

81446-2

1/28/2011

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY



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

JAN 28 2011

OFFICE OF CHEMICAL SAFETY  
AND POLLUTION PREVENTION

R. Bruce Jaeger  
Agent for Chem-Tex Laboratories  
Health & Environmental Horizons, Ltd  
2851 South Haven Road  
Annapolis, MD 21401

Subject: ChitoSante' [BacShield] RTU  
EPA Registration No.81446-2,  
Amendment Date: January 24, 2011  
EPA Receipt Date: January 24, 1

Dear Mr. Jaeger:

The following amendment, submitted in connection with registration under section the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended, is acceptable.

**Proposed Amendment:**

- Revised labeling per Agency letter dated December 22, 2010

**General Comments**

A stamped label with conditions is enclosed for your records. Submit three (3) copies of your final printed label before distributing or selling the product bearing the revised labeling.

Should you have any questions concerning this letter, please contact me by telephone at (703) 308-6416 or by e-mail at [Campbell-mcfarlane.jacqueline@epa.gov](mailto:Campbell-mcfarlane.jacqueline@epa.gov) or Stacey Grigsby by telephone at (703) 305-6440 or by e-mail at [grigsby.stacey@epa.gov](mailto:grigsby.stacey@epa.gov).

Sincerely,

*Stacey Grigsby*  
Jacqueline Campbell-McFarlane  
Product Manager

CONCURRENTS Laboratory Management Branch II							
SYMBOL				Antimicrobials Division (7510P)			
SURNAME							
DATE							

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**ACCEPTED**  
JAN 28 2011  
Under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, for the pesticide, registered under EPA Reg. No. 81446-2

ChitoSante' [BacShield] RTU  
1/24/11 Section 3 Registration Master Label  
Page 1

# ChitoSante' [BacShield] RTU™

## Ready-to-Use

### Antimicrobial for Textiles and Surfaces

### Inhibits Growth and Odor from Bacteria, Mold, Mildew and Fungi

<b>ACTIVE INGREDIENT:</b>	% w/w
Chitosan	0.3%
<b>OTHER INGREDIENTS:</b>	<u>99.7%</u>
<b>Total</b>	100.00%

## KEEP OUT OF REACH OF CHILDREN CAUTION

### PRECAUTIONARY STATEMENTS

#### HAZARDS TO HUMANS AND DOMESTIC ANIMALS

#### CAUTION

Causes moderate eye irritation. Avoid contact with eyes. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet.

### FIRST AID STATEMENTS

#### IF IN EYES

- Hold eye open and rinse slowly and gently with water for 15-20 minutes.
- Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.
- Call a poison control center or doctor for treatment advice.

Have the product container or label with you when calling a poison control center or doctor, or going to receive treatment.

EPA Reg. No. 81446-2  
EPA Est. No. 081446-NC-001

Net Contents: 1 Qt [32 Fl Oz] 1 Gal. [128 Fl. Oz] 5 gal.

Chem-Tex Laboratories, Inc.  
2725 Armentrout Dr  
Concord, NC 28025

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**ENVIRONMENTAL HAZARDS**

Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or public waters unless in accordance with the requirements of National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product into sewer without previously notifying the sewage treatment plant authority. For guidance, contact your State Water Board or regional Office of the EPA.

**NOTICE OF WARRANTY**

Chem-Tex Laboratories, Inc. warrants that the product conforms to its chemical description and is reasonably fit for the purpose stated on the label only when used in accordance with the label directions under normal conditions of use. Chem-Tex Laboratories, Inc. makes no other express or implied warranties either of merchantability or fitness for a particular use. Handling, storage and use of the product by Buyer or User are beyond the control of Chem-Tex Laboratories, Inc. and Seller. Risks such as ineffectiveness or other unintended consequences resulting from, but not limited to, failure to follow label directions will be assumed by the Buyer or User. In no case will Chem-Tex Laboratories, Inc. or Seller be held liable for consequential, special or indirect damages resulting from the handling, storage or use of this product.

The terms of this Limited Warranty and Disclaimer cannot be varied by any written or verbal statements or agreements. No employee or agent of the seller is authorized to vary or exceed the terms of this Limited Warranty and Disclaimer in any manner.

Produced by:  
Chem-Tex Laboratories, Inc.  
2725 Armentrout Dr  
Concord, NC 28025

**DIRECTIONS FOR USE**

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. ChitoSante' is intended as a treatment in order to give antimicrobial and antifungal activity to the treated materials.

