

10324-43

10/25/2011

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

OCT 25 2011

SUBJECT: Maquat MC I412-10%-W
EPA Registration Number: 10324-43
Application Date: August 23, 2011
Receipt Date: August 23, 2011

Dear Ms. Tannehill:

The following amendment, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) Section 3(c)7(a), as amended, is acceptable subject to the conditions listed below:

Proposed Amendments

- Addition of use sites and directions
- Addition of DOT text
- Update Label per May 21, 2009 and December 2, 2003 Agency letters (with exceptions)

Conditions

Revise the label as follows:

1. On page 3 delete an extra section ONCE THROUGH FRESH AND SEA WATER COOLING SYSTEM.
2. On page 4 under "a. SLUG METHOD" twice change 56.5 gallons for 77 oz and 28.5 gallons for 38.5 oz.
3. On page 4 of the proposed label, under "Oil and Gas Production and Transmission Pipelines and Systems," in the left column change, "The application should be conducted to ensure maximum distribution of the product ..." to read, "The application *is to be* conducted to ensure maximum distribution of the product "
4. On page 4 of the proposed label, under "Packer Fluids," change the first sentence from "This product should be added to the packer fluid ..." to read, "This product *is to be* added to the packer fluid ... "

CONCURRENCES

SYMBOL							
SURNAME							
DATE							

General Comments

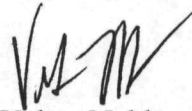
A stamped copy of the accepted labeling is enclosed. Submit one (1) copy of your final printed labeling before distributing or selling the product bearing the revised labeling. Submit and/or cite all data required for registration/reregistration of your product under FIFRA section 3 (c) (5) and section 4 (a) when the Agency requires all registrants of similar products to submit such data.

If the above conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6 (e). Your release for shipment of the product bearing the amended labeling constitutes acceptance of these conditions.

This letter supersedes the letter dated September 30, 2011.

Should you have any questions concerning this letter, please contact Emilia Oiguenblik at (703) 347-01998 or Velma Noble at (703) 308-6233

Sincerely,



Velma Noble
Product Manager (31)
Regulatory Management Branch I
Antimicrobials Division (751 0P)

**PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS
AND DOMESTIC ANIMALS**

DANGER. Keep out of Reach of Children. Corrosive. Causes irreversible eye damage and skin burns. Harmful if swallowed. Do not get into eyes, on skin or on clothing. Wear protective eyewear (goggles, safety glasses or face shield), protective clothing, and rubber gloves when handling. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove contaminated clothing and wash clothing before reuse.

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

ENVIRONMENTAL HAZARD

This pesticide is toxic to fish, aquatic invertebrates, oysters, and shrimp. 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.

(If container is less than 5 gallons use the following environmental hazard statement.)

ENVIRONMENTAL HAZARD

This product is toxic to fish.

PHYSICAL OR CHEMICAL HAZARDS

Do not use or store near heat or open flame or in car.
Do not mix with soap, anionic detergents or oxidizers.

First Aid

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

IF INHALED: Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a poison control center or doctor for further treatment advice.

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

MAQUAT® MC1412-10%-W for Control of Algae and Algal Slime Growth in Industrial and/or Commercial Recirculating Cooling Water Towers, Retort Water Systems, Auxiliary Water and Waste Water Systems and Water Cooling Systems, Oil Field Water Flood/Salt Water Disposal Systems, and Molluscs in Once Through Fresh Water Cooling Systems and Mold, Mildew and Fungi in Sap Stains and Wood Preservatives. Controls bacteria and fungal slimes in pulp, paper mills and paper manufacturing.

(The use site "Retort Water Systems" not for use in California.)

ACTIVE INGREDIENTS

n-Alkyl (50%C₁₄, 40%C₁₂, 10%C₁₆)

dimethyl benzyl ammonium chloride 10.00%

INERT INGREDIENTS: 90.00%

TOTAL: 100.00%

Weight: Approx. 8lbs./gallon

**KEEP OUT OF REACH OF CHILDREN
DANGER PELIGRO**

See left (back) (side) (right) panel (of label) (below) for additional precautionary statements and first aid statements.

(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

PELIGRO: SI NO PUEDE LEER EN INGLES, PREGUNTE A SU SUPERVISOR SOBRE LAS INSTRUCCIONES DE USO APROPIADAS ANTES DE TRABAJAR CON ESTE PRODUCTO.

