H-434 Microbiocide

[NOT FOR USE IN ELECTRODEPOSITION SYSTEMS IN THE STATE OF CALIFORNIA]

CONTROLS BACTERIA, FUNGI, AND YEASTS IN PAPER MILLS AND METALWORKING FLUIDS CONTAINING WATER; CONTROLS BACTERIA, FUNGI, AND ALGAE IN RECIRCULATING WATER COOLING TOWERS AND IN ONCE-THROUGH FRESH AND SEAWATER INDUSTRIAL COOLING WATER SYSTEMS; REVERSE OSMOSIS SYSTEMS; CONTROLS SLIME-FORMING BACTERIA AND FUNGI IN AIR-WASHER SYSTEMS; AND CONTROLS THE GROWTH OF MICROORGANISMS IN EMULSIONS, COATINGS, WAXES, POLISHES, SIZINGS, CAULK, ADHESIVES, PIGMENT SLURRIES, AND ELECTRODEPOSITION SYSTEMS

NOTICE: DO NOT SHIP OR STORE WITH FOODS, FEEDS, DRUGS OR CLOTHING. FOR INDUSTRIAL USE ONLY.

WASH THOROUGHLY AFTER HANDLING

ACTIVE INGREDIENT:	
2,2-Dibromo-3-nitrilopropionamide	**20%**
INERT INGREDIENTS	**80%**

ACCEPTED
OCT 21 1997
Under the Federal Insecticide, Fungicide, and Rodenticide Act as amended, for the pesticide, registered under EPA Reg. No. 10445-18

KEEP OUT OF REACH OF CHILDREN
DANGER

EPA Registration No. 10445-18

EPA Establishment No. 10445-PA-01
EPA Establishment No. 10445-CA-01
EPA Establishment No. 10445-TX-01

CALGON CORPORATION
CALGON CENTER
POST OFFICE BOX 1346
PITTSBURGH, PA 15230

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PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS

DANGER:
CAUSES SEVERE BURNS OF EYES.
EYE CONTACT MAY CAUSE LOSS OF VISION.
MAY BURN THE SKIN.
MAY BE HARMFUL OR FATAL IF SWALLOWED.
Do not get in eyes, on skin or clothing.
Chemical worker's goggles must be worn when handling.

STATEMENT OF PRACTICAL TREATMENT (FIRST AID):
In case of eye contact, flush eyes immediately with plenty of water for at least 15 minutes and get medical attention.
In case of skin contact, wash with soap and plenty of water. Wash contaminated clothing before reuse..
If swallowed, call a physician or Poison Control Center. Drink 1 or 2 glasses of water and induce vomiting by touching back of throat with finger or, if available, by administering syrup of ipecac. Do not induce vomiting or give anything by mouth to an unconscious person.

ENVIRONMENTAL HAZARDS

This product 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 to sewer systems without previously notifying the local sewage treatment plant authority. For guidance, contact your State Water Board or Regional Office of the EPA.

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STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal.
Storage - To maintain product quality, store at temperatures below 60°C. Keep container tightly closed when not in 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
Do not reuse empty container. 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.

NOTICE: Seller warrants that the product conforms to its chemical description and is reasonably fit for the purposes stated on the label when used in accordance with directions under normal conditions of use, but neither this warranty nor any other warranty of MERCHANTABILITY or FITNESS FOR A PARTICULAR PURPOSE, express or implied, extends to the use of this product contrary to label instructions, or under abnormal conditions not reasonably foreseeable to seller, and buyer assumes the risk of any such use.

DIRECTIONS FOR USE

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

NOTE: Add H-434 SEPARATELY to the system. DO NOT mix it with other additives, in order to avoid decomposition of H-434 due to the high pH of many additive formulations.

Add H-434 to the basin (or any other point of uniform mixing). Addition should be made with a metering pump; it may be continuous or intermittent, depending on the severity of the contamination when treatment is begun, and the retention time in the system.
Optimum performance with this product is attained by continuous or intermittent treatment. If "shock" treatment is used, the blowdown should be discontinued for 24-48 hrs.

INDUSTRIAL RECIRCULATING WATER COOLING TOWERS FOR CONTROL OF BACTERIA

Add 0.098 - 0.98 fluid oz. H-434/1,000 gal. of water to the system depending on the severity of contamination (1 - 9 ppm H-434).

Intermittent or Slug Method

Initial Dose: When the system is noticeably fouled, add 0.48 - 0.98 fluid oz. H-434/1,000 gal. of water to the system (5 - 9 ppm H-434). Repeat until control is achieved.

Subsequent Dose: When microbial control is evident, add 0.24 - 0.98 fluid oz. H-434/1,000 gal. of water to the system every 4 days, or as needed to maintain control (2 - 9 ppm H-434).

Badly fouled systems must be cleaned before treatment is begun.