ChitoSante' [BacShield] RTU inhibits the growth of non-public health related organisms such as bacteria, mold, mildew and fungus that cause odor, stains, discoloration, decay and deterioration of the treated materials.

Distributors of products containing ChitoSante' [BacShield] RTU may not make claims of antimicrobial activity other than the protection of the treated material against the growth of bacteria, mold, mildew and fungi that cause odor, stains, discoloration, decay, and deterioration in or on the treated product.

See 40 C.F.R.152.25 (a) for further guidance about treated article claims.

**DOMESTIC USES**

**As a cleaner:**

ChitoSante' [BacShield] RTU may be used as a cleaner to remove [odor-causing bacteria], [mold], [mildew], and [other organic matter] from surfaces [materials] prior to subsequent [treatment] [application] to inhibit [prevent] bacterial and [or] fungal [mold] growth on those surfaces [and] [or] [materials]. [Thoroughly clean the material to be treated by spraying this product and letting it sit for 1-2 minutes. Wipe or scrub clean.]

**Note: Always test for staining in an inconspicuous area. ChitoSante' [BacShield] RTU should not stain articles not stained by water alone.**

**Laundry:**

**As an after-wash treatment for clothing, linens, uniforms, textiles in general:**

Remove laundry from washer after final spin cycle.  
Spray each article with ChitoSante' [BacShield] RTU solution.  
ChitoSante' [BacShield] RTU may also be applied to articles which have been previously washed and dried.  
Dry treated articles thoroughly before use.  
Apply to each load.

**Other Uses:**

**Porous Surfaces:**

**As a spray for textiles, paper and other porous surfaces such as but not limited to: awnings, bedding, car covers, boat covers, ceilings, curtains, drapes, linens, mattresses, pet bedding, pillows, shoes, umbrellas, upholstery, vehicle interiors, leather, textile wall partitions, wallboard liner, wallboard and other household or construction materials.**

Areas to be treated with ChitoSante' [BacShield] RTU must be thoroughly cleaned to remove dirt, mold, mildew, fungi, or other organic matter. ChitoSante' [BacShield] RTU can be used as a cleaner prior to subsequent treatment [application] with [of] ChitoSante' [BacShield] RTU.

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**See section titled "Cleaning with ChitoSante' [BacShield] RTU" for instructions in using ChitoSante' [BacShield] RTU as a cleaner**

Apply ChitoSante' [BacShield] RTU until the surface is thoroughly damp. One gallon of solution covers approximately 270 sq. ft. Allow to dry before use.

**Non-Food Hard Contact Surfaces:**

**As a spray or mist for non-food hard contact surfaces, such as, but not limited to: fiberglass, masonry, metal, particle board, vinyl, wood, garbage cans, laminated surfaces, desks, window sills and other interior and exterior surfaces:**

Areas to be treated with ChitoSante' [BacShield] RTU must be thoroughly cleaned to remove dirt, mold, mildew, fungi, or other organic matter. ChitoSante' [BacShield] RTU can be used as a cleaner prior to subsequent treatment [application] with [of] ChitoSante' [BacShield] RTU. [Thoroughly clean the material to be treated by spraying this product and letting it sit for 1-2 minutes. Wipe or scrub clean.]

**See section titled "Cleaning with ChitoSante' [BacShield] RTU" for instructions in using ChitoSante' [BacShield] RTU as a cleaner**

After all foreign matter is removed from surface, apply ChitoSante' [BacShield] RTU to surfaces until thoroughly wet.

Allow to dry before use.

To treat surfaces, apply ChitoSante' [BacShield] RTU using a hand held spray bottle or other suitable sprayer.

Apply ChitoSante' [BacShield] RTU to surfaces until thoroughly wet. [Apply ChitoSante' BacShield RTU evenly to surfaces.] Avoid runoff.

Allow to dry before use. [Allow sprayed surfaces to dry completely before re-use.]

**PROFESSIONAL APPLICATORS – DIRECTIONS FOR USE**

**Professional Mold Remediators Refer to Section Titled "Mold/Mildew Remediation and Prevention" or call Chemtex Laboratories @ 800-532-5361 for specific questions.**

ChitoSante' [BacShield] RTU may be applied by hand sprayer, garden sprayer, airless/compression sprayer, cold-fogger, brush, roller, cloth, or immersion

**Carpet:** Apply to clean carpet as a spray or mist. One gallon of solution covers approximately 270 square feet of surface area. Allow to dry before use.

In homes, offices, commercial, industrial and hospitality settings apply ChitoSante' [BacShield] RTU each time carpet is cleaned or as needed for odors due to mold, mildew, fungi, or bacteria.

