAL

PHENO-CEN has been tested and is effective against bacteria recognized as detrimental to a variety of crops grown in controlled environments. Bacterial plant pathogens found susceptible to the killing power of PHENO-CEN include:

- Pseudomonas solanacearum...Southern Bacterial Wilt
- Pseudomonas cichorii.....Bacterial Leaf Spot and Blight
- Erwinia caratovora.....Soft Rot
- Erwinia chrysanthemi.....Soft Rot, Leaf Spot, Bacterial Blight
- Agrobacterium tumefaciens..Crown Gall
- Xanthomonas pelargoni.....Bacterial Blight
- Xanthomonas campestris.....Stem Rot, Leaf Spot, Bacterial Blight

FUNGICIDAL

Common fungal pathogens of plants found to be effectively controlled by PHENO-CEN include:

- Botrytis cinerea.....Grey Mold, Stem Rot, Bulb Rot, Flower or Blossom Blight, Storage Rot, Leaf Blight
- Fusarium oxysporum.....Fusarium Wilt
- Phytophthora cinnamomi.....Phytophthora root rot
- Phthium ultimum.....Damping off, Soft Rot, Root Rot
- Rhizoctonia solani.....Damping off, Stem Rot, Wire Stem Root Rot
- Verticillium albo-atrum...Verticillium Wilt

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