

NACCOSAN



CONCENTRATE

CLEANER • DEODORIZER
DISINFECTANT • FUNGICIDE
SANITIZER • MILDEWSTAT



MADE IN U.S.A.

FOR INSTITUTIONAL & INDUSTRIAL USE
(GREENHOUSES, FLOWER SHOPS, EMPTY FOOD STORAGE BUILDINGS and FARM MACHINERY)

Also for use as a Storage and Equipment Cleaner-Disinfectant. Effective in Hard Water up to 400 ppm Hardness.
(Calculated as CaCO₃ in the Presence of 5% Serum Contamination)

EPA Reg. No. 70908-1

ACTIVE INGREDIENTS:

EPA Est. 70908-CA-1

Alkyl (C ₁₄ 50%, C ₁₂ 40%, C ₁₆ 10%)	
dimethyl benzyl ammonium chloride	8.680%
Octyl decyl dimethyl ammonium chloride	6.510%
Diocetyl dimethyl ammonium chloride.....	3.255%
Didecyl dimethyl ammonium chloride.....	3.255%
OTHER INGREDIENTS	78.300%
Total	100.000%

Storage and Equipment Cleaning & Disinfection (Non-Food Use):

Disinfection of Empty Food Storage Buildings (such as but not limited to potato or fruit storages) and of Handling Equipment (such as, but not limited to, conveyors and seed cutters): Thoroughly clean surfaces to be treated.

Disinfection of Machinery (such as, but not limited to, farm machinery before transferring to another field or farm): Prior to treatment, thoroughly wash machinery with a pressure washer and allow to dry.

Fungicidal Performance: NACCOSAN is an effective fungicide against Trichophyton mentagrophytes (the athlete's foot fungus) when used on surfaces in areas such as locker rooms, dressing rooms, shower and bath areas and exercise facilities. Allow solution to dry on treated surfaces.

Mold & Mildew Control: NACCOSAN effectively inhibits the growth of mold and mildew and the odors caused by them when applied to hard non-porous surfaces (as indicated in the Product Information section). Allow solution to dry on treated surfaces and repeat when mold and/or mildew growth returns.

DIRECTIONS FOR USE

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

PRODUCT INFORMATION

Cross contamination is of major housekeeping concern in institutions and industrial areas such as greenhouses, flower shops, food storage buildings and farms. NACCOSAN has been formulated to aid in the reduction of cross- contamination in these areas.

NACCOSAN is a one-step disinfectant cleaner that when used as directed is effective against a broad spectrum of bacteria, is virucidal, fungicidal and will prevent the growth of mold and mildew and their odors.

NACCOSAN is an effective one-step sanitizer/cleaner for use on non-food contact surfaces. When used as directed, NACCOSAN deodorizes surfaces in toilet areas, behind and under sinks and counters, garbage cans and garbage storage areas, and other places

where bacterial growth can cause mal odors.

NACCOSAN is a proven "one-step" disinfectant/cleaner/sanitizer/fungicide/bactericide/mildewstat/virucide that is effective in water up to 400 ppm hardness.

Apply NACCOSAN to walls, floors and other hard (inanimate) non-porous surfaces such as empty fruit and vegetable storages, benches, cutters, farm machinery, other non-food surfaces, tables, tools, chairs, pots, counter tops, sinks, tiles and porcelain.

**PRODUCT DIRECTIONS FOR
SANITIZATION & DISINFECTION**

Prepare the use solution by mixing 0.5 fluid ounces in one gallon of water. For disinfection, treated surfaces must remain wet for 10 minutes; allow solution to dry on treated surfaces. A contact time of 1 minute is required for sanitization. Apply prepared solution by appropriate means, such as with a cloth, sponge, mop or chemical/mechanical spray device, or by immersion, so as to thoroughly wet all surfaces. For heavily soiled areas, a preliminary cleaning is required. Prepare a fresh solution daily or when used solution becomes visibly dirty.

SANITIZATION: For use in greenhouses, flower shops. Use to sanitize walls, floors and other hard (inanimate) non-porous surfaces such as benches, tables, tools, chairs, pots, countertops, sinks, tiles and porcelain.

DISINFECTION: The activity of NACCOSAN has been evaluated in the presence of 400 ppm hard water by the AOAC Use Dilution test and found to be effective against a broad spectrum of gram-negative and gram-positive organisms as represented by:

Aspergillus niger ATCC 6275*Salmonella schottmuelleri* ATCC 8759*Enterobacter aerogenes* ATCC 13048*Salmonella typhi* ATCC 6539*Escherichia coli* ATCC 11229*Serratia marcescens* ATCC 43861*Erwinia amylovora* ATCC 14976*Shigella dysenteriae* ATCC 9361*Klebsiella pneumoniae* ATCC 13883*Staphylococcus aureus* ATCC 6538*Pseudomonas syringae* ATCC 12271*Streptococcus pyogenes* ATCC 19615*Salmonella enterica* ATCC 10708*Trichophyton interdigitale* ATCC 9533

Naccosan is a Bio Degradable Disinfectant Concentrate for Greenhouses, Flower Shops Empty Food Storage Buildings and Farm machinery.

