AQUCAR™ GA 24 Water Treatment Microbiocide

A highly effective Microbiocide for use in controlling Bacteria including Slime Forming Bacteria and Sulfate-Reducing Bacteria, 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 Service Water and Auxiliary Systems, Heat Transfer Systems, Wastewater Systems Including Wastewater Sludge and Holding Tanks, Paper Mills and Paper Mill Process Water Systems, Pigments and Filler Slurries for Paper and Paperboard, Water Based Coatings for Paper and Paperboard and Functional Fluids and Lubricants and Aqueous Metalworking Fluids and for use by Manufacturers as a Preservative in Industrial, Institutional and Consumer Processes and Products and for use in Preserving Aqueous-Based Solutions, Slurries and Emulsions and in Oil Well Drilling, Oil Field Processing Applications, Oil Field Water Systems, Oil and Gas Production and Transmission Pipelines and Systems, and Gas Storage Fields and Equipment; such as Steam-Injection Water Holding Tanks, Flood Water, Fracturing Fluids, 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.

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS

DANGER

KEEP OUT OF REACH OF CHILDREN

Corrosive. Causes irreversible eye damage. Causes skin irritation. Harmful if inhaled. Harmful if swallowed. Harmful if absorbed through skin. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Causes asthmatic signs and symptoms in hyper-reactive individuals.

Do not get in eyes, on skin, on clothing.
Avoid breathing vapor. Do not swallow.
Wear goggles, protective clothing, and butyl or nitrile gloves.
Wash thoroughly with soap and water after handling.
Remove contaminated clothing and wash before reuse.

ENVIRONMENTAL HAZARDS

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 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.

STORAGE AND HANDLING

AQUCAR GA 24 Water Treatment Microbiocide is incompatible with many commonly used materials of construction such as steel, galvanized iron, aluminum, tin, and zinc. AQUCAR GA 24 Water Treatment Microbiocide can be stored and handled in baked phenolic-lined steel, polyethylene, stainless steel, or reinforced epoxy-plastic equipment. This product freezes at about 14° F (-10° C). Therefore, unless the storage tank is inside or underground, heating and insulation may be required. If heating is needed, exposure to high temperatures should be avoided. For short storage times (up to about 1 month), temperatures of up to 100° F (37.8° C) can be tolerated but the preferred maximum storage temperature is about 80° F (26.7° C).

A stainless steel centrifugal pump is suggested for transfer service. Spiral-wound stainless steel with TEFLON® Polymer is suitable for gaskets and packing.

Handle in a well-ventilated area. If vapors are irritating to the nose or eyes, special ventilation or respiratory protection (MSHA/NIOSH approved air purifying respirator equipped with an organic vapor cartridge) may be required.

STORAGE AND DISPOSAL

PESTICIDE DISPOSAL: Do not contaminate water, food or feed by storage or disposal. Open dumping is prohibited. Pesticide wastes are toxic. 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 your Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL:

Nonrefillable container. Do not reuse or refill this container. Triple or pressure rinse (or equivalent) promptly after emptying. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or other procedures approved by state and local authorities.

BEFORE HANDLING OR USING THIS PRODUCT, SEE YOUR EMPLOYER AND READ CURRENT MATERIAL SAFETY DATA SHEET.

LIMITED WARRANTY AND DISCLAIMER

Seller warrants that the product conforms to its chemical description as contained on this label and is reasonably fit for the purposes stated on this label when used in accordance with directions under normal conditions of use. THE WARRANTIES MADE IN THIS PARAGRAPH ARE SELLER'S SOLE WARRANTIES WITH RESPECT TO THE PRODUCT AND ARE MADE EXPRESSLY IN LIEU OF AND EXCLUDE ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE AND ALL OTHER EXPRESS OR IMPLIED REPRESENTATIONS AND WARRANTIES.