Re-apply ChitoSante' [BacShield] RTU after each carpet cleaning.

In athletic facilities, carpet must be cleaned regularly and ChitoSante' [BacShield] RTU applied weekly.

**Synthetic Turf:** Apply ChitoSante' [BacShield] RTU as a spray at a rate of 1 gallon of solution per 270 square feet of synthetic turf. Allow to dry before use. Apply every three months.

**Vehicle interiors:** Spray 3 fl. oz. of ChitoSante' [BacShield] RTU [solution] per average size car. Use more solution to cover larger vehicles.

**Mold /Mildew Remediation and Prevention**

**Note:** The information contained in this section is not intended to provide comprehensive instructions for mold removal and remediation, but is intended as a general guide for mold removal and prevention and to provide sources for additional information pertaining to mold, mold removal, and prevention. Mold can have serious health consequences in certain individuals. Consult a certified professional mold remediator for areas larger than 30 square feet.

*"A Brief Guide to Mold, Moisture and Your Home"*

<http://www.epa.gov/mold/moldcleanup.html>

***Mold Cleanup Guidelines***

<http://www.epa.gov/mold/cleanupguidelines.html>

***Institute of Inspection, Cleaning and Restoration Certification (IICRC)***

(360) 693-5675

[www.iicrc.org](http://www.iicrc.org) EXIT Disclaimer

*Information on and standards for the inspection, cleaning, and restoration industry*

***Centers for Disease Control and Prevention (CDC)***

(800) 311-3435

[www.cdc.gov](http://www.cdc.gov) EXIT Disclaimer

***The New York City Department of Health and Mental Hygiene (212) 788-4290 / 4288.***

*Guidelines on Assessment and Remediation of Fungi in Indoor Environments* EXIT Disclaimer

***What to Wear When Cleaning Moldy Areas*** <http://www.epa.gov/mold/whattowear.html>

*Please note that the Occupational Safety and Health Administration (OSHA) requires that respirators fit properly (fit testing) when used in an occupational setting; consult OSHA for more information (800-321-OSHA or [www.osha.gov](http://www.osha.gov)).*

***Hidden Mold***

<http://www.epa.gov/mold/hiddenmold.html#CleanupandBiocides>

**Recommended Web Sites for Mold Removal/Remediation Information:**

NORMI – National Organization for Remediators and Mold Inspectors  
[www.normi.org](http://www.normi.org)

Indoor Air Quality Association Inc  
[www.iaqa.org](http://www.iaqa.org)

Chemtex Laboratories Inc  
[www.bacshield.com](http://www.bacshield.com)

EPA – Environmental protection Agency  
[www.epa.gov](http://www.epa.gov)

IICRC – Institute of Inspection, Cleaning and Restoration Certification  
[www.iicrc.org](http://www.iicrc.org)

**Mold [Removal] [and] [or] [Prevention]**

If mold is present refer to recommended web sites for accepted remediation practices. Refer to section titled "PPE- Personal Protection Equipment for Applicators" for appropriate protective equipment to wear.

ChitoSante' [BacShield] RTU may be applied by hand sprayer, garden sprayer, airless/compression sprayer, cold-fogger, brush, roller, cloth, or immersion.

**Small Areas - Affected surface areas less than 30 square feet**

If the affected area is easily replaceable, such as ceiling tiles, remove the [panel] [area], place in a trash bag, seal, and dispose of in normal trash. Area to be removed can be sprayed with ChitoSante' [BacShield] RTU prior to removal to reduce likelihood of airborne spores. If the affected area cannot be easily removed, follow these steps.

- [1] Eliminate [correct] any sources of water [moisture] that may be causing mold growth.
- [2] Remove excess water from area and dry affected area thoroughly
- [3] Clean affected area with ChitoSante' [BacShield] RTU or other appropriate cleaner [procedure] to remove mold, soil and any other organic matter from surface. In many instances, ChitoSante' [BacShield] RTU will not remove mold stains. Aggressive scrubbing, up to and including partial substrate removal may be required to remove stains.
- [4] Apply ChitoSante' [BacShield] RTU until surface is evenly wet. If area was wet for more than 24 hours prior to removal of mold, allow area to dry thoroughly following first application, and then make a second application.
- [5] Allow treated surfaces to dry completely before covering.

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**Large Areas – Affected surfaces area larger than 30 square feet**

Areas larger than 30 square feet require specific procedures performed by professionals properly trained in mold remediation.

Refer to the recommended web sites for assistance in locating a certified mold inspector and/ or remediator or call Chemtex Laboratories @ 800-532-5361 for assistance.