Labeled For Institutional and Industrial Use Naccosan Controls Fungus, Bacteria and is virucidal.

Naccosan vs. Bleach

- Lasts longer than bleach in solution
- Registered for use with EPA
- Less irritating to use 1 gallon of Naccosan makes 256 gallons for disinfectant solution
- 1 gallon of 5.25% bleach makes 10 gallons of 0.50% bleach solution.
- Naccosan causes no damage to clothing from splashes

Product Specification

Active Ingredient 21.7% Blend of Quaternary Amines

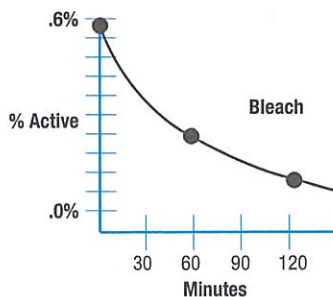
- **Signal Word Danger** eye damage and skin burns, harmful if swallowed in its concentrated form. Goggles, rubber gloves, avoid breathing mist.
- **Reentry Internal:** None
- **Application Rate:** 0.50 Fl. oz. per gallon water.
- **For Sanitization:** Surface must be wet for 1 minute prior to wiping
- **For Disinfection:** Surface must be wet for 10 minutes and allowed to dry on treated surface.



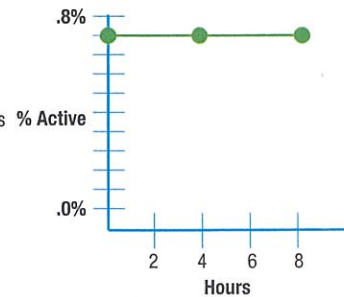
Naccosan Provides

- Activity in the presence of 400 ppm hard water
- An effective IPM tool for pathogen clean up and control.
- Effective against broad spectrum of gram-negative and gram positive organisms as represented by *Aspergillus brasiliensis*
- *Enterobacter bergene*
- *Enterobacter aerogenes*
- *Staphylococcus aureus*
- *Salmonella choleraesuis*
- *Escherichia coli*
- *Streptococcus pyogenes*
- *Klebsiella pneumoniae*
- *Salmonella schottmuelleri*
- *Streptococcus faecalis*
- *Shigella dysenteriae*
- *Brevibacterium ammoniagenes*
- *Salmonella typhi*
- *Serratia marcescens*

At the recommendation rate of .6%, the activity of the bleach solution decrease by 50% every 2 hours.



At the recommendation rate of .8%, the activity of NACCOSAN continues at full labeled strength for over 8 hours.



Grow More, Inc. provides an extensive product line for a variety of markets worldwide. Constant achievement through applied research has been our motto since 1918 and provides the basis for the dedicated product quality and consumer preference.

- Grow More is ranked number one as the brand consumers prefer in many of the more than 35 countries served.
- Worldwide distribution and leading expert in agriculture, horticulture, floriculture and hydroponics.
- Guaranteed customer satisfaction.
- Superior technology.
- Optimal production facility.
- Service through the product life cycle.

Products by Type

For example: water soluble fertilizer, foliar fertilizer, bio pesticides, amino acid, fertigation, organic fertilizer or micronutrients.

Products by Industry

For example: agriculture, greenhouse nursery, vegetable grower, hydroseeding, orchid grower, or water treatment.

A Standard of Excellence

One of our goals at Grow More, Inc is to improve people's lives and the environment with high quality agricultural and horticultural products and science-based solutions.

We place a high value in protecting the health and safety of the environment, our employees, growers and applicators in the communities in which we operate.

With products in 30 countries on five continents, we recognize the need for an internal standard and system of practices and actions with assigned management responsibilities.

We are Committed

- Continually improving health, safety and the environmental performance.
- Listen and respond to concerns.
- Assist other companies in the industry to achieve optimum performance.

Vist Us Online at www.growmore.com

Commercial Greenhouse & Nursery Production



Sanitation for Disease and Pest Management

Why Sanitize

Most growers are concerned about costs associated with the management of pests and pathogens. Correct greenhouse disinfection and sanitation is a critical component in reducing costs and improving plant quality.

Investing time and money in greenhouse and production area disinfection and sanitation is far less expensive than corrective action after a disease or insect outbreak has



occurred. Repeated pesticide application and crop losses associated with unsanitary conditions are expensive, time consuming and reduce profits. Preventative maintenance saves money and time in the long run.

