



PQ-8*

LIQUID ANTIMICROBIAL CONCENTRATE

ACCEPTED
APR 2 1976
The Federal Insecticide, Fungicide, and Rodenticide Act
registered under
EPA No. 1022-476

FOR INDUSTRIAL USE ONLY

PQ-8 is an antimicrobial for control of fungi in industrial applications.

EPA REG No. 1022-476

EPA EST No. 1022-TN-1

INGREDIENT STATEMENT

ACTIVE INGREDIENT		
Copper 8-Quinolinolate	5.40%	
INERT INGREDIENTS	94.60%	
	Total	100.00%

DIRECTIONS

PQ-8 must be diluted with water for use.

REFER TO A PQ-8 TECHNICAL BULLETIN BEFORE HANDLING OR USE.

CAUTION

This product is toxic to fish. Keep out of lakes, streams or ponds. Do not contaminate water by cleaning of equipment, or disposal of wastes. Apply this product only as specified on this label.

Do not use, pour, spill or store near heat or open flame.

* PATENT PENDING

NOTICE

Neither the manufacturer nor the seller makes any representation or warranty, expressed or implied, concerning this material, except that it is of standard quality. Neither shall be held responsible in any manner for any personal injury, property damage or other type of loss resulting from handling, storage or use of this material. Buyer assumes all risk of use and/or handling of this material when such use and/or handling is contrary to label instructions.

WARNING

KEEP OUT OF REACH OF CHILDREN!

Harmful if swallowed.

Keep away from animals. Avoid contact with feed and foodstuffs. Keep out of potable water supplies. Do not reuse empty drum. Return to drum reconditioner or destroy by perforating or crushing and burying in a safe place.

MANUFACTURED BY **CHAPMAN CHEMICAL COMPANY** MEMPHIS, TENNESSEE



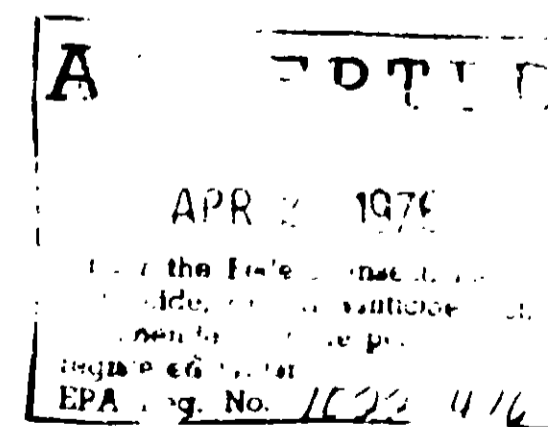
PQ-8

FUNGICIDE CONCENTRATE FOR CONTROL OF SAPSTAIN AND MOLD IN FRESHLY CUT LUMBER AND TIMBER

E.P.A. Reg. No. 1022-476

E.P.A. Est. No. 1022-TN-1

READ THE LABEL BEFORE USING PRODUCT
BULLETIN No. 8



Rev. 3-10-76

CHAPMAN CHEMICAL COMPANY MEMPHIS, TENNESSEE

PQ-8 is a completely new concept in fungus control from Chapman research. For many years, copper-8-quinolinolate has been recognized as a highly effective fungicide for the preservation of cellulosic material such as wood. Its low water solubility has precluded its use in many processes.

Now, in PQ-8, Chapman offers a non-alkaline water soluble formulation of copper-8-quinolinolate.

PQ-8 mixes readily with cold water.

Use of PQ-8 can yield a very substantial return on cost in terms of stain and wood degrade. PQ-8 is supplied as a concentrate for automatic dilution with the correct amount of water, using either the Chapman Sure-Mix or Dispenser System, or simple hand-mixing.

