

10324-174

06/26/2007

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Office of Pesticide Programs
Antimicrobials Division (7510P)
1200 Pennsylvania Avenue NW
Washington, D.C. 20460

Agency Number: 10324-174

Date of Issuance: JUN 26 2007

Term of Issuance: Conditional

Name of Pesticide Product: Maquat 86-MR

NOTICE OF PESTICIDE:
[X] Registration
Reregistration

(under FIFRA, as amended)

Name and Address of Registrant (include ZIP Code):

Mason Chemical Company
721 W. Algonquin Road
Arlington Heights, IL 60005

Note: Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce.

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.

This product is conditionally registered in accordance with FIFRA sec 3(c)(7)(a) provided that you:

- 1. Submit and/or cite all data required for registration 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 re-registration of your product under FIFRA section 4.
2. Make the labeling changes listed below before you release the product for shipment:
a. Revise the EPA Registration Number to read, "EPA Reg. No. 10324-174".

Signature of Approving Official:

Velma Noble
Product Manager Team-31
Regulatory Management Branch I
Antimicrobials Division (7510P)

Date:

JUN 26 2007

CONCURRENCES

Table with columns for SYMBOL, SURNAME, and DATE, used for recording concurrences.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

Page 2
EPA Reg. No. 10324-174

b. Correct the spelling error on page 5, right column to state: "Improper size of ducts-*Ducts* must be sized..."

c. Correct the headings on page 6 to read as follows:

- 3.0 General Directions
- 3.1 Application Instructions
- 3.2 Application Equipment and Devices

d. Your label may not indicate usage of this product in quantities which are greater than the smallest package size. Since you have indicated that this product will be marketed in one pint and larger containers, make the following revisions to page 7:

3.4.1 Bare Metal and Flexible Ducts

Revise to state: "Apply until surface is evenly wet. Mist or wipe coverage *125 ft² per pint*. Spray coverage *62 ft² per pint...*"

3.4.2 Semi Porous Surfaces such as Concrete or Plaster

Revise to state: "...Mist coverage *62 ft² per pint*. Wipe not recommended. Spray coverage *62 ft² per pint...*"

3.5.4 Bare Metal

Revise to state: "...Mist or wipe coverage *125 ft² per pint*. Spray coverage *62 ft² per pint...*"

e. Revise the directions for Drain Pans and Water Sumps on page 7 to indicate how much product is to be applied to the sump as follows: "...required to maintain control. *Add one pint of product per estimated gallon of water in the sump*. This should be added..."

f. Revise the directions for Water/Smoke Damage Restoration on page 8 to be in agreement with PR Notice 2000-5 as follows: "Special Instructions for Cleaning Carpet...This product *is for use* in industrial and institutional..."

g. Revise the Smoke Damage Restoration section on page 9 to include the following to actually reflect that this product is not diluted prior to use: "...Using *undiluted product*, saturate affected materials with enough product to remain wet for at least 10 minutes..."

Product Chemistry

Please see the addendum letter under separate cover which addresses Agency concerns regarding the submitted Confidential Statements of Formula.

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General Comments

This product is only for sale to and application by Mold Remediation Workers, Mold Remediation Contractors, Certified Mold Remediators, Certified Mold Contractors, Certified Mold Remediation Contractors, Applied Microbial Remediation Technicians, Certified Mold Professional, Certified Restorers, and Mold Remediation Companies, Professional HVAC Installers and repairers, and Professional Water Damage Companies. If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA sec. 6(e). Your release for shipment of the product constitutes acceptance of these conditions.

Please note that the efficacy studies referenced in your data matrix were not relied upon to support this submission as no public health claims have been approved for this product.

A stamped copy of the label is enclosed for your records. Submit one (1) copy of your final printed labeling prior to release of this product for shipment. If you have any questions concerning this letter, please contact Tracy Lantz at (703) 308-6415.

Sincerely,



Velma Noble
Product Manager 31
Regulatory Branch I
Antimicrobials Division (7510P)

Enclosure: (Stamped Label)
7510P:T. Lantz:6/21/07:10324-174

CONCURRENCES							
SYMBOL							
SURNAME							
DATE							



MASON CHEMICAL COMPANY

"The Quaternary Specialists"

721 W. Algonquin Road | Arlington Heights, IL 60005 | 847-290-1621 or 800-362-1855

E.P.A. Reg. No. 10324-XXX

E.P.A. Est. No. 10324-IL-1

MAQUAT[®] 86-MR

Net Contents:

Batch No:

PRECAUTIONARY STATEMENTS HAZARDS TO HUMANS AND DOMESTIC ANIMALS

CAUTION. Causes moderate eye irritation. Harmful if swallowed or absorbed through skin. Avoid contact with eyes, skin or clothing. Wash thoroughly with soap and water after handling and before eating, drinking or using tobacco.

(Note: The following statements must appear on the label when using this product in HVAC systems.)

PERSONAL PROTECTIVE EQUIPMENT REQUIREMENTS FOR HANDLERS: All handlers must wear protective eyewear, long pants, long sleeved shirts and chemical resistant gloves.

SPECIAL INSTRUCTIONS FOR APPLICATORS: Applicators treating the inside of an air duct system with this product must wear chemical resistant coveralls, chemical resistant gloves, and chemical resistant goggles. In addition, the ductwork must be ventilated with an airflow of approximately 50 CFM per square foot of duct cross section. If this is not possible, OSHA confined space regulations must be followed and the requirements for a permit-required space apply. These requirements include testing the atmosphere and use of adequate respirator protection. If the level of contamination cannot be determined, then maximum respiratory protection (SCBA or airline with an escape bottle) must be used. If needed, the full-face respirator should also be equipped with a spray mist pre-filter in addition to the charcoal filters.