**ACCEPTED
with COMMENTS
in EPA Letter Dated:
OCT 25 2011**

Manufacturing and/or Lot no. Date:

Under the Federal Insecticide, Fungicide, and Rodenticide Act as amended, for the pesticide, registered under EPA Reg. No. 10324-43

This formulation (Maquat® MC1412-10%-W) is for use in:

- Industrial and/or commercial recirculating cooling water towers.
- Once through water cooling systems.
- Paper mills and paper mill process water systems.
- Oil field water flood or salt water disposal system and fracturing fluids.
- Oil field injection and waste water.
- Gas production and transmission pipelines and systems.
- Gas storage wells and systems.
- Pipeline pigging and scraping operations.
- Drilling, completion and workover fluids systems.
- Packer fluids.
- Hydrotesting

product has been designed specifically for control of sulfate-reducing bacteria (SRB) systems, paper mill process water systems, oil field systems, gas production and transmission pipelines and systems.

A microbicide for use in controlling sulfate-reducing bacteria and slime forming bacteria in oil well drilling, oil field processing applications, oil field water systems, oil and gas productions and transmission pipelines and systems, and gas storage fields and equipment; such as steam-injection water holding tanks, flood water, injection water, holding pond water, disposal-well water, water holding tanks, fuel storage tanks and related refinery and oil field closed, industrial recirculating water handling systems.

A highly effective microbicide for use in controlling bacteria including slime forming bacteria and sulfate-reducing bacteria (SRB) and fungi (yeast and molds) and algae in air washers and industrial scrubbing systems, recirculating cooling and process water systems including those that contain reverse osmosis membranes and in service water and auxiliary systems and heat transfer systems and in wastewater systems including wastewater sludge and holding tanks, and in paper mills and paper mill process water systems and water based coatings for paper and paperboard.

is product is efficient and stable in use dilution.

DIRECTIONS FOR USE

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling. Read entire label and use strictly in accordance with precautionary statements and directions.

Do not use water containing residue from use of this product to irrigate crops for food or feed.

Use of the product in either public/municipal or single or multiple family private/residential potable/drinking water systems is strictly prohibited. Use of the product in any cooling water system that discharges effluent within ¼ mile of either a public/municipal or single or multiple family private/residential potable/drinking water intake is strictly prohibited.

INDUSTRIAL WATER TREATMENT

This product aids in the control of bacterial, fungal and algal slimes in evaporative condensers, heat exchange water systems, industrial and commercial cooling towers

influent systems such as flow through filters and lagoons, industrial water scrubbing systems and brewery pasteurizers.

INDUSTRIAL AND/OR COMMERCIAL RECIRCULATING COOLING WATER TOWERS, RETORT WATER SYSTEMS, EVAPORATIVE CONDENSERS, HEAT EXCHANGE WATER SYSTEMS, INFLUENT SYSTEMS

(Note: Retort Water Systems use site not applicable in California.)

1. **Dosing Location:** This product is to be applied at a point in the system where it will be uniformly mixed, such as at the sump.
2. **Dosing Conditions:** This product must be applied when the system is in jeopardy of being affected or after cleaning systems where efficiency is already impaired.
3. **Method Of Application:**

a. INTERMITTENT OR SLUG METHOD

Initial Dose: When the system is noticeably fouled, apply 25.6 to 51.2 fluid ounces (20 to 40 ppm on an active quaternary basis) per 1000 gallons of water in the system. Repeat until control is achieved.

Subsequent Dose: When microbial control is evident, add 6.4 to 19.2 fluid ounces (5 to 15 ppm on an active quaternary basis) per 1000 gallons of water in the system twice weekly or as needed to maintain control. Badly fouled systems must be cleaned before treatment is begun.

b. MODIFIED INTERMITTENT METHOD

Initial Dose: When the system is noticeably fouled, apply 25.6 to 51.2 fluid ounces (20 to 40 ppm on an active quaternary basis) per 1000 gallons of water in the system. Apply half of this initial dose when half of the water in the system has been lost by blowdown.

Subsequent Dose: When control of microbial growth is evident, apply 6.4 to 19.2 fluid ounces (5 to 15 ppm on an active quaternary basis) per 1000 gallons of water in the system. Apply half of this subsequent dose when half of the water in the system has been lost by blowdown. Badly fouled systems must be cleaned before treatment is begun.

(OR)

INTERMITTENT OR SLUG METHOD

When this treatment is required, add this product at the rate of 25.6 to 51.2 ounces per 1000 gallons of water already in the system, or being added to the system, for 4 to 8 hours, 1 to 4 times per week or as needed to achieve the desired level of control. When control is obtained, add this product at the rate of 6.4 to 19.2 ounces per 1000 gallons of water in the system.

c. CONTINUOUS FEED METHOD

Initial Dose: When the system is noticeably fouled, apply 25.6 fluid ounces (20 ppm on an active quaternary basis) per 1000 gallons of water in the system.