Active Ingredient(s):	**Glutaraldehyde**	**24%**
Inert Ingredient(s):		**76%**
Total		**100%**

KEEP OUT OF REACH OF CHILDREN

DANGER

FIRST AID	
IF SWALLOWED:	• Call a poison control center or a doctor immediately for treatment advice. • Do not induce vomiting. • Do not give anything to drink.
IF IN EYES:	• Wash immediately and continuously with flowing water for at least 30 minutes. • Remove contact lenses after the first 5 minutes and continue washing. Obtain prompt medical consultation, preferably from an ophthalmologist. • Call a poison control center or a doctor immediately for treatment advice.
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 a doctor for treatment advice.
IF INHALED:	• Move person to fresh air. • If person is not breathing, call an emergency responder or an ambulance, then give artificial respiration, preferably mouth-to-mouth. • Call a poison control center or a doctor for further treatment

HOT LINE NUMBER

IN CASE OF AN EMERGENCY endangering life or property involving this product, call collect (989)636-4400.

NOTE TO PHYSICIAN

Aspiration may cause lung damage. Probable mucosal damage may contraindicate the use of gastric lavage.

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

SEE SIDE PANEL FOR ADDITIONAL PRECAUTIONARY STATEMENTS.

E.P.A. Registration No. 464-8130
E.P.A. Est. 10352-WV-002

Produced for: *(option to use when produced by contract manufacturer)*

Department of Agriculture
STATE OF HAWAII
LICENSED
PERIOD 2015-2017 LIC. NO. 9197.344 Disc.

The Dow Chemical Company
Midland, Michigan 48674 U.S.A.
(989)636-4400

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Made in U.S.A.

NET CONTENTS: 57.9 gallons
NET WT: 463 lb / 210 kg
LOT NO:

Department of Agriculture
STATE OF HAWAII
LICENSED
PERIOD 2012-2014 LIC. NO.

DIRECTIONS FOR USE

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

AIR WASHERS AND INDUSTRIAL SCRUBBING SYSTEMS/RECIRCULATING COOLING AND PROCESS WATER SYSTEMS
This product may be used only in industrial air washers and air washer systems which have mist-eliminating components. AQUCAR GA 24 Water Treatment Microbiocide should be added at the application rates described below to a water treatment system at a convenient point of uniform mixing such as the basin area. Addition may be made intermittently (SLUG DOSE) or continuously. Badly fouled systems can be shock treated with AQUCAR GA 24 Water Treatment Microbiocide. Under these conditions, blowdown should be discontinued for up to 24 hours.
AQUCAR GA 24 Water Treatment Microbiocide can be used in industrial process water systems that contain ultra filtration units and non-medical reverse osmosis membranes (where approved for compatibility by the membrane manufacturer) and associated distribution systems.
INTERMITTENT (SLUG DOSE) METHOD
Initial dose: When the system is noticeably fouled, apply 25 to 50 fluid ounces of AQUCAR GA 24 Water Treatment Microbiocide per 1,000 gallons of water in the system. Repeat until control is achieved.
Subsequent dose: When microbial control is evident, add 10 to 25 fluid ounces of AQUCAR GA 24 Water Treatment Microbiocide per 1,000 gallons of water in the system weekly, or as needed to maintain control. Badly fouled systems must be cleaned before treatment is begun.
CONTINUOUS FEED METHOD
Initial dose: When the system is noticeably fouled, 25 to 50 fluid ounces of AQUCAR GA 24 Water Treatment Microbiocide per 1,000 gallons of water in the system.
Subsequent dose: Maintain this treatment level by starting a continuous feed of 5 to 25 fluid ounces of AQUCAR GA 24 Water Treatment Microbiocide per 1,000 gallons of water in the system per day. Badly fouled systems must be cleaned before treatment is begun.

SERVICE WATER AND AUXILIARY SYSTEMS
AQUCAR GA 24 Water Treatment Microbiocide should be used at the same application rates, and in the same manner as described above. It should be added to the system at a point that will allow for uniform mixing throughout the system.