ENGINEERING CONTROLS: During ULV, mist or spray application, the duct system interior must be maintained under slight negative pressure (0.015 to 0.025 in. WG) with an outdoor exhaust or using a negative air machine equipped with HEPA filter. Avoid higher pressure differentials that would be likely to disrupt the coverage pattern.

(If container is 5 gallons or larger the following statement must appear on the label.)

ENVIRONMENTAL HAZARD

This pesticide is toxic to fish. Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or other waters unless in accordance with the requirements of a 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 systems without previously notifying the local sewage treatment plant authority. For guidance contact your State Water Board or Regional Office of the EPA.

PHYSICAL OR CHEMICAL HAZARDS

Do not mix with oxidizers, anionic soaps and detergents.

(If the container is greater than one gallon use the following storage and disposal statements.)

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE: Open dumping is prohibited. Store only in original container. Do not reuse empty container. Keep this product under locked storage sufficient to make it inaccessible to children or persons unfamiliar with its proper use.

PESTICIDE DISPOSAL: Pesticide wastes are acutely hazardous. Improper disposal of excess pesticide, spray mixture or rinsate 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 Control Agency, or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL (Larger than 1 gal.): 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.

(If container is one gallon or less use the following storage and disposal statements.)

STORAGE AND DISPOSAL

Store in original container in areas inaccessible to small children. Do not store on side. Avoid creasing or impacting of side walls. Do not reuse empty container. Wrap and discard in trash (or recycle).

For Use to Impart Control of Mold and Mildew on Wood, Wallboard, Concrete, and Masonry (Cinder) Block Construction Materials in Buildings. For Treatment of HVAC Systems (*new statement*)

Water and Smoke Damage Restoration. Sewer Backup and Water Damage From Flooding.

FOR PROFESSIONAL USE ONLY. For use by Mold Remediation Workers, Mold Remediation Contractors, Certified Mold Remediators, Certified Mold Contractors, Certified Mold Remediation Contractors, Applied Microbial Remediation Technicians, Certified Mold Professional, Certified Restorers, and Mold Remediation Companies; Professional HVAC Installers and repairers, and Professional Water Damage Companies.

THIS PRODUCT IS TO BE APPLIED BY PROFESSIONAL APPLICATORS ONLY. When using this product for Mold remediation and HVAC (fungistatic) (bacteriostatic), all Personal Protective Equipment (PPE) MUST be used. Please read ALL instructions before using this product. A applicable use directions must be followed precisely. If you do not understand the use of the product for Mold remediation or HVAC (fungistatic) (bacteriostatic), please contact (*company name*) for more information at (*company telephone number*).

ACTIVE INGREDIENTS:

Octyl Decyl Dimethyl Ammonium Chloride.....	JUN 26 2007	0.026%
Didecyl Dimethyl Ammonium Chloride		0.013%
Diocetyl Dimethyl Ammonium Chloride.....		0.013%
Alkyl (C ₁₄ , 50%; C ₁₂ , 40%) dimethyl benzyl ammonium chloride.....		0.034%

INERT INGREDIENTS: registered under EPA Reg. No. 10324-174 99.914%

TOTAL..... 100.000%

KEEP OUT OF REACH OF CHILDREN

CAUTION

See left panel for additional precautionary statements.

First Aid

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

IF ON SKIN OR CLOTHING: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

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.

IF SWALLOWED: Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.

(Note to Reviewer: This information has been verified per DOT regulations. It is NOT required to be on the label but is being requested by a customer.)

Transportation Information

DOT Hazard Class: Not Regulated

DOT Proper Shipping Name: Not applicable

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MARKETING CLAIMS

General Claims

This product contains no phosphorous.

This product will not leave a grit or soap scum.

Mold Remediation Claims

This product is used to protect treated articles from decay, mold or mildew.

This product inhibits bacterial growth on moist surfaces and deodorizes by killing microorganisms that cause offensive odors. *(Not for use in California.)*

This product inhibits the growth of mold and mildew and their odors when used as directed.

HVAC Systems Claims

- Internal HVAC surfaces of air handling units (equipment)
- HVAC Systems as described on this label
- Air-conditioners, recirculating air handling systems
- For use in unlined ductwork only
- Hard, non-porous ducts
- Coils and drain pans of air conditioning and refrigeration equipment

Cleaning/Deodorizing Claims

This product maximizes (improves) labor results by effectively controlling odors.

This product is an economical concentrate that can be used with a mop and bucket, trigger sprayers, or sponge.

This product neutralizes musty odors and tough odors from smoke.

This product is specially formulated to effectively eliminate offensive odors caused by mold and mildew.

Eliminates odors caused by bacteria.

For use as a Mold preventative or remediation treatment in areas where mold can or has been a problem:

- Hospitals, nursing homes.
- EMS & fire facilities.
- Day care centers and nurseries.
- Life care retirement communities, home healthcare institutions.
- Restaurants, bars, cafeterias, institutional kitchens, fast food operations and food storage areas.
- Supermarkets, convenience stores, retail and wholesale establishments, and laundries.
- Manufacturing facilities.
- Food establishments, coffee shops, donut shops, bagel stores, pizza parlors, liquor stores.
- Police stations, courthouses, correctional facilities, jails, prisons, municipal government buildings.

- Institutional facilities, laboratories, factories, business and office buildings, restrooms, hotels and motels.
- Public restrooms, public facilities, shower rooms, shower stalls, bathrooms.
- Hotel, motels, dormitories.
- Kitchens & bathrooms.
- Institutions, schools and colleges, churches, classrooms, community colleges, universities, athletic facilities and locker rooms, exercise rooms, exercise facilities, gyms, gymnasiums.
- Health clubs, and spas.
- Recreational facilities, sports arenas, sports complexes.
- Veterinary clinics, animal life science laboratories, kennels, dog/cat animal kennels, breeding and grooming establishments, pet animal quarters, zoos, and other animal care facilities.
- Boats, ships, and barges, Cruise lines.
- Commercial florist and flower shops.
- Basements, cellars, bedrooms, attics, and living rooms.