Subsequent Dose: Maintain this treatment by starting a continuous feed of 6.4 fluid ounces (5 ppm on an active quaternary basis) per 1000 gallons of water lost by blowdown. Badly fouled systems must be cleaned before treatment is begun.

~~ENGINE THROUGH FRESH AND SEA WATER COOLING SYSTEM~~

~~1. **Dosing Location:** This product is to be applied at a point in the system where it will be uniformly mixed, such as at the sump.~~

~~2. **Dosing Conditions:** This product must be applied when the system is in jeopardy of being affected or after cleaning systems where efficiency is already impaired.~~

~~3. **Method Of Application:**~~

~~a. **Wear safety glasses, rubber gloves and impervious apron.**~~

~~b. **To reduce foaming, mix 10 parts of water to 1 part of this product.**~~

409

- ~~c. Add product directly from drum or add the product at a point where it will be mixed uniformly.~~
- ~~d. Use 0.75 to 7.5 fluid ounces (0.6 to 6 ppm on an active quaternary basis) per thousand gallons.~~
- ~~e. Do not discharge without performing proper deactivation. To perform deactivation use Bentonite Clay. The minimum ratio to be used is 5 ppm of clay to 5 ppm of product.~~
- ~~f. Treatment time cannot exceed 120 hours/application.~~
- ~~g. Avoid oxidizers and reducing agents. Product is cationic and must not be mixed with soap or anionic surfactants.~~

~~**TO DEACTIVATE:** Use bentonite clay at the minimum ratio of 5 ppm clay to 1 ppm product. Deactivation must occur prior to discharge of the NPDES outfall. Do not apply this product more than 4 times a year.~~

~~(OR)~~

ONCE THROUGH FRESH AND SEA WATER COOLING SYSTEM

Dosing Location: This product is to be applied at a point in the system where it will be uniformly mixed, such as at the sump.

2. **Dosing conditions:** This product must be applied when the system is in jeopardy of being affected or after cleaning systems where efficiency is already impaired.

3. **Method of applications:**

- a. Wear safety glasses, rubber gloves and impervious apron.
- b. To reduce foaming, mix 10 parts of water to 1 part of this product.
- c. Add product directly from drum or add the product at a point where it will be mixed uniformly.
- d. Use 0.75 to 7.5 fluid ounces (0.6 to 6 ppm on an active quaternary basis) per thousand gallons.
- e. Do not discharge without performing proper deactivation. To perform deactivation use Bentonite Clay. The minimum ratio to be used is 5 ppm of clay to 5 ppm of product.
- f. Do not use product more than 4 times per year.
- g. Treatment time cannot exceed 120 hours/application.
- h. Avoid oxidizers and reducing agents. Product is cationic and must not be mixed with soap or anionic surfactants.

DEACTIVATE: Use bentonite clay at the minimum ratio of 5 ppm clay to 1 ppm product. Deactivation must occur prior to discharge of the NPDES outfall. Do not apply product more than 4 times a year.

(OR)

ONCE THROUGH FRESH AND SEA WATER COOLING SYSTEMS

1. **Dosing Location:** This product is to be applied at a point in the system where it will be uniformly mixed, such as at the sump.
2. **Dosing Conditions:** This product must be applied when the system is in jeopardy of being affected or after cleaning systems where efficacy is already impaired.
3. **Method Of Applications:**

- a. **INTERMITTENT OR SLUG METHOD**
Initial Dose: When the system is noticeably fouled, apply 0.75 to 7.5 fluid ounces (0.6 to 6 ppm on an active quaternary basis) per 1,000 gallons of water based on system flow rates. The minimum treatment is 6 to 24 hours. Repeat until control is achieved. Deactivation must be conducted prior to discharge from the system by using bentonite clay at a minimum ratio of 5 ppm clay to 1ppm product.

Subsequent Dose: When microbial control is evident, add 3/8 to 3.75 fluid ounces (0.3 to 3 ppm on an active quaternary basis) per 1,000 gallons of water

based upon system flow rates on a as needed basis to maintain control. Frequency of feed must be tied to an in-plant monitoring program for macro cowing growth. Deactivation must be conducted prior to discharge from the system by using bentonite clay at a minimum ratio of 5 ppm clay to 1 ppm product.

DEACTIVATION: Use bentonite clay at the minimum ratio of 5 ppm clay to 1 ppm product. This product must be deactivated prior to discharge of the NPDES outfall. Do not apply this product more than 4 times a year.

OIL FIELD & GAS PRODUCTION TREATMENT

Specific treatment requirements vary among oil and/or gas field sites and subsystem components. The Primary point of treatment will vary among oil and/or gas field operations depending on the site problems, water-flood treatment methods and equipment. This product must be added where it will disperse rapidly and uniformly to the desired area of treatment.