SOLUTION STRENGTH

PQ-8 is always diluted with water for use. Adequate control of stain and mold fungi is dependent on a number of conditions at the site of fungicide application and on subsequent conditions to which the treated wood is exposed. Among the factors affecting the fungicide requirements are:

1. Weather - temperature, humidity and air velocity. At 50° F., 30% relative humidity and a brisk breeze, for example, less fungicide is needed than 80°F., 90% relative humidity and a dead calm.
2. Wood Drying - green lumber dried in 30 days under roof needs less fungicide than wood dried in 90 days with no protection from rainfall.
3. Storage - wood open-piled and properly stickered needs less fungicide than when tightly bulk-piled.
4. Wood thickness - one inch thick lumber requires less fungicide than 2" lumber.
5. Transit conditions - dry lumber shipped weather protected on a one-week shipment requires less fungicide than bulk-piled green lumber for a 30-day voyage in a damp ship's hold.
6. Fungicide application - spray application at the rate of two gallons per 1000 board feet requires a stronger ready-to-use solution than does dip vat application wherein retention of solution is six gallons per 1000 board feet.
7. Surface smoothness - rough sawn lumber usually, but not always, picks up considerably more fungicide solution than smooth wood.

In short, the proper choice of fungicide strength -- the amount of dilution of PQ-8 with water -- is dependent not only on a number of interlocking conditions of exposure of the wood, but also on the rate of application. This latter is an often overlooked factor. Spray application at a 2-gallon per 1000 board feet rate, for example, requires a fungicide solution strength three times as strong as dip vat application at a 6-gallon rate -- just to provide the same retention of fungicide on the lumber.

It is not practical, therefore, to present simple, hard and fast rules for dilution of PQ-8 to achieve the desired result, even though such over-simplified recommendations are commonly disseminated. It is urged that our field representative, or the Home Office, be consulted for specific recommendations. These will be made after on-site analysis of all the variables involved in the user's operation.

As a rough measure, rather than a specific recommendation, a few general guide posts are given.

1. Base Strength - for lumber 2 inches or less in thickness - one gallon of PQ-8 is combined with 250 gallons of water. Under average conditions, a Base Strength solution provides adequate fungi control when applied to rough cut wood at the rate of seven gallons per 1000 board feet and when drying, storage and shipment are carried out in accordance with optimum industry accepted standards.
2. Stronger than Base Strength - stronger solutions are needed - for thicker than 2" lumber, for tightly bundled lumber, surfaced wood, for prolonged exposure to wet conditions -- these higher than base strength solutions usually, but not always, are in the range of one gallon of PQ-8 diluted with 50 to 100 gallons of water.

Application rates of less than seven gallons per 1000 board feet also require higher than Base Strength solutions. Smooth surfaced lumber, for instance, normally retains only one-half as much fungicide solution as rough cut wood and hence needs a double Base Strength solution merely to deposit a given amount of fungicide on the wood.

3. Weaker than Base Strength - rarely is it good practice to go below Base Strength, except under some specialized conditions. One example is application to plywood veneers to prevent mold prior to layup and pressing. For such end users, combine one gallon of PQ-8 with not more than 400 gallons of water.
4. Freshly treated lumber should be protected from rain.

ECONOMICS

Proper fungi control at the least cost is the reason for careful analysis of fungicide solution strength, taking into account all operating and exposure factors. Otherwise, application directions could be simple indeed -- just recommend heavy over-treatment to off-set almost any conceivable contingency

Proper control always means some degree of over-treatment of the wood. No practical means exist for determining the exact amount of fungicide needed to do the job. More fungicide than actually needed is a waste. On the other hand, even just a little less than required can allow fungal damage proportionally much greater than might be expected from the slight fungicide deficiency.

HANDLING

Special automatic equipment is available for diluting the PQ-8 with water. The equipment eliminates any need for human contact with the concentrated fungicide and assures that the proper ready-to-use fungicide solution strength is obtained - every time.

See your Chapman representative for details.

APPLICATION

The ready-to-use PQ-8 may be applied to the wood product by spray, dip or flowcoat. Each has certain advantages and each requires a different layout.

See your Chapman representative for details relating to choice of the optimum application system for your needs.

All handling precautions given on the label should be followed.

OTHER FACTORS

Freshly cut wood should be treated within 24 hours. Otherwise, fungal attack may extend below the surface of the wood, beyond the reach of a fungicide surface treatment.