HEAT TRANSFER SYSTEMS
(EVAPORATIVE CONDENSERS, DAIRY SWEETWATER SYSTEMS, HYDROSTATIC STERILIZERS AND RETORTS, AND PASTEURIZERS AND WARMERS)
AQUCAR GA 24 Water Treatment Microbiocide should be used at the same application rates, and in the same manner as described above. It should be added to the system at a point of uniform mixing such as a basin area, sump area, or other reservoir or collecting area from which the treated water will be circulated uniformly throughout the system.

INDUSTRIAL WASTEWATER SYSTEMS
(Wastewater Systems, Wastewater Sludge And Wastewater Holding Tanks)
AQUCAR GA 24 Water Treatment Microbiocide should be added to a wastewater system or sludge at a convenient point of uniform mixing such as the digester. Add 11.3 to 56.3 fluid ounces (0.66 pints to 3.54 quarts)(938 to 4,688 ppm) AQUCAR GA 24 Water Treatment Microbiocide per 100 gallons of wastewater or sludge.

PAPER MILLS AND PAPER MILL PROCESS WATER SYSTEMS
AQUCAR GA 24 Water Treatment Microbiocide should be added to the paper making system at a point of uniform mixing such as the beaters, broke chest pump, save-all tank, or white-water tank.
Initial dose: When the system is noticeably contaminated, add 1.04 to 6.25 lbs of AQUCAR GA 24 Water Treatment Microbiocide per ton of pulp or paper (dry basis) as a slug dose. Repeat until control is achieved. Heavily fouled systems should be boiled out prior to initial treatment.

Subsequent dose: When microbial control is evident, add 0.63 to 4.2 lbs of AQUCAR GA 24 Water Treatment Microbiocide per ton of pulp or paper (dry basis) as a slug dose as necessary to maintain control.

PIGMENTS AND FILLER SLURRIES FOR PAPER AND PAPERBOARD
(For use in food and non-food contact pigments and filler slurries)
Use from 0.21 to 1.25 lbs. of AQUCAR GA 24 Water Treatment Microbiocide per 1,000 lbs. dry powder to produce a concentration of 210 to 1250 ppm as product (based on slurry solids) in the mixed slurry.

WATER BASED COATINGS
NOTE: For use in non-food contact coatings only.
Use from 0.21 to 1.25 lbs. of AQUCAR GA 24 Water Treatment Microbiocide per 1,000 lbs. dry powder to produce a concentration of 210 to 1250 ppm as product (based on slurry solids) in the mixed slurry.

AQUEOUS METALWORKING FLUIDS
AQUCAR GA 24 Water Treatment Microbiocide should be added to a metalworking fluid system at a point of uniform mixing such as the fluid collection tank. Additions may be made intermittently (SLUG DOSE) at intervals of one week or less.
Initial dose: When the system is noticeably fouled apply 5 to 15 fluid ounces (100 to 300 ppm active) of AQUCAR GA 24 Water Treatment Microbiocide per 100 gallons of metalworking fluid to the system. Repeat until control is achieved.
Subsequent dose: When microbial control is evident, add 2 to 10 fluid ounces (40 to 200 ppm active) of AQUCAR GA 24 Water Treatment Microbiocide per 100 gallons of metalworking fluid to the system weekly, or as needed to maintain control. Badly fouled systems should be cleaned before treatment is begun.

WATER BASED CONVEYOR LUBRICANTS
(Brewery, Juice, Dairy, Beverage, and Food Processing Systems)
Avoid contamination of food in application of product.
Thoroughly clean all tracks and conveyors to remove gross soil. Rinse well. Use an automatic feed system as recommended by your DOW representative to provide 2.5 to 15 fluid ounces (50 to 300 ppm active) of AQUCAR GA 24 Water Treatment Microbiocide per 100 gallons of diluted lubricant.