Additions of this product must be made with the proper type of metering pump equipment, suction (low pressure) side of pumping equipment or similar device. This product must be added to the system by slug, continuous or on an intermittent basis, depending on the degree of system fouling. **OR**

Specific treatment requirements vary among oil and/or gas field sites and subsystem components. Oil field fluids and subsystems most commonly requiring microbial contamination control are raw water sources, separators, ballast, storage and mixing tanks, screens, surface injection equipment, production equipment (such as injection and production piping casing, completion and valving) and the formation itself. The primary point of treatment will vary among oil and/or gas field operations depending on the site problems, water-flood treatment methods and equipment. This product must be added where it will disperse rapidly and uniformly to the desired area of treatment.

Additions of this product must be made with the proper type of metering pump equipment, suction (low pressure) side of pumping equipment or similar device. This product can be added to the system by slug, continuous or on an intermittent basis, depending on the degree of system fouling.

OIL FIELD WATER FLOOD OR SALT WATER DISPOSAL SYSTEMS AND FRACTURING FLUIDS

This product must be added to the water flood or salt water disposal system at a point of uniform mixing.

1. For the control of slime forming and sulfate reducing bacteria in oil field water flood or salt water disposal systems, add 5 - 10 ppm (active) of this product (4.7 - 9.5 gallons per 3,000 barrels of water) continuously. Levels for effective control will vary depending on conditions at the site.
2. For intermittent use, dose at rate of 5 - 20 ppm (active) of this product (4.7 - 18.9 gallons per 3,000 barrels of water) for 4 to 8 hours per day, one to four times a week as needed to maintain control.
3. For treatment of flow back return water (Post Hydraulic Fracturing - Dose at a rate of 5-20ppm active of this product (4.7 - 18.9 gallons per 3,000 barrels of water) for 4 to 8 hours per day, one to four times a week as needed to maintain control.

OILFIELD INJECTION AND WASTE WATER

This product must be added to the water handling system at a point of uniform mixing such as the area of addition of make-up water to the holding tank.

Method of application:

- 1. CONTINUOUS INJECTION:** Add this product at 30 ppm (38.4 fluid ounces per 1000 gallons of water) when system is noticeably fouled. When microbial control is evident, add this product at 15 ppm (20 fluid ounces per 1000 gallons of water) to maintain control.
- 2. BATCH TREATMENT:** Add this product at 180 ppm (230.4 fluid ounces per 1000 gallons of water) over a period of 4 - 6 hours one or more times per week when the system is noticeably fouled. When microbial control is evident, add this product at 90 ppm (115 fluid ounces per 1000 gallons of water) over a period of 4 - 6 hours one or more time per week.

OR

For use in oil field and/or petrochemical water subsurface injection systems of secondary and/or tertiary oil recovery systems to reduce the number of anaerobic bacteria, aerobic bacteria, sulfate-reducing bacteria.

- 1. DOSING LOCATION (site of use):** This product is to be applied at a point in the recovery system where it will be uniformly mixed, such as at the screens, storage tanks and other mixing device locations.
- 4. DOSING CONDITIONS:** This product should be applied when the system is in jeopardy of being affected. Badly fouled systems must be cleaned before treatment is begun.
- 3. EQUIPMENT USED:** Use the injection pump to apply the product.
- 4. USE LIMITATIONS:** Dependent upon pH, temperature and salt content, adjust according to conditions found at the site as needed to maintain control.
- 5. DOSAGE APPLICATIONS:**

a. SLUG METHOD

Initial Dose: When the system is noticeably fouled, apply ~~56.5-gallons~~ (60 ppm active ingredient) of this product per 1000 gallons of water in the system. Apply for 3 to 8 hours daily until control is achieved.

Subsequent Dose: When microbial control is evident, add ~~20-25-gallons~~ (30 ppm active ingredient) of this product per 1000 gallons of water in the system daily or as needed to maintain control.

b. INTERMITTENT DOSAGE

Initial Dose: When the system is noticeably fouled, apply ~~56.5-gallons~~ (60 ppm active ingredient) of this product per 1000 gallons of water in the system. Apply for 3 to 8 hours daily until control is achieved.

Maintenance Dose: When control of microbial growth is evident, apply ~~20-25-gallons~~ (30 ppm active ingredient) of this product per 1000 gallons of water in the system daily or as needed to maintain control.

c. CONTINUOUS FEED METHOD

Initial Dose: When the system is noticeably fouled, apply 20 ounces (15 ppm active ingredient) of this product per 1000 gallons of water in the system.

Subsequent Dose: Maintain this treatment by starting a continuous feed of 20 ounces (15 ppm active ingredient) of this product per 1000 gallons of water daily or as needed to maintain control.