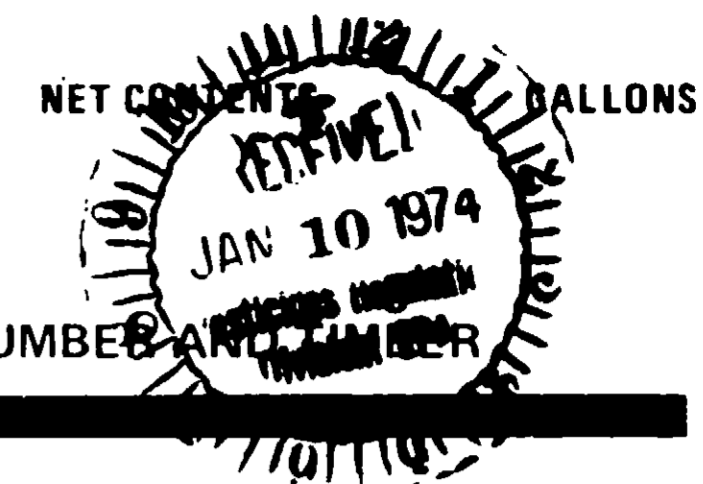
Keep the application equipment clean.

Remove sawdust and other debris daily. Sawdust and wood chips can clog up spray application systems. Sawdust also weakens the ready-to-use fungicide by soaking up the active ingredients.



P - 110 G

CONCENTRATE FUNGICIDE FOR CONTROL OF SAPSTAIN AND MOLD IN FRESH CUT LUMBER AND LUMBER



READ THIS LABEL BEFORE USING PRODUCT

INGREDIENTS

ACTIVE INGREDIENTS

Pentachlorophenol	8.80%
Tetrachlorophenol	1.20%

INERT INGREDIENTS 90.00%

TOTAL 100.00%

WARNING

KEEP OUT OF REACH OF CHILDREN

HARMFUL OR FATAL IF SWALLOWED OR ABSORBED THROUGH SKIN

Do not get in eyes, on skin or on clothing. Causes skin irritation. Do not breathe vapor or spray mist. Wear rubber gloves and protective clothing when handling the freshly treated lumber. Wash thoroughly after handling.

Keep away from animals. ~~Avoid contact with feed and foodstuffs.~~ Keep out of potable water supplies. Do not reuse empty drum. Return to drum reconditioner or destroy by perforating or crushing and burying in a safe place.

CAUTION

This product is toxic to fish and wildlife. Keep out of lakes, streams or ponds. Do not contaminate water by cleaning of equipment, or disposal of wastes. Apply this product only as specified on this label.

DO NOT USE, POUR, SPILL OR STORE NEAR HEAT OR OPEN FLAME.

Smooth surfaced or dressed lumber ordinarily requires a higher P 110 G concentration in water than does rough sawn stock simply because smooth surfaced wood retains less solution. Use one gallon of P 110 G combined with 50 to 75 gallons of water when treating surfaced stock.

For best results, the wood should be treated within 24 hours of cutting by dipping or spray application and the ready-to-use should be used within 24 hours after preparation. Apply 8 to 10 gallons of the water-diluted ready-to-use P 110 G per 100 board feet of rough sawn lumber. Freshly treated lumber should be protected from rain. Dip tanks should be protected from over dilution from rain or other source, and sawdust residue raked out daily.

NOTICE

Neither the manufacturer nor the seller makes any representation or warranty, expressed or implied, concerning this material, except that it is of standard quality. Neither shall be held responsible in any manner for any personal injury, property damage or other type of loss resulting from handling, storage or use of this material. Buyer assumes all risk of use and/or handling of this material when such use and/or handling is contrary to label instructions.

P 110 G is a new concept in sapstain and mold control for lumber and other wood products. Mixed with water as directed, the ready-to-use P 110 G is non-alkaline and needs no buffers or operator control to offset the natural acidity of wood.

P 110 G mixes readily with cold water.

Use of P 110 G can yield a very substantial return on cost in terms of reducing stain and wood degrade. P 110 G is supplied as a concentrate for automatic dilution with the correct amount of water, using either the Chapman Sure-Mix or Dispenser system or by simple hand mixing.

DIRECTIONS FOR USE

Chapman P 110 G is mixed with water for use. The standard ready-to-use concentration is one gallon of P 110 G combined with 150 gallons of water. This normally is sufficient for rough sawn lumber 2 inches or less in thickness when air-seasoning or kiln drying is carried out in accordance with industry accepted practice. For thicker or bundled lumber or under unusually severe conditions or lengthy periods, combine one gallon of P 110 G with 50 to 75 gallons of water.