This product may be used on the following washable hard, non-porous surfaces as a cleaner, deodorizer or for water and smoke damage restoration:

- Enameled surfaces, painted woodwork (finished), Formica®, vinyl and plastic upholstery.
- Foundations, steps, plumbing fixtures, finished baseboards and windowsills, washable walls, tables, floors, and cabinets.
- Refrigerated storage and display equipment.

DIRECTIONS FOR USE

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

(Note to Reviewer: The following label language will appear on ALL labels.)

If you need help in understanding any part of these instructions or have additional questions after reading these instructions, **DO NOT APPLY THIS PRODUCT** until you have received the answers for all your questions.

MOLD & MILDEW

MOLD AND MILDEW CONTROL IN WOOD, WALLBOARD, CONCRETE, AND MASONRY (CINDER) BLOCK CONSTRUCTION MATERIAL

This product is used to treat wood, wallboard, concrete, and masonry (cinder) block building materials to inhibit or prevent the growth of mold organisms when the materials are subjected to moist or wet environments. Before applying this product, visible mold growth must be removed, and the conditions favorable to mold growth must be identified and corrected. Keep children, pets, and livestock off treated areas until spray has dried following application.

This product is compatible with, and may be mixed with wood protection products containing borates (such as BORA-CARE® and CELLU-TREAT®)

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DO NOT use on food-contact surfaces, or on the interior of buildings engaged in food processing or food handling.

Occupants including pets and livestock must be removed from the area prior to treatment.

Before applying this product, visible mold growth must be removed and conditions favorable to mold growth must be identified and corrected.

PREVENTATIVE TREATMENT

To inhibit surface mold and mildew growth on wood, wallboard, concrete, and masonry (cinder) block construction materials in new or renovated building construction apply undiluted solution evenly by paintbrush, airless sprayer, low pressure handwand, or backpack sprayer. Assure uniform coverage of surfaces to be protected and thoroughly wet all treated surfaces completely. Surfaces should be evenly wet without runoff or pooling. Permit treated surfaces to thoroughly dry before painting or affixing overlayment materials such as siding, wallboard or flooring.

Repeat the application of this product as necessary if mold growth appears, following directions provided below for REMEDIAL TREATMENT. Normally, infrequent application (once a year or longer) will provide effective control. If regrowth occurs, investigate to determine the cause and correct the problem prior to reapplication of this product. Mold may occur in conditions of persistently high humidity, standing water, or hidden water leaks.

REMEDIAL TREATMENT

Strategies to respond to water damage in 24-4 hours are a key part of avoiding mold contamination. Dry wood and wallboard within 24 hours. This product must be used as part of a comprehensive mold remediation or water damage restoration program, including:

- Periodic monitoring and inspection of conditions favorable to mold growth such as moisture ingress and high relative humidity
- Effecting repairs as necessary to eliminate conditions favorable to mold growth
- Drying of affected areas to below 20% moisture content.

Use appropriate clean-up methods described below. Apply undiluted solution evenly by paintbrush, airless sprayer, low-pressure hand wand, or backpack sprayer. Assure uniform coverage of surfaces to be protected and thoroughly wet all treated surfaces completely. Surfaces should be evenly wet without runoff or pooling. Permit treated surfaces to thoroughly dry before painting or affixing overlayment materials such as siding, wallboard or flooring. Assist in drying process after application by use of fans, dehumidifiers, heater and other methods of ventilation.

The following associations and internet sites should be consulted for information on standards and guidelines for remedial treatment of mold and mildew:

- IICRC-Institute of Inspection, Cleaning and Restoration Certification (<http://www.iicrc.org/>)
- IAQA-Indoor Air Quality Association (www.iaqa.org)
- EPA-Environmental Protection Agency (www.epa.gov)
- DOH-New York City Department of Health (www.ci.nyc.ny.us/html/doh/html/epi/moldrpt1.html)

Small Areas-Total Surface Area Affected Less Than 10 Square Feet

CLEANUP METHODS*

Wood Surfaces

Prior to applying this product, clean the affected area using one of the following or another preferred professional method.

Method 1: Wet vacuum (in the case of porous materials, some mold spore/fragments will remain in the material but will not grow if the material is completely dried.)

Method 2: Damp-wipe surfaces with plain water or use a wood floor cleaner; scrub as needed.

Method 3: High-efficiency particulate air (HEPA) vacuum after the material has been thoroughly dried. Dispose of the contents of the HEPA vacuum in well-sealed plastic bags.

Minimum personal protective equipment to be worn during cleanup includes gloves, N-95 respirator and goggles/eye protection.**

Wallboard (drywall and gypsum board)

Prior to applying this product, clean the affected area using high-efficiency particulate air (HEPA) vacuum after the material has been thoroughly dried. Dispose of the contents of the HEPA vacuum in well-sealed plastic bags.

Minimum personal protective equipment to be worn during cleanup includes gloves, N-95 respirator and goggles/eye protection.**

Other Construction Material (Concrete or Cinder Block)

Method 1: Wet vacuum (in the case of porous materials, some mold spore/fragment will remain in the material but will not grow if the material is completely dried.)

Method 2: High-efficiency particulate air (HEPA) vacuum after the material has been thoroughly dried. Dispose of the contents of the HEPA vacuum in well-sealed plastic bags.

Large-Total Surface Area Affected Greater Than 10 Square Feet or Potential for Increased Occupant or Remediator Exposure During Remediation Estimated to be Significant

Special procedures and training are required for remediation of moldy areas larger than 10 square feet, or where the presence of hidden mold is suspected. Consult guidelines for remediation of large areas established by the Indoor Air Quality Association (www.iaqa.org) and the US Environmental Protection Agency (www.epa.gov).