OIL AND GAS PRODUCTION AND TRANSMISSION PIPELINES AND SYSTEMS

For the control of sulfate-reducing bacteria and slime forming bacteria, this product must be added at a point in the production or transmission pipeline via direct injection where uniform. The application ~~should be~~ conducted to ensure maximum distribution of the product through the internal surface of the pipeline by adding an amount of biocide which eventually comes out the other end of the pipeline. Criteria for success of the

treatment will be reduction in bacterial count and/or corrosion rates. To facilitate applications, it is desirable to dilute the product with an appropriate solvent immediately before use. The concentration in the solvent must not fall below an active concentration range of 500 to 5,000 ppm based on the volume of water in the pipeline. Injections to the system must be weekly, or as needed to maintain control.

GAS STORAGE WELLS AND SYSTEMS

Individual injection wells must be treated with a sufficient quantity of this product to produce concentration of 65-1000 ppm (on an active quaternary basis) when diluted by the water present in the formation. Injection should take place before gas is injected (during the summer). Injection must be repeated yearly or as needed to maintain control.

PIPELINE PIGGING AND SCRAPING OPERATIONS

Add this product to a slug of water immediately following the scraper (ideally this water volume can be kept to a minimum and contained between the scraper and the trailing pig). Sufficient product is added to produce an effective concentration of 75 - 500 ppm on an active quaternary basis (9.25 to 63.75 ounces per 100 gallons of water) depending on the length of the pipeline and the severity of the biofouling.

DRILLING, COMPLETION AND WORKOVER FLUIDS SYSTEMS

This product is to be applied to these fluid systems at a point of uniform mixing, such as a circulating holding tank and other mixing device locations.

Initial treatment: Add 65 - 1000 ppm (on an active quaternary basis) of this product (2 to 31.5 gallons of this product per 100 barrels) to a freshly prepared fluid. Levels for effective control will vary depending on conditions at the site and the severity of the contamination.

Maintenance dosage: Add 65 - 1000 ppm (on an active quaternary basis) of this product (2 to 31.5 gallons of this product per 100 barrels) to the fluid. Levels for effective control will vary depending on conditions at the site and the severity of the contamination.

PACKER FLUIDS

This product ~~should~~ be added to the packer fluid at a point of uniform mixing such as a circulating holding tank and other mixing device locations. Add 2 to 31.5 gallons (65 - 1000 ppm active quaternary basis) of this product per 100 barrels of packer fluid. This product is applied to a freshly prepared fluid. Levels for effective control vary depending on conditions at the site and the severity of the contamination. Seal the treated packer fluid in the wall between the casing and the production tube.

HYDROTESTING

Treat water in the hydrotest pipelines or vessels with 65 - 1000 ppm on an active quaternary basis (82.5 to 1275 ounces per 1000 gallons of water) of this product, depending on the water quality and length of time the equipment will remain idle.

AUXILIARY SERVICE WATER AND WASTE WATER SYSTEM

This product is effective for the control of odor-forming and slime-forming bacterial, fungi and algae in auxiliary service water systems such as fire protection systems and pump or screen bays, water waste systems such as storage tanks, storage piles, associated piping, setting ponds or lagoons, transport spillways or canals and disposed wells.

Add 5 - 180 ppm (active) of this product (4.75 - 170 gallons per 3,000 barrels of water) continuously. This product must be added to the system at a point of uniform mixing by slug or intermittent feed or by spraying onto a waste pile. The frequency of feed or spray and the duration of treatment will depend upon the severity of the contamination. Additions to water systems must be made during the pumping operation and as close to the pump as possible to ensure adequate mixing.

6099

PULP AND PAPER MILLS

SLIMICIDE APPLICATIONS

This product can be used as a slimicide in the manufacture of paper and paperboard that contacts food, depending on the type of stock, quality of raw water, complexity of the system, and degree of contamination. Apply this product intermittently or continuously depending on mill conditions to the paper making system at a point of uniform mixing such as a the beaters, thin or thick stock chests, broke chest pump, save-all tank, process tank or whitewater tank.

Initial Dose: When system is noticeably contaminated, add 1 to 200 gallons of this product per 100,000 gallons of whitewater to be treated (1.0 to 200 ppm of product) as a continuous or slug dose. Repeat until control is achieved. Heavily fouled systems must be boiled out prior to initial treatment.

Subsequent Dose: When microbial control is evident, add 1 to 100 gallons of this product per 100,000 gallons of whitewater to be treated (1.0 to 100 ppm of product) as necessary to maintain control.