GENERAL PRESERVATIVE USE
AQUCAR GA 24 Water Treatment Microbiocide is recommended for use in aqueous or water containing products and systems, including industrial, institutional and consumer in-can processes and products, to control the growth of bacteria and fungi. For effective preservation, add AQUCAR GA 24 Water Treatment Microbiocide to the product formulation at a rate of 0.044% to 0.42% based on the water content of the product (0.42 to 4.2 lbs AQUCAR GA 24 Water Treatment Microbiocide per 1,000 lbs water content). Mix uniformly.

PRESERVATIVE FOR CONCENTRATES
For use in concentrates where effective preservation is needed after dilution, add AQUCAR GA 24 Water Treatment Microbiocide to the product formulation at a rate such that the diluted end -use product will contain 0.042% to 0.42% AQUCAR GA 24 Water Treatment Microbiocide.
At no time during the preservation process should the level of AQUCAR GA 24 Water Treatment Microbiocide exceed 6.9%.

REVERSE OSMOSIS MEMBRANES
For effective preservation of reverse osmosis elements (where approved for compatibility by membrane manufacturer), immerse elements in a tank containing 0.42% to 4.2% AQUCAR GA 24 Water Treatment Microbiocide. AQUCAR GA 24 Water Treatment Microbiocide can also be added to in-line recirculating systems for preservation of installed out-of-service reverse osmosis equipment (where approved for compatibility by membrane manufacturer). Add 0.42% to 4.2% AQUCAR GA 24 Water Treatment Microbiocide to the tank in the circulating system. Maintain the concentration of AQUCAR GA 24 Water Treatment Microbiocide by periodic addition to counteract any system leakage.

CONCRETE ADMIXTURES
For effective preservation of concrete admixtures, add AQUCAR GA 24 Water Treatment Microbiocide to the product formulation at a rate of 4,200 to 16,500 ppm based on the weight of the admixture (4.2 to 16.5 lbs AQUCAR GA 24 Water Treatment Microbiocide per 1,000 lbs. concrete admixture). Mix uniformly.

WATER FLOODS
AQUCAR GA 24 Water Treatment Microbiocide should be added to a water flood system at a point of uniform mixing.
Initial treatment: When the system is noticeably contaminated, add 208 to 10,416 ppm AQUCAR GA 24 Water Treatment Microbiocide to the system (0.2 to 9.8 gallons AQUCAR GA 24 Water Treatment Microbiocide per 1,000 gallons flood water). Repeat until control is achieved. **Subsequent dose:** When microbial control is evident, add 42 to 10,416 ppm AQUCAR GA 24 Water Treatment Microbiocide (0.04 to 9.8 gallons AQUCAR GA 24 Water Treatment Microbiocide per 1,000 gallons flood water) to the system weekly, or as needed to maintain control.

FRAC FLUIDS
Product not registered for this use in the State of California.
AQUCAR GA 24 Water Treatment Microbiocide reduces bacterial contamination and degradation of fracturing fluids and gels used in oil and gas well stimulations. Add AQUCAR GA 24 Water Treatment Microbiocide to the frac water storage tanks or directly into the well head injection pipeline as the water is being pumped down-hole. Dose Range: AQUCAR GA 24 Water Treatment Microbiocide should be added at a rate of 208 to 10,416 ppm (2.0 – 98 gallons per 10,000 gallons) depending on the degree of bacterial fouling in the source water.

DRILLING, COMPLETION, AND WORKOVER FLUIDS
AQUCAR GA 24 Water Treatment Microbiocide should be added to a drilling fluid system at a point of uniform mixing such as the circulating mud tank.
Initial treatment: Add 104 to 2,083 ppm AQUCAR GA 24 Water Treatment Microbiocide (0.4 to 8.2 gallons AQUCAR GA 24 Water Treatment Microbiocide per 100 barrels of fluid) to a freshly prepared fluid depending on the severity of contamination.
Maintenance dosage: Maintain a concentration of 104 to 2,083 ppm AQUCAR GA 24 Water Treatment Microbiocide by adding 0.4 to 8.2 gallons of AQUCAR GA 24 Water Treatment Microbiocide per 100 barrels of additional fluid, or as needed, depending on the severity of contamination.