If you are properly trained in mold remediation, develop a complete assessment and remediation plan incorporating ChitoSante' [BacShield] RTU to [prevent] inhibit future mold [fungal] [and] [or] [bacterial] growth.

Once the water source has been eliminated [corrected] and the surfaces properly cleaned and prepared, apply ChitoSante' [BacShield] RTU until the surface is evenly wet. When properly applied, one gallon of ChitoSante' [BacShield] RTU solution will cover 270-1000 square feet of surface area, depending upon the surface texture and absorbency of the substrate. Extremely porous substrates such as carpet and heavy textiles require more product per square foot and one gallon of solution would be expected to cover approximately 270 square feet. Substrates such as unpainted wood will require approximately one gallon per 600 -800 square feet of surface area. Painted wood, vinyl, fiberglass and similar substrates will require approximately one gallon per 1000 -1500 square feet of surface area.

**For substrates that are prone to beading and significant run-off, such as vinyl, painted surfaces and [or] unpainted wood with high resin content,** the use of a product such as BacCote (Chemtex Labs 800-532-5361) in combination with ChitoSante' [BacShield] RTU will improve coverage and reduce runoff.

Very small droplets such as in fine sprays, mists and fog will minimize run-off. Several light applications rather than one heavy application will reduce run-off.

If affected area was wet for more than 24 hours prior to removal of mold, allow area to dry thoroughly following first application of ChitoSante' [BacShield] RTU, and then make a second application. Allow treated surfaces to dry completely before covering.

**Cleaning [Preparing the Surface] with ChitoSante' [BacShield] RTU**

- [1] Apply ChitoSante' [BacShield] RTU until area to be cleaned is thoroughly wet.
- [2] Wipe or scrub area to loosen mold [dirt] [soil] [organic matter]
- [3] Wipe with rag [cloth] to remove mold [dirt] [soil] [organic matter] from surface and dispose of rag [cloth]

**Protecting the Surface with ChitoSante' [BacShield] RTU**

- [1] Apply ChitoSante' [BacShield] RTU to cleaned area until surface is thoroughly wet.
- [2] Allow area to dry completely to inhibit [prevent] future growth of mold [and] [or] [odor-causing bacteria].

**Prevention of Future Growth**



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- [1] Monitor and maintain moisture levels at or below 17% in wood and other cellulosic materials
- [2] Minimize [reduce] high humidity levels in areas such as crawl spaces. De-humidifiers may be beneficial in high humidity areas. If de-humidifiers are used, make certain drain lines are piped to the outside.
- [3] Correct [Eliminate] source [sources] of water intrusion[s].
- [4] Keep surfaces free of dust, dirt and other organic matter where feasible.

**PPE – Personal Protection Equipment Requirements for Applicators**

Small Areas - Less than 30 square feet: Gloves, protective eye wear [goggles] and a NIOSH approved N-95 respirator to prevent exposure to mold [and] [or] [mold spores].

Large Areas – more than 30 square feet: Gloves, protective eye wear [goggles], disposable protective suit [coveralls], NIOSH approved N-95 respirator or half-face respirator with HEPA filter as specified by mold remediation certification training.

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**STORAGE AND DISPOSAL**

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

**PESTICIDE STORAGE:**

Store in original container in a cool, dry place, away from sunlight and out of the reach of children and pets.

**PESTICIDE DISPOSAL:**

Wastes resulting from use of this product may be disposed of on site or at an approved waste disposal facility.

**CONTAINER DISPOSAL:**

Non-refillable container. Do not reuse or refill this container.

Containers less than 5 gallons.

Triple rinse as follows: Empty remaining contents into application equipment or mix tank and drain for seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times.

Containers greater than 5 gallons.

Triple rinse as follows: Empty remaining contents into application equipment or mix tank. Fill the container ¼ full with water and recap. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other side and tip it back and forth several times. Empty the rinsate into application equipment or mix tank or store for later use or disposal. Repeat this procedure two more times.

**BULK CONTAINERS:**

Triple rinse (or equivalent). Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by state and local authorities.