CONTROL OF BACTERIAL, FUNGI/MOLD AND ALGAE ON PULP, PAPERBOARD & WET LAP

This product is used to inhibit fungal growth, which causes discoloration, odor and degradation of paper, paperboard or wet lap. Application of this product must be made at a point in the system where mixing action is good. Application can also be made at the size press or water box. Apply at a rate of 2 to 400 pounds of this product per ton (dry basis) of pulp or paperboard produced.

Dosing Application: This product may be drip fed continuously from the drum, diluted and showered to the wet sheet or fed by suitable pumps.

For inhibition of wet lap or sheet pulp this product must be applied to the dewatered pulp surface via applicator rolls or showers. Application can also be made at the size press or water box.

1SAP STAIN

For the control of mold, mildew and fungus on green or freshly cut lumber. May be used in a dip or spray application. Before use, dilute at rate of 25 to 100 gallons of water per 5 gallons of this product. Seasonal variations in storage and shipping conditions, species and condition of wood must be considered in a manner that ensures that all surfaces are uniformly treated. For effective inhibition of mold and fungus, lumber and logs must be dipped or sprayed in a manner that ensures that all surfaces are uniformly treated.

For best results, green wood must be treated immediately at least within twenty-four hours after cutting or sawing. Mold and fungus growth begins immediately after cutting so delayed treatment is much less effective and requires increased chemical concentration. Green, untreated lumber must not be used for stickers.

Freshly treated lumber must not be allowed to remain unprotected in heavy rains. Dip tanks and drip aprons must be roofed, paved and drained to prevent dilution and loss of the anti-stain solution.

Treated lumber must be stored under cover, or indoors, or at least 100 feet from any pond, lake, stream, wetland or river to prevent possible runoff of the product into the waterway. Treated lumber stored outdoors within 100 feet of a pond, lake, stream, wetland, or river must be either covered with plastic or surrounded by berm to prevent surface water runoff into the nearby waterway. If a berm is used around the site, it must consist of impermeable material (clay, asphalt, concrete) and be of sufficient height to prevent runoff during heavy rainfall events

WOOD PRESERVATIVES

This product is a concentrated biocide for use as a wood preservative. When used as directed, this product will protect treated wood articles from the destructive attack of fungi, mold, mildew and both Reticulitermes and Formosan species of termites. Treatment can be done by pressure, double vacuum, dip, brush and/or spray, although dip, brush and spray can not be used for protection against termites. Wood articles that will be protected by these treatments would include millwork, construction timbers, decking, wood applications, wood shingles, posts and other articles to be used in above ground applications. Dilute this product in either water or mineral spirits solution to product a 0.5% to 3.0% active solution. This formulation is to be used for both pressure and double vacuum treatment.

(OR)

This product will protect treated wood articles from the destructive attack of fungi, mold or mildew. Treatment can be done by pressure or double vacuum. Wood articles that will be protected by these treatments would include millwork, construction timbers, decking, wood shingles, posts and other articles to be used in above ground applications.

OR

Treatment can be done by brush or spray for wood shingle applications, and by pressure, double vacuum or dip method for other wood products. Wood articles that will be protected by these treatments would include millwork, construction timbers, decking, wood shingles, and posts.

This product can be used in combination with other EPA registered organic and inorganic wood preservatives or it can be used alone.

MAQUAT® MC1412-10%-W

Dilute this product in either water or mineral spirits (or Sentry GoldSeal™) to produce a 0.5% to 3.0% active quaternary ammonium compound solution.

Percent Active Quat Solution	Ounces of this product per gallon
0.5	6.40
1.0	12.80
1.5	19.25
2.0	25.60
2.5	32.00
3.0	38.40

To find the ounces of this product per gallon for other dilutions take the percent active desired and divide by 0.3906.

MAQUAT® MC1412-10%-W AND COPPER COMPOUNDS

Mix this product with water and either (ACQ-C2 EPA Reg. No. 10465-36 or ACQ-C EPA Reg. No. 10465-33) (NW 100-C, EPA Reg. No. 3008-87 or NW 200-C, EPA Reg. No. 10465-33-3008). Refer to the product labels for (ACQ-C and ACQ-C2) (NW 100-C and NW 200-C) for precise mixing instructions. This product may only be used in combination with copper compounds in pressure treatment applications.

MAQUAT® MC1412-10%-W AND BORATES

Mix this product and either (Disodium Octaborate Tetrahydrate) Wood Bor, EPA Reg. No. 3008-61, Envirotech Insecticide, EPA No. 65705-1, Timbersaver, EPA Reg. No. 71916-1, TimberSaver PT, EPA Reg. No. 71916-1-10465, Tim-Bor, EPA Reg. No. 1624-39, Cellu-Treat DOT Wood Preservative, EPA Reg. No. 64405-8, Bor-Ram, EPA Reg. No. 72304-10 or Borathor Max PT, EPA Reg. No. 81824-11 in water. Refer to the product labels for precise mixing. This product may only be used in combination with the above borates in pressure treatment or dip treatment applications.