Think Clean

Everyone involved in the operation must be properly trained to recognize pest and pathogen problems and what is required to reduce incidence of outbreaks. Clean greenhouses and production areas between crop cycles when the greenhouse, production, packaging and handling areas are totally empty.

Growers must be vigilant and recognize major sources of pests and pathogens, which includes floors, benches, weeds, boots, seed flats, trays container and other equipment, trash, clothing and new plants that have been introduced into the growing operation.

The first step involves physically removing, weeds, debris, growing media, soils, organic residue from plants, then

Tools, Seed Flats, Trays, Containers, Other Equipment

Regularly clean and sanitize tools and equipment to prevent cross contamination, sanitize cutting tools after pruning or taking cuttings of plants, many plants pathogens such as viruses or bacteria are easily spread between plants.



Brand new seed starting flats and trays out of the box are OK to use, but dirty indoor seed starting equipment and covers should be disinfected every time prior to reuse, this is the easiest way to prevent seedling blight.

If a crop has had a disease problem, then avoid reusing containers. Plant pathogens such as Pythium and Rhizoctonia can survive in root debris or soil particles on greenhouse surfaces. Containers to be reused should be thoroughly washed to remove soil particles and plant debris before being treated with a prepared **Naccosan** solution. Prepare the use solution by mixing 0.5 fluid ounce of **Naccosan** in one gallon of water.

Foot Bath



Since floors are generally recognized as the major source of pests and pathogens a simple and effective way to prevent microbes from entering the greenhouse is to utilize a

doorway threshold footbath. The shoe soles are immersed in the **Naccosan** solution as one enters or departs a room or when passing from one area to another within the growing and production areas.

Unwanted microbes are checked at doorways, resulting in greatly reduced cross contamination.

Trash

Trash containers can harbor pathogens and pests, always keep them out of the greenhouse and production area. It is particularly important to remove discarded soil and plant

material from the greenhouse and production areas on a daily basis and placed in sealed trash bins with a lid. Thoroughly clean trash containers and sanitize with a prepared **Naccosan** solution after emptying.

Clothing

Everyone entering the greenhouse and production areas must remove soil and debris from their shoes and boots, brushes and hoses outside the greenhouse entrance can be used to remove heavy accumulation of soil and the use of **Naccosan** foot baths will greatly reduce cross contamination.

Plan work in the problem or dirty room or greenhouse last at the end of the day to avoid infesting other areas.



New Plants & Seeds

Turn away shipments of plants that appear to have insect damage or are diseased, train all personnel to recognize disease and injury symptoms. Send suspicious plants or seeds to diagnostic laboratory for testing.

In The End

Remove all plants and soil from the greenhouse and production areas prior to disinfecting or sanitizing walls, benches, tables, floors and other surfaces, once treated and dry, close all vents, doors and allow the area to sit for a day or two.

A clean greenhouse and production area lead to healthy plants improved quality and higher profits.



thoroughly treating surfaces with a prepared solution of **Naccosan**. Prepare the use solution by mixing 0.5 fluid ounces of **Naccosan** in one gallon of water. For **disinfection** treated surfaces must remain wet for 10 minutes; allow solution to dry on treated surfaces. A contact time of 1 minute is required for **sanitization** (See label for complete information and directions).

Floors and Walls

The greenhouse floor is a major source of pests and pathogens. Many pathogens can survive in soil and organic residues for extended periods. Pathogens can spread to container grown plants through splashed water, contact with plant roots or media. For example, dust particles from fallen growing medium or pots can contain bacteria or fungi such as *Rhizoctonia* or *Pythium*.

When possible, make sure greenhouse floors do not contain exposed soil or plant debris, routinely sweep floors to remove soils and debris. Conduct transplanting,



seeding, packaging and shipping in a location separate from the growing area.

Discard any plants or growing substrates that fall on the floor, hang up watering hoses so they do not contact residue, soil or potting media on the floor.

Cleaning begins at the top and work your way down walls and internal structures, disease causing organism can be lodged on rafters, window ledges, tops of overhead piping and folds in plastic. Extra care is needed to clean these areas and also texture surfaces. Apply **Naccosan** to walls, floors and other hard (inanimate), nonporous surfaces for "one step" disinfection/ cleaner/ sanitizer/ fungicide/ bactericide/ mildew spot/ virucide activity.



Benches and Work Tables

If possible use benches made of wire, plastic or non-porous laminate material that can be easily disinfected. Wood benches can be a source for root rot disease and insect infestation, algae tends to grow on wood surfaces creating an ideal environment for fungus, gnats and plants pathogens to grow within the wood.

Disinfect benches and work tables between crop cycles. **Naccosan**, a quaternary ammonium compound is less volatile and more stable than bleach and is highly effective when used according to label direction and may be applied to non-porous surfaces such as empty fruit and vegetable storages, benches, cutting tools, seed cutters and other non-food surfaces, tables, chairs, counter tops sinks, tiles and porcelain.