PACKER FLUIDS
AQUCAR GA 24 Water Treatment Microbiocide should be added to a packer fluid at a point of uniform mixing such as a circulating holding tank. Add 104 to 1,250 ppm AQUCAR GA 24 Water Treatment Microbiocide (0.4 to 4.9 gallons AQUCAR GA 24 Water Treatment Microbiocide per 100 barrels of fluid) to a freshly prepared fluid depending on the severity of contamination. Seal the treated packer fluid in the wall between the casing and production tube.

OIL PRODUCTION AND TRANSMISSION PIPELINES AND SYSTEMS
Product not registered for this use in the State of California.
AQUCAR GA 24 Water Treatment Microbiocide should be added to an oil production or transmission line via direct injection. The application should be conducted to ensure maximum distribution of AQUCAR GA 24 Water Treatment Microbiocide throughout the entire internal pipeline surface by adding a sufficient amount of biocide to detect/measure a residual concentration at the back end of the pipeline system. Criteria for success of the treatment will be a reduction in bacterial counts and/or reduced corrosion rates. To facilitate application, it may be desirable to dilute the AQUCAR GA 24 Water Treatment Microbiocide with an appropriate solvent immediately before use. The concentration in the solvent should not fall below an active concentration range of 521 to 5,208 ppm based on the volume of water in the pipeline. Injections to the system should be weekly, or as needed to maintain control.

GAS PRODUCTION AND TRANSMISSION PIPELINES AND SYSTEMS
AQUCAR GA 24 Water Treatment Microbiocide should be added to a gas production or transmission pipeline via direct injection. The application should be conducted to ensure maximum distribution of AQUCAR GA 24 Water Treatment Microbiocide throughout the entire internal pipeline surface by adding a sufficient amount of biocide to detect/measure a residual concentration at the back end of the pipeline system. Criteria for success of the treatment will be a reduction in bacterial counts and/or reduced corrosion rates. To facilitate application, it may be desirable to dilute the AQUCAR GA 24 Water Treatment Microbiocide with an appropriate solvent immediately before use. The concentration in the solvent should not fall below an active concentration range of 521 to 5,208 ppm based on the volume of water in the pipeline. Injections to the system should be weekly, or as needed to maintain control.

GAS STORAGE WELLS AND SYSTEMS
Individual injection wells should be treated with a sufficient quantity of AQUCAR GA 24 Water Treatment Microbiocide to produce a concentration of 1,042 to 10,416 ppm AQUCAR GA 24 Water Treatment Microbiocide when diluted by the water present in the formation. Injection should take place before gas is injected (during the summer). Injections should be repeated yearly, or as needed to maintain control. Individual drips should be treated with a sufficient quantity of AQUCAR GA 24 Water Treatment Microbiocide to produce a concentration of 417 to 4,166 ppm AQUCAR GA 24 Water Treatment Microbiocide when diluted by the water present in the drip. Injections should be repeated yearly, or as needed to maintain control.

HYDROTESTING
Water used to hydrotest pipelines or vessels should contain 208 to 8,333 ppm AQUCAR GA 24 Water Treatment Microbiocide (0.2 to 7.8 gallons AQUCAR GA 24 Water Treatment Microbiocide per 1,000 gallons water), depending on water quality and length of time the equipment will remain idle.

PIPELINE PIGGING AND SCRAPING OPERATIONS
Add AQUCAR GA 24 Water Treatment Microbiocide 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 a trailing pig). Sufficient AQUCAR GA 24 Water Treatment Microbiocide should be added to produce a concentration of 0.2 to 2.1% (0.2 to 2.0 gallons AQUCAR GA 24 Water Treatment Microbiocide per 100 gallons water), depending on the length of the pipeline and the severity of biofouling.

NOTICE
Do Not Ship or Store with Food, Feeds, Drugs, or Clothing