Mix this product and Lum-Bor, EPA Reg. No. 19713-286 in water. Refer to the product label for precise mixing instructions. **This product may only be used in combination with the above borate in brush or spray applications.**

Mix this product and BORA-CARE, EPA Reg. No. 64405-1 in water. Refer to the product label for precise mixing instructions. **This product may only be used in combination with the above borate in dip treatment applications.**

MAQUAT® MC1412-10%-W AND PROPICONAZOLE

Mix this product with Woodlife P, EPA Reg. No. 1409-65 and dilute with water, mineral spirits or other light organic solvent to produce a 0.5 to 3.0% quaternary ammonium compound solution. Follow the instructions on the Woodlife P label for the appropriate concentration of propiconazole. **PLEASE NOTE THAT THIS FORMULATION CAN ONLY BE USED FOR DIP TREATMENT.**

PRESSURE TREATMENT

Place the wood article to be treated into the pressure cylinder and seal unit. Treat the wooden articles using the pressure treatment procedures consistent with the equipment used and standard treatment practices. Treatment conditions must be such as to produce a 0.1 to 0.6 lb/cu. foot retention in the treatment article. Such treated wood is to be used for above ground uses only.

DOUBLE VACUUM

Stack the wooden articles to be treated in the treatment vessel so that the preservative solution will have access to all sides of the articles. Seal the vessel. Reduce the pressure within the vessel to -10 inches for 5 minutes. Cover all the articles with preservative solution. Allow the pressure to return to atmospheric conditions and discharge the preservative solution. Reduce the pressure to -20 in. and maintain for 20 minutes. Allow the pressure to return to atmospheric and remove treated wood articles. Treatment conditions must be used as to produce a 0.1 to 0.6 lbs/cu. ft retention of ADBAC in the treated article. Wood treated to this retention for above ground use only.

DIP TREATMENT

Stack the wood to be treated on a suitable holder and convey the stack into the treating solution making sure the stack is completely immersed. Dip times must range from 30 seconds (individual pieces) up to 30 minutes (bundled wooden articles). Use a concentration of 0.5 to 3.0% active quaternary ammonium compound. The concentration should be customized to the degree of sap stain protection desired, which should be determined by an independent test on the intended species of wood.

PERSONAL PROTECTION EQUIPMENT FOR PRESSURE TREATMENT, DOUBLE VACUUM AND DIP TREATMENT

Applicators must wear gloves, which are chemical-resistant (such as nitrile or butyl) in all situations where dermal contact is expected (i.e. handling freshly treated wood and manually opening cylinder doors). Individuals who enter pressure treatment cylinders and other related equipment that are contaminated with the wood treatment solution (e.g. cylinders that are in operation or are not free of all treatment solution) must wear coveralls over a long sleeved shirt and long pants, socks, chemical-resistant footwear, and protective eyewear. Federal, State and local confined space entry procedures need to be taken.

Applicators must not eat, drink or use tobacco products during those parts of the applications process that may expose them to the wood treatment formulation (e.g. manually opening/closing cylinder doors, moving trams out of cylinders, mixing chemicals, handling freshly treated wood).

Wash thoroughly after skin contact and before eating, drinking, use of tobacco products or using restrooms.

Protective clothing must be changed when it shows signs of contamination. Applicators must leave protective clothing and work shoes or boots and equipment at the plant. Worn out protective clothing and work shoes or boots must be left at the plant and disposed of in a manner approved for pesticide disposal and in accordance with State and Federal regulations.

BRUSH OR SPRAY

A 0.5% to 3.0% active solution with water (or Sentry GoldSeal™) may be applied by brush or spray for use on wood shingles or shake roofs and siding on existing homes by commercial applicators, and on interior construction products and surfaces such as lumber, concrete, sheetrock, wallboard, block and steel. Use low-pressure equipment for spray applications. A moderately fine spray, not an aerosol or fog, generally provides the best coverage at practical product concentrations. Apply only to point of runoff. To make a 0.5% to 3.0% active solution, use the following table:

Percent Active Quat Solution	Ounces of this product per gallon
0.5	6.40
1.0	12.80
1.5	19.25
2.0	25.60
2.5	32.00
3.0	38.40

To find the ounces of this product per gallon for other dilutions take the percent active desired and divide by 0.3906.