Continuous Feed Method

Initial Dose: When the system is noticeably fouled, add 0.48 - 0.98 fluid oz. H-434/1,000 gal. of water to the system (5 - 9 ppm H-434). Repeat until control is achieved.

Subsequent Dose: Maintain this level by pumping a continuous feed of 0.098 - 0.48 fluid oz. H-434/1,000 gal. of water to the system lost by blowdown (1 - 5 ppm H-434).

Badly fouled systems must be cleaned before treatment is begun

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FOR CONTROL OF ALGAE AND FUNGI

Add 2.96 - 9.72 fluid oz. H-434/1,000 gal. of water to the system, depending on the severity of contamination (29 - 94 ppm H-434).

Intermittent or Slug Method

Initial Dose: When the system is noticeably fouled, add 4.92 - 9.72 fluid oz. H-434/1,000 gal. of water to the system (48 - 94 ppm H-434). Repeat until control is achieved.

Subsequent Dose: When microbial control is evident, add 2.96 - 9.72 fluid oz. H-434/1,000 gal. of water to the system daily, or as needed to maintain control (29 - 94 ppm H-434).

Badly fouled systems must be cleaned before treatment is begun.

Continuous Feed Method

Initial Dose: When the system is noticeably fouled, add 4.92 - 9.72 fluid oz. H-434/1,000 gal. of water to the system (48 - 94 ppm H-434). Repeat until control is achieved.

Subsequent Dose: Maintain this treatment level by pumping a continuous feed of 2.96 - 9.72 fluid oz. H-434/1,000 gal. of water to the system per day (29 - 94 ppm H-434).

Badly fouled systems must be cleaned before treatment is begun.

ONCE -THROUGH INDUSTRIAL COOLING WATER SYSTEMS

For controlling bacteria, fungi, and algae in once-through and closed-cycle fresh and sea water cooling systems, cooling ponds, canals, and lagoons, add H-434 to the system inlet water or before any other contaminated area in the system. Addition should be made with a metering pump; it may be continuous or intermittent depending on the severity of the contamination when treatment is begun, and the retention time in the system.

FOR CONTROL OF BACTERIA

Add 0.08 - 1.0 fluid oz. H-434/1,000 gal. of water to the system based on the flow rate through the system, depending on the severity of contamination (1 - 10 ppm H-434).

Intermittent Method or Slug Method

Initial Dose: When the system is noticeably fouled, add 0.50 - 1.0 fluid oz. H-434/1,000 gal. of water to the system (5 - 10 ppm H-434). Repeat until control is achieved.

Subsequent Dose: When microbial control is evident, add 0.24 - 1.0 fluid oz. H-434/1,000 gal. of water to the system every 4 days, or as needed to maintain control (2 - 10 ppm H-434).

Badly fouled systems must be cleaned before treatment is begun.

Continuous Feed Method

Initial Dose: When the system is noticeably fouled, add 0.50 - 1.0 fluid oz. H-434/1,000 gal. of water to the system (5 - 10 ppm H-434).

Subsequent Dose: Maintain this level by pumping a continuous feed of 0.08 - 0.50 fluid oz. H-434/1,000 gal. of water to the system per day (1 - 5 ppm H-434).

Badly fouled systems must be cleaned before treatment is begun.

FOR CONTROL OF FUNGI AND ALGAE

Add 2.9 - 9.7 fluid oz. H-434/1,000 gal. of water to the system, depending on the severity of contamination (29 - 94 ppm H-434).

Intermittent Method or Slug Method

Initial Dose: When the system is noticeably fouled, add 4.9 - 9.7 fluid oz. H-434/1,000 gal. of water to the system (48 - 94 ppm H-434). Repeat until control is achieved.

Subsequent Dose: When microbial control is evident, add 2.9 - 9.7 fluid oz. H-434/1,000 gal. of water to the system daily, or as needed to maintain control (29 - 94 ppm H-434).

Badly fouled systems should be cleaned before treatment is begun.

Continuous Feed Method

Initial Dose: When the system is noticeably fouled, add 4.9 - 9.7 fluid oz. H-434/1,000 gal. of water to the system (48 - 94 ppm H-434).

Subsequent Dose: Maintain this level by pumping a continuous feed of 2.9 - 9.7 fluid oz. H-434/1,000 gal. of water to the system (29 - 94 ppm H-434).

Badly fouled systems should be cleaned before treatment is begun.

AIR WASHER SYSTEMS

Add 0.2 - 6.4 fluid oz. H-434/1,000 gal. of water to the system, depending upon the severity of the contamination to control slime-forming bacteria and fungi in industrial air washer systems (2 - 62 ppm H-434).

Intermittent or Slug Method

Initial Dose: When the system is noticeably fouled, add 4 - 6.4 fluid oz. H-434/1,000 gal. of water to the system (39 - 62 ppm H-434). Repeat until control is achieved.