An excellent guide for professional mold remediation is available from the Institute of Inspection, Cleaning And Restoration Certification (IICRC - www.iicrc.org). Standard S520 is based upon reliable remediation and restoration techniques, and combines academic principles with practical elements of water damage restoration. Where structural members and/or contents have been exposed to water in excess of 24 hours there is a possibility of extensive microbial growth that may be hidden. In such a case complete assessment and remediation plan must be prepared that provides the use and occupant safety and documentation and monitoring of the remediation process. IICRC S520 contains excellent guidance for such a plan. In the context of such a plan, this product can be used on materials to be removed and disposed of and in other applications where mold inhibition is indicated. The Standard must be followed exactly and all growth and contaminated organic material removed prior to using this product. Before using this product in mitigation of large projects, you should be knowledgeable of these guidelines and follow their recommendations.

Another useful reference is the New York City Department of Health publication, "Guidelines on Assessment and Remediation of Fungi in Indoor Environments."

In the absence of access to the guidelines and standards identified, the user should refer to the following information taken from U.S. EPA's guide: *Mold Remediation in Schools and Commercial Buildings* (March 2001). These guidelines are based on the area and type of material affected by water damage and/or mold growth. Please note that these are guidelines; some professionals may prefer other cleaning methods. Use the appropriate remediation steps prior to application of this product.

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Medium-Total Surface Area Affected Between 10 and 100 Square Feet

CONTAINMENT OF AFFECTED MATERIALS

Total Surface Area Affected Between 10 and 100 Square Feet (All Surfaces)

Use polyethylene-sheeting ceiling to floor around affected area with a slit entry and covering flap; maintain area under negative pressure with a HEPA filtered fan unit. Block supply and return air vents within containment area.

Prior to applying this product, clean the affect area using one of the following or another preferred professional method.

CLEANUP METHODS*

Wood Surfaces

Method 1: Wet vacuum (in the case of porous materials, some mold spore/fragments will remain in the material but will not grow if the material is completely dried.)

Method 2: Damp-wipe surfaces with plain water or with wood floor cleaner; scrub as needed.

Method 3: High-efficiency particulate (HEPA) vacuum after the material has been thoroughly dried. Dispose of the contents of the HEPA vacuum in well-sealed plastic bags.

Wallboard (drywall and gypsum board)

Method 1: High-efficiency particulate (HEPA) vacuum after the material has been thoroughly dried. Dispose of the contents of the HEPA vacuum in well-sealed plastic bags.

Method 2: Discard/remove water-damaged materials and seal in plastic bags while inside of containment, if present. Dispose of as normal waste. HEPA vacuum area after it is dried.

Other Construction Material (Concrete or Cinder Block)

Method 1: Wet vacuum (in the case of porous materials, some mold spore/fragments will remain in the material but will not grow if the material is completely dried.)

Method 2: High-efficiency particulate air (HEPA) vacuum after the material has been thoroughly dried. Dispose of the contents of the HEPA vacuum in well-sealed plastic bags.

Limited or Full personal protective equipment is recommended during cleanup.** Limited personal protective equipment includes gloves, N-95 respirator or half face respirator with HEPA filter, disposable overalls, goggles/eye protection. Full personal protective equipment includes gloves, disposable full body clothing, headgear, foot coverings, full-face respirator with HEPA filter.

Use professional judgment, consider potential for remediator exposure and size of contaminated area.

Large-Total Surface Area Affected Greater Than 100 Square Feet or Potential for Increased Occupant or Remediator Exposure During Remediation Estimated to be Significant.

CONTAINMENT OF AFFECTED MATERIALS

Total Surface Area Affected Greater Than 100 Square Feet or Potential for Increased Occupant or Remediator Exposure During Remediation Estimated to be Significant

Use two layers of fire-retardant polyethylene sheeting with one airlock chamber. Maintain area under negative pressure with HEPA filtered fan exhausted outside of building. Block supply and return air vents within containment area.

Prior to applying this product, clean the affect area using one of the following or another preferred professional method.

CLEANUP METHODS*

Wood Surfaces

Method 1: Wet vacuum (in the case of porous materials, some mold spore/fragments will remain in the material but will not grow if the material is completely dried.)

Method 2: Damp-wipe surfaces with plain water or with a wood floor cleaner; scrub as needed.

Method 3: High-efficiency particulate (HEPA) vacuum after the material has been thoroughly dried. Dispose of the contents of the HEPA vacuum in well-sealed plastic bags.

Method 4: Discard/remove water-damaged materials and seal in plastic bags while inside of containment, if present. Dispose of as normal waste. HEPA vacuum area after it is dried.

Wallboard (drywall and gypsum board)

Method 1: High-efficiency particulate (HEPA) vacuum after the material has been thoroughly dried. Dispose of the contents of the HEPA vacuum in well-sealed plastic bags.

Method 2: Discard/remove water-damaged materials and seal in plastic bags while inside of containment, if present. Dispose of as normal waste. HEPA vacuum area after it is dried.

Other Construction Material (Concrete or Cinder Block)

Method 1: Wet vacuum (in the case of porous materials, some mold spore/fragments will remain in the material but will not grow if the material is completely dried.)

Method 2: High-efficiency particulate air (HEPA) vacuum after the material has been thoroughly dried. Dispose of the contents of the HEPA vacuum in well-sealed plastic bags.

Gloves, disposable full body clothing, headgear, foot coverings, full-face respirator with HEPA filter are the recommended personal protective equipment.**

*Select method most appropriate to situation. Since molds gradually destroy the things they grow on, if mold growth is not addressed promptly, some items may be damaged such that cleaning will not restore their originals appearance. If mold growth is heavy and items are valuable or important, you may wish to consult a restoration/water damage/remediation expert. Please note that these are guidelines; other cleaner methods may be preferred by some professionals.