**MARKETING BULLETS:**

**Use On:**

- Apparel:
  - Athletic uniforms
  - Uniforms: military; law enforcement; nursing
  - Work attire
  - Athletic clothing
  - Body Armour (bullet proof vests)
  - Soles/insoles
- Athletic/Sports Equipment/Locker Rooms/Training Facilities:
  - Exercise equipment
  - Exercise mats
  - Wrestling mats/protective headgear
  - Blocking pads/dummies
  - Playing surfaces: wood, plastic, vinyl, carpet
- All Athletic Equipment, head to toe
- Sports equipment
- Vehicle Interiors: all automobiles
  - Cars, trucks, busses, trains, airplanes
- Boat interiors
- Boat covers
- Synthetic Turf
- Synthetic Putting Greens
- Indoor/outdoor carpet
- Non-food hard contact surfaces
- Carpets

**Use Outdoors**

- Vinyl siding
- Vinyl fencing
- Awnings
- Outdoor Upholstery
- Outdoor Furniture
- Masonry
- Wood: painted and unpainted
- Exterior Fabric Protectors
- Carpets

**Use Indoors:**

- Curtains, Drapes
- Mattresses
- Bedding Products
- Leather
- Wall Board
- Upholstery
- Carpet
- Locker rooms
- Easy to use in laundry and a convenient spray bottle
- Odor causing bacteria anti-microbial
- Protects treated article from mold.
- Protects treated article from mildew.
- Inhibits the growth of bacteria which may cause odor, stains, decay, deterioration, or discoloration in/on treated article
- Inhibits the growth of mold/mildew/fungi which may cause odor, stains, decay, deterioration, or discoloration in/on treated article
- Bac-Shield RTU makes your cleaning program more effective.
- Bacteria Inhibitor
- Fungi Inhibitor
- Mold/Mildew Inhibitor
- Inhibits growth from bacteria
- Bacteria growth inhibitor
- Prevents bacterial growth
- Inhibits the growth of mold and mildew
- Dries on the surface to create an invisible antimicrobial shield
- Acts as an invisible barrier to mold and mildew growth
- Creates a shield against mold and mildew
- Water resistant when dry
- Contains No Phosphates
- Ammonia free
- Bleach free
- Low Vocs
- Contains No Ammonia
- Contains No Butyl
- No fumes
- No dilution! Ready-To-Use!
- Indoor and Outdoor Use!
- Cleans and protects!
- Derived from crab shells
- Mold Cleaner and Protectant
- Reduces Mold Spores that could cause musty, mold and mildew related odors
- Provides long lasting protection
- Easy to use in laundry and a convenient spray bottle.
- By-product of the fishing/crabbing industry

- Chitosan is commercially available for use in antimicrobial products from recycled crab shells.
- Chitosan, the active ingredient in Bac-Shield RTU, is commercially produced from recycled crab shell waste.
- Chitosan, the active ingredient in Bac-Shield RTU is derived from waste snow crab shells.
- Chitosan (Poly-D-Glucosamine) is a polysaccharide, a long chain of glucose molecules.
- Bac-Shield RTU is formulated with chitosan, a glucose polymer.
- Bac-Shield RTU is formulated with chitosan, a crab shell constituent.
- Crab shell waste is the commercial source of Chitosan.
- Bac-Shield RTU is formulated with chitosan, a structural component of crab shells.
- Active ingredient is chitosan
- Antimicrobial made from chitosan.
- Chitosan-based antimicrobial.
- Antimicrobial made from chitin.
- Chitin-based antimicrobial.
- Antimicrobial for odor-causing fungi.
- Antimicrobial for mold.
- Antimicrobial for mildew.
- Antimicrobial for odor-causing mold.
- Antimicrobial for odor-causing mildew.

May also be used on outdoor surfaces such as concrete, masonry, cinder blocks, construction materials in buildings, stucco, awnings, decks, fences, vinyl and wood siding, patios, patio furniture, and shingles (asphalt and shake).

Use in boats, cruise ships, homes, attics, basements, laundry rooms, closets, institutions, business, schools, health clubs, transportation terminals, and recreational vehicles (RVs), apartments, workshops, trailers, carports, porches, camping equipment and other household areas.

Thoroughly clean the material to be treated by spraying this product and letting it sit for 1-2 minutes. Apply ChitoSante' [Bac-Shield] RTU evenly to surfaces. Hold spray 6 to 8 inches away from surface and spray until damp. Wipe or scrub clean. Allow sprayed surfaces to dry completely before reuse.

Please refer to [www.bacshield.com](http://www.bacshield.com) to obtain more information regarding our corporate commitment to sustainability. For a comprehensive evaluation of the active ingredient, chitosan, with regards to sustainability, biodegradation, ecological effects, environmental contributions and other biological effects. For a comprehensive evaluation of Chitin and Chitosan, additional documents can be found in EPA's public docket (Docket #EPA-HQ-2007-0566, Chitin Case 6063) at [www.regulations.gov](http://www.regulations.gov).