PERSONAL PROTECTION EQUIPMENT FOR BRUSH AND SPRAY APPLICATIONS

Applicators must wear gloves, which are chemical-resistant (such as nitrile or butyl). Applicators must also wear coveralls over a long sleeved shirt and long pants, socks, chemical-resistant footwear, and protective eyewear. Applicator must not eat, drink, or use tobacco during the application process. Use with adequate ventilation, mist or vapor generated by spraying this product may be harmful if inhaled. Wash thoroughly after skin contact and before eating, drinking, use of tobacco products or using restrooms. Protective clothing must be changed when it shows signs of contamination. Brush/Spray treatment may require frequent changing. Discard clothing and other absorbent materials that have been drenched or heavily contaminated. Do not reuse them.

Follow manufacturers' instructions for cleaning/maintaining protective equipment. If no such instructions exist for washables, use detergent and hot water. Keep and wash protective equipment separate from other laundry.

Worn out protective clothing and work shoes or boots must be disposed of in a manner approved for pesticide disposal and in accordance with State and Federal regulations.

8089

(For Industrial Water Treatment Use, Industrial and for Commercial Recirculating Cooling Water Towers and Recirculating Cooling Water Systems, Auxiliary water and waste water systems and water cooling systems, once through fresh water cooling systems, sap stains, wood preservatives and all containers less than five gallons.)

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage and disposal. **PESTICIDE STORAGE:** Store in original containers and place in locked storage area. Keep from freezing. **SPILL OR LEAK PROCEDURES:** Small spills may be mopped up or flushed away with water or absorbed on some absorbent material and incinerated. Large spills should be contained, the material then moved into containers and disposed of by approved methods for hazardous wastes. **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. **Nonrefillable container:** Do not refill or reuse container. Triple rinse as follows: Fill container ¼ full with water and recap. Shake for 10 seconds. Follow Pesticide Disposal instructions for rinsate disposal. Drain for 10 seconds after the flow begins to drip. Repeat procedure two more times. Then offer for recycling or reconditioning. If not available, puncture and dispose of in a sanitary landfill.

(Note to reviewer: The title and first statement of this section must appear on every label, followed by the appropriate Storage and Disposal section.)

STORAGE AND DISPOSAL

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

(FOR USE ON NON-REFILLABLE CONTAINERS WITH

INSTITUTIONAL/COMMERCIAL/INDUSTRIAL NON-PUBLIC HEALTH USES ONLY)

PESTICIDE STORAGE: Open dumping is prohibited. Store only in original container. Do not reuse empty container. If a leaky container must be contained within another, mark the outer container to identify the contents. Store pesticides away from food, pet food, feed, seed, fertilizers, and veterinary supplies. 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 nearest EPA Regional Office for guidance.

CONTAINER HANDLING: Non-refillable container. Do not reuse this container to hold materials other than pesticides or diluted pesticides (rinsate). Triple rinse (or equivalent). After emptying and cleaning, it may be allowable to temporarily hold rinsate or other pesticide-related materials in the container. Contact your state regulatory agency to determine allowable practices in your state. Offer for recycling for available or puncture and dispose in a sanitary landfill, or by other procedures approved by state and local authorities. If rinsate cannot be used, follow pesticide disposal instructions. If not triple rinsed, these containers are acute hazardous wastes and must be disposed in accordance with local, state and federal regulations.

RESIDUE REMOVAL INSTRUCTIONS (For containers less than 5 gallons): Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain 10 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. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times.

RESIDUE REMOVAL INSTRUCTIONS (For containers greater than 5 gallons): Triple rinse container (or equivalent) promptly after emptying. Triple rinse as follows: Empty remaining contents into application equipment or a mix tank. Fill the container ¼ full with water. 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 end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times.

BATCH CODE: (Can be placed on container or label)

FOR USE ON REFILLABLE CONTAINERS

(For containers greater than 5 gallons)

PESTICIDE STORAGE: Open dumping is prohibited. Store only in original container. If a leaky container must be contained within another, mark the outer container to identify the contents. Store pesticides away from food, pet food, feed, seed, fertilizers, and veterinary supplies. Keep this product under locked storage sufficient to make it inaccessible to children or persons unfamiliar with its proper use.

CONTAINER HANDLING: Triple rinse (or equivalent). Refill this container with this product only. Do not reuse this container for any other purpose.

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.

RESIDUE REMOVAL INSTRUCTIONS: Cleaning the container before final disposal is the responsibility of the person disposing of the container. Cleaning before refilling is the responsibility of the refiller. To clean the container before final disposal, empty the remaining contents from this container into application equipment or a mix tank. Fill the container ¼ full with water. Agitate vigorously or recirculate water with the pump for 2 minutes. Pour or pump rinsate into application equipment or rinsate collection system. Repeat this rinsing procedure two more times.

9099