**Use professional judgment to determine appropriate levels of Personal Protective Equipment (PPE) considering the potential for remediator exposure and size of contaminated area. Assess the need for increased Personal Protective Equipment if during the remediation, more extensive contamination is encountered than was expected. These guidelines are for damage caused by clean water. If you know or suspect that the water source is contaminated with sewage, or chemical or biological pollutants, then the Occupational Safety and Health Administration (OSHA) requires PPE and containment. An experienced professional should be consulted if you and/or your remediators do not have expertise in remediating contaminated water situations.

HVAC

DIRECTIONS FOR USE

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

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THE PERSON APPLYING THIS PRODUCT IS RESPONSIBLE FOR FOLLOWING THESE DIRECTIONS UNDER BOTH STATE AND FEDERAL LAWS.

For use on Unlined Ductwork only.

1.0 General

This product is designed to be used as one component of a comprehensive HVAC and duct maintenance program. The purpose of such a program is to assure that the HVAC system and ducts function in the manner they were designed to, remain free from mold and other microbial growth and other contamination, and continue in that condition. This product must only be used in only those cases where visible microbial growth has been detected in the system and then only after removing that growth and identifying and correcting the conditions that led to that growth. If you need help understanding any part of these instructions or have additional questions after reading these instructions, DO NOT APPLY THIS PRODUCT until after you have received the answers for all your questions.

2.0 Inspection

Prior to inspecting, cleaning, treating, repairing or otherwise working on a duct section, the HVAC system must be turned off or the section under repair physically isolated from sections in active use. In cases where the HVAC system cannot be broken down, the entire system must be turned off and should remain off until the surface is dry and no residues remain.

Prior to application of this product the system must be inspected for cleanliness and mechanical condition. When initiating any measures to repair, clean or treat ducts and associated HVAC system components, industry standards from the National Air Duct Cleaners Association (NADCA) and other organizations must be followed.

HVAC systems should be routinely inspected for cleanliness by visual means. The NADCA Standard, Assessment, Cleaning and Restoration of HVAC Systems (ACR 2002 or the latest revision), provides minimum recommended inspection frequency schedules for ducts and other system components. More information on NADCA standards can be obtained from NADCA web site at www.nadca.com.

2.1 Cleanliness Inspection

According to NADCA Standards, HVAC system cleaning must be performed when any of the following conditions are found in the cleanliness inspection. If any of these deficiencies are found during inspection, cleaning in accordance with the industry standards must be performed prior to the application of this product.

2.1.1 Contamination

- HVAC systems should be operated in a clean condition. If significant accumulation of contaminants or debris are visually observed within the HVAC system, then cleaning is necessary. Likewise, if evidence of microbial growth is visually observed or confirmed by analytical methods, then cleaning is required.
- If the HVAC system discharges visible particulate into the occupied space, or a significant contribution of airborne particles from the HVAC system into the indoor ambient air is confirmed, then cleaning is necessary.
- Heat exchange coils, cooling coils, air flow control devices, filtration devices, and air-handling equipment determined to have restrictions, blockages, or contamination deposits that may cause system performance inefficiencies, air flow degradation, or that may significantly affect the design intent of the HVAC system, require cleaning.
- Drain pans must be free from slime and sludge or other contamination. Badly rusted or corroded drain pans must either be repaired or replaced.

- Fans and fan housings must be free from accumulations of microbial growth and particulate matter.

If you need help understanding existing industry standards, consult a professional or consult the information at www.epa.gov (search on "air ducts"). In addition, the following association and society Internet sites should be consulted for information on standards and guidelines they have developed:

ACCA – www.acca.org

ASHRAE – www.ashrae.org

NADCA – www.nadca.com

NAIMA – www.naima.org

SMACNA – www.smacna.org

2.2 Mechanical Inspection

This product must be used only on ducts and other HVAC system components in sound mechanical condition as defined in 2.2.1 and 2.2.2 (below). The HVAC system components must be designed and installed in conformance with the industry standards and guidelines. Prior to using this product, inspect the ducts and assure that they are in sound mechanical condition. The following general guidelines, supplemented by industry standards from SMACNA, NAIMA, ASHRAE, ACCA and other organizations must be followed.

2.2.1 Air Leaks and Mechanical Defects

The ducts must be free from air leaks and other mechanical defects. Air leaks will promote condensation of water that causes microbial growth and will lead to failure of this product to protect the system adequately.

2.2.2 Design and Installation

ASHRAE, SMACNA, NAIMA and other industry organizations have established guidelines and standards for the design and installation of HVAC and duct systems. You should determine that the duct system you wish to treat conforms to industry practice. If you are not knowledgeable of industry guidelines and standards, consult a qualified professional for assistance.

In some situations, the inspection may reveal that the duct system or other component is badly damaged or in such poor operating condition that it cannot be corrected through cleaning and/or minor repair. In these situations, the system should be replaced or rebuilt in conformity to the applicable industry standards prior to using this product. Some (but not all) of the conditions that would indicate the need for major repairs replacement of the system include:

- Improper size of ducts – Ducts must be sized to achieve correct airflow. When air-handling equipment is changed or new inlets or outlets added, the size of all components in the system should be recalculated and replacements made as needed.
- Physical damage – Crushed or deformed air ducts will restrict airflow and may leak (especially at joint areas). Damaged sections should be replaced or if there is extensive damage, the entire system should be replaced.
- Badly corroded metal components including duct sections, housing and cabinets, coil assemblies, drain pans, fans and their housings and heat exchange surfaces.
- Loose, damaged, friable or missing insulation – Insulation is important in preventing moisture condensation and subsequent growth of mold and other organisms. If insulation (either interior or exterior) is damaged, missing or not properly fastened it must be repaired or replaced or the associated duct sections

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replaced. Air-handler, mixing, and VAV box housings are also normally insulated and this insulation should be checked for damage in a like manner.