EPA Reg. No. 1022-479

MANUFACTURED BY **CHAPMAN CHEMICAL COMPANY** MEMPHIS, TENNESSEE

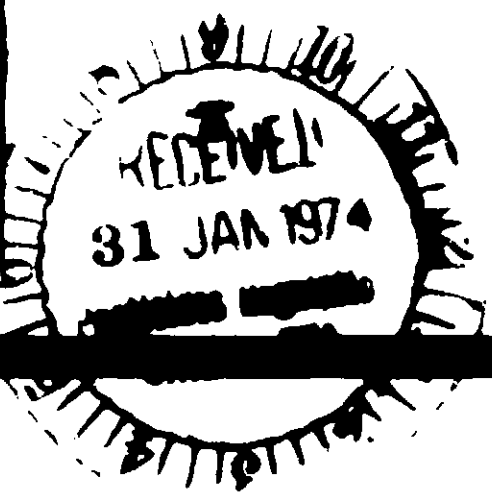


PQ-10

ACCEPTED

FEB 19 1974

UNDER THE FEDERAL INSECTICIDE, FUNGICIDE AND RODENTICIDE ACT FOR ECONOMIC POISON REGISTERED UNDER NO. 10240 SUBJECT PQ-10 ATTACHED COMMENTS



CONCENTRATE FUNGICIDE FOR CONTROL OF SAPSTAIN AND MOLD IN FRESH CUT LUMBER AND TIMBER

READ THIS LABEL BEFORE USING PRODUCT

INGREDIENT STATEMENT

ACTIVE INGREDIENTS

Copper 8-Quinolinolate	5.00%
Pentachlorophenol	17.60%
Tetrachlorophenol	2.40%

INERT INGREDIENTS

75.00%

TOTAL

100.00%

WARNING

KEEP OUT OF REACH OF CHILDREN

HARMFUL OR FATAL IF SWALLOWED OR ABSORBED THROUGH SKIN

Keep away from animals. Avoid contact with feed and food-stuffs. Keep out of potable water supplies. Do not reuse empty drum. Return to drum reconditioner or destroy by perforating or crushing and burying in a safe place.

Do not get in eyes, on skin or on clothing. Avoid breathing spary mists or vapors. Wear rubber gloves and protective clothing when handling the freshly treated lumber.

CAUTION

This product is toxic to fish and wildlife. Keep out of lakes, or ponds. Do not contaminate water by cleaning of equipment or disposal of wastes. Apply this product only as specified on this label.

DO NOT USE, POUR, SPILL OR STORE NEAR HEAT OR OPEN FLAME.

Smooth surfaced or dressed lumber ordinarily requires a higher PQ-10 concentration in water than does rough sawn stock simply because smooth surfaced wood retains less solution. Use one gallon of PQ-10 combined with 100 to 150 gallons of water when treating surfaced stock.

For best results, the wood should be treated within 24 hours of cutting by dipping or spray application and the ready-to-use should be used within 24 hours after preparation. Apply 8 to 10 gallons of the water-diluted ready-to-use PQ-10 per 1000 board feet of rough sawn lumber. Freshly treated lumber should be protected from rain. Dip tanks should be protected from over dilution from rain or other source, and sawdust residue raked out daily.

NOTICE

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PQ-10 is a new concept in fungus control. For many years Copper-8-Quinolinolate and pentachlorophenol have been recognized as highly effective fungicides for the preservation of cellulosic materials such as wood. Low water solubility has precluded use of these materials in many processes. Now, in PQ-10, Chapman offers a non-alkaline water-dispersible formulation of these proven fungicides.

PQ-10 mixes readily with cold water. Mixed as directed, no buffers or operator control is required to offset natural acidity of wood.

Use of PQ-10 can yield a very substantial return on cost in terms of reducing stain and wood degrade. PQ-10 is supplied as a concentrate for automatic dilution with the correct amount of water, using either the Chapman Sure-Mix or Dispenser system or by simple hand mixing.

DIRECTIONS

Chapman PQ-10 is mixed with water for use. The standard ready-to-use concentration is one gallon of PQ-10 combined with 300 gallons of water. This normally is sufficient for rough sawn lumber 2 inches or less in thickness when air-seasoning or kiln drying is carried out in accordance with industry accepted practice. For thicker or bundled lumber or under unusually sever conditions or lengthy periods, combine one gallon of PQ-10 with 125 to 150 gallons of water.

EPA Reg. No. 1022-482