Subsequent Dose: When microbial control is evident, add 0.2 - 3.2 fluid oz. H-434/1,000 gal. of water to the system every 2 days or as needed to maintain control (2 - 31 ppm H-434).

Badly fouled systems should be cleaned before treatment is begun.

Continuous Feed Method

Initial Dose: When the system is noticeably fouled, add 4 - 6.4 fluid oz. H-434/1,000 of water to the system (39 - 62 ppm H-434).

Subsequent Dose: Maintain treatment by adding 0.2 - 3.2 fluid oz. H-434/1,000 gal. of make-up water to the system (2 - 31 ppm H-434).

Badly fouled systems should be cleaned before treatment is begun.

NOTE: For use only in industrial water systems that maintain effective mist eliminating components.

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PAPER MILLS

For the control of bacteria, fungal, and yeast growth in pulp, paper and paperboard mills, add H-434 at the rate of 0.15 - 0.50 lb./ton of pulp or paper (dry basis). Addition may be continuous or intermittent, depending upon the type of system and the severity of contamination. It should be made with a metering pump at a location that will insure uniform distribution of H-434 in the mass of fiber and water, such as the beaters, jordan inlet or discharge, broke chests, furnish chests, save-alls, and white water tanks.

Heavily fouled systems should be boiled out, then treated with 0.15 - 0.35 lbs. H-434/ton of paper (dry basis) as necessary for control. Moderately fouled systems should be treated continuously with 0.35 - 0.50 lbs. H-434/ton of paper (dry basis) until the slime accumulations is controlled. Addition rates can then be reduced to 0.15 - 0.35 lbs. H-434/ton of paper on a continuous or intermittent basis, as needed for control. Dislodged slime may cause breaks in the paper and a clean-up of the paper machine may be advisable.

Slightly fouled systems should be treated continuously with 0.15 - 0.35 lbs. H-434/ton of paper (dry basis) until the slime is controlled, then added on an intermittent basis to maintain control.

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LIQUID CONCENTRATES

DESCRIPTION: H-434 Microbiocide is a preservative which effectively inhibits the growth of microorganisms in emulsions, coatings, waxes, polishes, sizing, caulk, ink, adhesive, and pigment slurries.

TYPICAL USE LEVELS: Laboratory testing and customer use show H-434 Microbiocide is typically effective when applied at concentrations shown below. The exact amount necessary for the preservation of any given formulation will depend on the components, storage time, temperature, etc., and can be determined by actual testing. All concentrations are based on the total formulation weight.

	Effective Concentration
Latex Emulsions	0.05 - 0.8%
Adhesives	0.05 - 0.8%
Waxes, Polishes & Ink	0.05 - 0.4%
Pigment Slurries	0.04 - 0.9%
Aqueous Paints & Coatings	0.08 - 0.3%

METAL WORKING FLUIDS CONTAINING WATER

This product is effective in metalworking fluid concentrates which have been diluted in water at ratios of 1:100 - 1.4.

For controlling (or inhibiting) the growth of bacteria, fungi, and yeasts that may deteriorate metalworking fluids containing water, add H-434 Microbiocide to the fluid in the collection tank. Additions should be made with a metering pump.

Initial or Slug Dose: When the system is just noticeably fouled, add 1.1 gal. H-434 Microbiocide/1,000 gal. of metalworking fluid to the system. Repeat until control is achieved.

Subsequent Dose: When microbial control is evident, add 0.44 - 0.88 gal. H-434 Microbiocide/1,000 gal. of metalworking fluid per day, or as needed to maintain control.

Additions may be made continuously or intermittently. Slug the system as necessary.

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OCT 2, 1997

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ELECTRODEPOSITION SYSTEMS

For control of bacteria and fungi in Electrodeposition Systems (such as automotive or industrial equipment systems). Slugfeed H-434 at a rate of 0.1 gal./1,000 gallons of water in the system (100 ppm) as needed, depending upon results of cultures taken from the system.

REVERSE OSMOSIS SYSTEMS

H-434 may be used to control bacteria and reduce biofouling in industrial membrane systems (reverse osmosis, ultrafiltration, microfiltration). Acceptable applications include reverse osmosis for the production of boiler makeup water, rinsing of electric components, and industrial wastewater treatment.

H-434 may be either slug fed or continuously fed to the feed streams of membrane systems. For slug feed, add between 50 and 70 ppm H-434 for 30 minutes to 3 hours. Frequency of addition should be every 5 days or as needed. When fed continuously, feed rate should be between 10 and 100 ppm H-434.

NOTE: For industrial systems in which H-430 residuals cannot be tolerated. H-434 must be slug fed. During and for 30 minutes to 1 hour following chemical addition, permeated and concentrate systems must be diverted to waste.

r additional information regarding incidents involving human and environmental exposure, call Calgon Corporation , Health and Environmental Affairs at 412-494-8000.

H-434/9-97/EPA Sub.