Removed components that are contaminated with mold and other microbial growth may spread contamination while being removed from the building. To prevent this, smaller items should be placed in plastic bags that should then be sealed before being removed. Larger items that cannot be safely packaged should be treated before being removed through occupied spaces. An appropriately labeled disinfectant can be used during treatment. Care must be used during treatment to assure that fumes from the agent being used are not released into occupied spaces. Products used should be used according to their label directions.

AIR DUCTS

Affected areas of the building are not to be occupied during treatment. Do not reenter these areas until 1 hour after treatment.

3.1 General Directions for (This Product) Usage

This product effectively controls by inhibiting growth of odor causing bacteria, fungi, and other odor, stain or damage causing organisms in air ducts in residential, commercial, institutional and industrial buildings. This product also eliminates odors associated with bacteria, mold, mildew, smoke, animals, cooking, spoilage, musty and other odors and removes odor-causing organisms when used as part of such a comprehensive preventative maintenance program in air ducts and other HVAC system components.

This product is a bacteriostat, fungistat (mold and mildew), mildewstat and deodorizer for use in residential, commercial and industrial settings. It will not stain or bleach materials or fabrics and will not harm or damage HVAC system components.

This product is formulated for use in all kinds of ducts and HVAC components including:

- Unlined sheet metal
- Air supply and return ducts and plenums fabricated with plywood, OSB or other wood like material.
- Flexible air ducts fabricated of metal or plastic.
- Air distribution components such as air-handlers, mixing boxes, transfer boxes, transitions, turning vanes, dampers, fans and fan housings and associated components.
- Condensate drain pans.

Follow the directions below for the specific type of duct or component being treated. It is vital that the following directions are carefully read and understood prior to using this product.

3.2 Application Instructions

Spray areas until thoroughly moist, giving special attention to cracks and crevices. Allow ten to twenty minutes for drying. It is not necessary to wipe the sprayed surface. This product should not stain those materials not stained by water.

3.3 Application Equipment and Devices

Refer to the precautionary statements for Personal Protective Clothing and other special instructions that must be followed.

3.2.1 Brush, Mop or Wipe Application.

Brush, Mop or Wipe Application may be specified by some facility maintenance or remediation plans. These techniques are generally more labor intensive than other methods and are normally used only when specifications require. These methods are suitable only for smooth uniform surfaces. Do not use on porous or non-uniform surfaces. When using brush or mop application, tools and materials used should be reserved only for application of this product, kept clean and protected between uses

and replaced when worn or visible soiled. Natural fiber brushes are preferred although any quality brush is acceptable. Mop types should be those that leave minimal lint behind. Micro-fiber or other non-linting cloths are preferable. When other types of cloths are used, they must be soft enough that they absorb a sufficient quantity of liquid to provide uniform application.

During Brush, Mop or Wipe Application, the applicator must have access to the surface being treated. Usually this will require entering the ducts. In such cases, application must start from a point most distant from the point of entry into the duct. The applicator will then work from that point back to the entry point covering a 3 foot length of duct at a time. Apply to the top of the duct first, followed by the sides then the floor of the duct. Overlap applications to assure complete coverage. Cover completely while avoiding runs and pooling.

3.2.2 Spray Applicators

Spray application is preferred on large surfaces that are easily accessible (such as in long runs of large diameter ducts, coil assemblies and the interior of cabinets and housings with removable access panels). The spray equipment chosen should provide a consistent fine (1-300 micron) particle size and uniform spray pattern. Power medium pressure sprayers are preferred. However, airless sprayers are suitable.

Where airless sprayers are used, the most satisfactory spray pattern will be achieved using a 0.001" spray tip.

Pump up garden type sprayers can be used but care must be taken to maintain maximum pressure by pumping frequently and the spray nozzle must be adjusted for the finest spray pattern possible. During application achieve complete uniform coverage. Avoid excessive wetting and do not allow the spray to run or pool.

3.2.3 ULV or Mist Generating Sprayers

ULV or mist or other wet small particle application is preferable where surfaces are irregular or less accessible. Equipment capable of generating particles in the 15 to 60 micron range is most satisfactory. Avoid use of thermal type fog generators.

Generally a fog will carry and provide adequate coverage up to 8 feet from the point of application so adequate penetrations must be cut in the ducts to assure complete coverage without wetting. SMACNA, NADCA and NAIMA have established standards and guidelines for making and sealing openings in ducts. Operators should be trained on proper application techniques as well as correct duct penetration and sealing procedures using these standards and guidelines. Operators should also carefully read and follow directions for the brand of equipment used. Duct penetrations should properly closed following application, in accordance with industry standards.

3.2.4 Automated Atomizing or Spray System

There are a number of automated spraying systems on the market including those that are carried by a "robot" through air ducts. These may provide an excellent option for application of this product in parts of air ducts that are difficult to access if they produce the correct spray pattern and application quantity. These devices must be visually monitored using video or other means while applying spray so proper application rate will be maintained.

3.3 Application Techniques

This product must be applied evenly throughout duct system and over other surfaces that are being treated. Even and uniform application is essential for satisfactory results. The procedures, equipment and techniques described below have been tested and provide the desired results. Other procedures, equipment and techniques may also achieve satisfactory results but should not be used without discussing the specific situation and equipment with a qualified professional for assistance.

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3.3.1 Application from Exterior of the HVAC System

This product may be sprayed into openings at intervals throughout the duct system or on components that are accessible through removable panels or access doors. Spray into openings every 8 feet at a minimum. Existing supply openings can be used where they will provide a clear view of the surfaces being sprayed so that uniform application can be achieved. However, additional penetrations will have to be made as needed, so enough openings will be available to achieve total and uniform coverage.

Spray application is not an acceptable technique where openings are greater than 8 feet apart, additional openings cannot be made and properly sealed and/or the duct geometry does not allow for uniform, coverage. In such cases, application from within the HVAC system is necessary (see 3.3.2 below).

3.3.2 Application from Within the HVAC System

When this product cannot be sprayed into openings at intervals throughout the duct system, you must gain entry into the system and spray the product onto interior duct and other surfaces until they are thoroughly and uniformly covered using hand or powered spray equipment. This is the most frequently used technique and is the technique of choice for air-handlers, other components with access panels or doors and large diameter (generally 20" X 20" minimum) ducts where direct access can be gained to surfaces being treated.

3.4 Rate of Application

The recommended rate of application for this product varies depending on the surface being treated. Users of this product must carefully follow the rate of application instructions provided below.

3.4.1 Bare Metal and Flexible Ducts

Apply until surface is evenly wet. Mist or wipe coverage 250 ft² per quart. Spray coverage 125 ft² per quart. If the above application rates result in surface runoff or liquid pooling on the bottom of the duct, lower the application rate until the surface is thoroughly and evenly wet without runoff or pooling. The exception to this is when treating coil assemblies. In this case, the spray should be applied generously until there is runoff into the drain pan so as to penetrate the coil assembly to the greatest possible depth.

3.4.2 Semi Porous Surfaces such as Concrete or Plaster

Apply until surface is evenly wet. Mist coverage 500 ft² per gallon. Wipe not recommended. Spray coverage 250 ft² per gallon. This product must penetrate into surface crevices and irregularities or it will not be effective. Inspect and assure that the penetration is satisfactory. It may be helpful to apply half of the quantity needed for full coverage spraying from side to side then repeat the application moving the spray from top to bottom.

HVAC/R EQUIPMENT

This product is formulated for use in all kinds of HVAC components including:

- Furnaces
- Air Handlers
- Packaged units including Rooftops and Packaged Terminal Air Conditioner (PTAC) units
- Fan Coil Units
- Air distribution components such as air handlers, mixing boxes, transfer boxes, transitions, turning vanes, dampers, fans and fan housings and associated components
- Condensate drain pans
- Humidifiers

- Dehumidifiers; both Desiccant and Refrigerated
- Registers, Grills and other air intake and discharge devices

Follow the directions below for the specific type of duct or component being treated. It is vital that the following directions are carefully read and understood prior to using this product.

3.5 Instructions for Specific Components

3.5.1 Fans and Fan Housings

Fans create air turbulence which can lead to condensation of water that supports mold and other growth. As a result fan blade and blower wheel surfaces as well as associated housing are especially prone to fouling from both microbial growth and soil accumulation. It may be necessary to partially or completely remove and disassemble these components so they may be properly cleaned prior to application of this product. Complete cleaning must take place before attempting to treat these components.

3.5.2 Humidifiers and Dehumidiers

Because of the amount of water present, humidifiers and dehumidifiers are often site- especially prone to microbial growth. They also attract and hold soil as growth related contamination builds up over time. This accumulated material must be thoroughly removed prior to treatment with this product. For some units, cleaning may also signal the need to replace pads, belts, wheels or service other components. The manufacturer of the unit being maintained should be consulted on the proper maintenance and cleaning procedure.

3.5.3 Rate of Application

The recommended rate of application for this product varies depending on the surface being treated. Users of this product must carefully follow the rate of application instructions provided below.

3.5.4 Bare Metal

Apply until surface is evenly wet. Mist or wipe coverage 1,000 ft² per gallon. Spray coverage 500 ft² per gallon. If the above application rates result in surface runoff or liquid pooling in the bottom of the housing, lower the application rate until the surface is thoroughly and evenly wet without runoff or pooling. The exception to this is when treating coil assemblies. In this case, the spray should be applied generously until there is runoff into the drain pan so as to penetrate the coil assembly to the greatest possible depth.

3.5.5 Drain Pans and Water Sumps

This product will inhibit the growth of odor causing and damaging bacteria and bacterial slime in HVAC/R drain pans and other water sumps. Following cleaning, the interior of the drain pan should be rinsed with undiluted product and the excess solution allowed to flow into the drain where it will help inhibit growth in the drain line. For sumps where water stands such as humidifier sumps, monthly dosing of the sump may also be required to maintain control. This should be added as often as needed to maintain control. Do not exceed one dose each week.

AIR DUCTS AND HVAC/R EQUIPMENT

3.6 Frequency of Application

Normally, infrequent application (6 months to every two years) will provide effective control. Some critical applications such as duct systems serving critical health care spaces or clean rooms where it is essential to minimize the generation of particulate matter that may be released as a byproduct of microbial growth may require more frequent treatment. Do not apply more often than monthly and then only if there is evidence of re-growth. This product must only be used in those cases where visible microbial growth has been detected in the system and then only after removing that

growth and identifying and correcting the conditions that led to that growth. Prior to reapplication in such cases, investigate to determine the cause of re-growth and correct that problem prior to reapplication. Before embarking on a program of frequent application (more than every six months) contact a qualified professional for assistance and discuss the specific application and situation. Also make sure the reoccurrence of microbial growth does not have another cause such as persistently high humidity, standing water or hidden leaks.

Prior to reapplication, the interior of the ducts and other surfaces must be inspected and found to be free of accumulated soil. If soil or growth is found, the cause should be determined and corrected and then the ducts cleaned in accordance with accepted industry practice.

If microbial growth persists following application re-inspect for duct leaks, carryover of water from cooling coils or humidifiers and other sources of moisture promoting growth. Eliminate such sources of moisture before retreating.

3.7 Returning the System to Operation Following Application

Fans and blowers in the section of duct being treated must be turned off during application of this product. If the system cannot be shut down, the section of duct being treated must be isolated until treatment is complete. This will prevent the spray of fog from being blown away from the surface that is being treated.

Do not attempt to use the system fan or blower to carry this product to the surfaces in the air duct system. Such a practice will not result in uniform application of the product to the surfaces being treated and will lead to ineffective control. This should never be attempted.

The system can be returned to full operation as soon as treatment is complete or anytime following completion of treatment. This product will dry on surfaces within 15 minutes following application. Extended drying time does not have an impact on effectiveness of treatment. This product should not be rinsed off following application so it will continue to inhibit the growth of microorganisms on treated surfaces.

When the above directions are followed properly, there will not be significant concentrations of this product released to the spaces served by a system being treated. Affected areas of the building are not to be occupied during treatment. Do not reenter these areas until 1 hour after treatment.

CLEANING and DEODORIZATION

General Cleaning/Deodorization: To clean and/or deodorize hard non-porous surfaces such as glass, metal, stainless steel, glazed porcelain, glazed ceramic, granite, marble, plastic, (such as polystyrene or polypropylene), sealed limestone, sealed slate, sealed stone, sealed terra cotta, sealed terrazzo, chrome and vinyl, apply this product (undiluted solution) with a cloth, mop, sponge or mechanical spray device. When applied with a mechanical spray device, surfaces must be sprayed until thoroughly wetted. For sprayer applications, use a coarse pump or trigger sprayer. Spray 6-8 inches from surface. Rub with brush, sponge or cloth. For deodorization, treated surfaces must remain wet for 10 minutes. Excess material should be wiped up or allowed to air dry. Do not breathe spray.

NOTE: With spray applications, cover or remove all food products. Prepare a fresh solution at least daily or when use solution becomes visibly dirty. For heavily soiled areas, a preliminary cleaning is required.

Remediation is required in situations where mold growth, water intrusion or other contamination has occurred and materials have been wet for more than 48 hours.

Treatment of moldy carpet is not recommended. Moldy carpet and padding should be removed and discarded.

CARPET DEODORIZER AGAINST ODOR-CAUSING BACTERIA, FOR HOME, INSTITUTIONAL, INDUSTRIAL AND HOSPITAL USE

This product cleans and deodorizes the carpet by controlling/reducing the growth of odor-causing bacteria. It can be used in industrial and institutional areas such as homes, motels, hotels chains, nursing homes and hospitals.

Vacuum carpet thoroughly prior to application. Follow the Injection and/or Extraction procedures as specified for any conventional steam cleaning equipment you are using. For rotary floor machines, spray on carpet at a rate of 300-500 sq. ft. per gallon.

For use on washable synthetic fibers. Do not use on wool. Test color fastness of carpet before use. Apply undiluted product to a small concealed spot, then rub with a clean white cloth. If color changes or transfers to cloth, a water-based product should not be used.

After using the product, set carpet pile in one direction with a stiff brush. Place aluminum foil under the legs of furniture while carpet is drying. Over-wetting can cause carpet to shrink. Manufacturer assumes no responsibility for over-wetting misuse.

Note: This product should not be mixed with other cleaning products.

WATER/SMOKE DAMAGE RESTORATION

(Not Applicable in California)

It is not advisable to clean and reuse carpet from a heavily infected mold problem. Carpet and padding that is involved in a mold remediation project should be removed and discarded according to federal, state and local laws.

Effective against odor causing bacteria and fungi for home, institutional, industrial and hospital use. This product is particularly suitable for use in water damage restoration situations against odor causing bacteria on the following porous and semi-porous materials: carpets, carpet cushion, sub floors, drywall, trim, frame lumber, tackless strip and paneling. Saturate affected materials with enough undiluted product to remain wet for at least 10 minutes. Use proper ventilation.

Sewer backup & river flooding: During mitigation procedures, remove gross filth or heavy soil along with non-salvageable materials. Saturate all affected areas with a sprayer using a coarse spray tip, before and after cleaning and extraction.

Carpets, Carpet cushions and other porous materials such as sub floors, drywall, trim and frame lumber, tackless strip and paneling: For water damage from a clean water source, extract excess water. Test hidden area for colorfastness. Remove gross filth or heavy soil. Apply directly with a sprayer using a coarse spray tip, to fully saturate affected materials. Roll, brush or agitate into materials and allow the materials to remain damp for 10 minutes. Follow with a through extraction. Dry rapidly and thoroughly.

Special Instructions for Cleaning Carpet Against Odor Causing Bacteria: This product may be used in industrial and institutional areas such as homes, motels & hotel chains, nursing homes, schools and hospital. For use on wet cleanable synthetic fibers. Do not use on wool. Vacuum carpet thoroughly prior to cleaning. Test fabric for color fastness.

Do not mix this product with other cleaning products. Follow the cleaning procedures specified by the manufacturer of the cleaning equipment. After using this product, set the carpet pile and protect the carpet from furniture legs and bases while drying. Do not over wet. If applied to stain resistant nylon carpet, apply a fabric protector according to the carpet manufacturer's directions.

SMOKE DAMAGE RESTORATION (Not for use in California): Effective against odor causing bacteria and fungi for home, institutional, industrial and hospital use: This product is particularly suitable for use in smoke damage restoration situations against odor causing bacteria on the following porous and semi-porous materials: carpets, carpet cushion, sub floors, drywall, trim, and frame lumber, tackless strip and paneling. Follow directions as outlined in the Water Damage Restoration section. Using solutions recommended, saturate affected materials with enough product to remain wet for at least 10 minutes. Use proper ventilation.

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