

AQUCAR™ BP 10 Water Treatment Microbiocide

Active Ingredient(s)

2-Bromo-2-nitropropane-1,3-diol 10%

Inert Ingredient(s): 90%

Total 100%

E.P.A. Registration No. 464-680

E.P.A. Est. 5905-IA-01

KEEP OUT OF REACH OF CHILDREN DANGER

PRECAUTIONARY STATEMENTS

Hazards To Humans And Domestic Animals

CORROSIVE. CAUSES IRREVERSIBLE EYE DAMAGE AND SKIN IRRITATION. HARMFUL IF SWALLOWED, ABSORBED THROUGH THE SKIN, OR INHALED. PROLONGED OR FREQUENTLY REPEATED SKIN CONTACT MAY CAUSE ALLERGIC REACTION IN SOME INDIVIDUALS.

Do not get in eyes, on skin, or on clothing. Wear overalls over long-sleeved shirt and long pants, socks, chemical-resistant footwear, goggles, and chemical-resistant gloves (such as nitrile, butyl rubber, neoprene rubber, or barrier laminate). Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Use detergent and hot water. Keep and wash PPE separately from other laundry. Discard clothing or other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Wash the outside of gloves before removing. As soon as possible wash thoroughly and change into clean clothing.

Physical and Chemical Hazards

This product is corrosive to mild steel

Produced for: *When produced by a contract manufacturer*



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

® TM Trademark of The Dow Chemical Company ("Dow") or an affiliated company of Dow

Made in U.S.A.

111018_new•2/29/2012•RA4657

FIRST AID

IF IN EYES	<ul style="list-style-type: none"> •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.
IF SWALLOWED	<ul style="list-style-type: none"> •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.
IF ON SKIN	<ul style="list-style-type: none"> •Take off contaminated clothing. •Rinse skin immediately with plenty of water for 15–20 minutes. •Call a poison control center or doctor for treatment.
IF INHALED	<ul style="list-style-type: none"> •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.

HOT LINE NUMBER

IN CASE OF AN EMERGENCY endangering life or property involving this product, call collect (989)636-4400. Have the product container or label with you when calling a Poison Control Center or doctor or going for treatment.

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

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. Do not contaminate water by cleaning of equipment, or disposal of wastes.

STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal. Keep away from heat.

Pesticide Storage: Do not store or transport in unlined metal container.

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 of the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL: Nonrefillable Container. Do not reuse or refill this container. Triple rinse or pressure rinse container (or equivalent) promptly after emptying. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or, by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

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.



Department of Agriculture
STATE OF HAWAII

LICENSED



Department of Agriculture
STATE OF HAWAII

LICENSED

PERIOD 2011-2013 LIC. NO. PERIOD 2014-2016 LIC. NO.

9197.319

See Directions For Use label adjacent to the AQUCAR BP 10 Water Treatment Microbiocide drum label.

NET WT: 44 lb / 20 kg

LOT NO:

NET CONTENTS: 5 gallons

AQUCAR™ BP 10 Water Treatment Microbiocide

Directions For Use Label To Be Used With AQUCAR BP 10 Water Treatment Microbiocide Drum Label.

IN CASE OF AN EMERGENCY endangering life or property involving this product, call collect (989)636-4400. Have the product container or label with you when calling a Poison Control Center or doctor or going for treatment.

DIRECTIONS FOR USE

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

GENERAL USE DIRECTIONS: To control the growth of slime-forming, spoilage, odor-causing and corrosion inducing bacteria and algae in industrial applications. **Not for control of algae in California.**

AQUCAR BP 10 Water Treatment Microbiocide can be dosed directly by preparing a stock solution immediately prior to application either by open pouring (not cooling water treatment) or by metered pump. For product preservation AQUCAR BP 10 Water Treatment Microbiocide is best added to any liquid phase as late as possible during the manufacturing process and after any heating stage, or when the product has cooled below 40 °C.

OIL FLOODING WATER / INJECTION WATERS

To inhibit the growth of slime-forming or corrosion-inducing sulfate-reducing bacteria in oil well injection waters, inject AQUCAR BP 10 Water Treatment Microbiocide as a slug dose at any convenient point.

Frequency And Dose: Depending on severity and rapidity of contamination, AQUCAR BP 10 Water Treatment Microbiocide should be used from once a week to once a month at a concentration of 2-8 pt./1000 gallons.

DRILLING MUDS

To preserve oil and gas well drilling muds by inhibiting growth of cellulolytic, slime-forming or sulfate-reducing bacteria. AQUCAR BP 10 Water Treatment Microbiocide may be dosed directly into the mud hopper.

Frequency And Dose: A single slug dose one to three times each 24 hours. Each slug dose should be 0.18 to 0.36 pt./barrel total mud volume.

DRILLING FLUIDS AND WORKOVER AND COMPLETION FLUIDS

For use in oil and gas well drilling muds, and brines, inhibiting growth of cellulolytic, slime-forming or sulfate-reducing bacteria. AQUCAR BP 10 Water Treatment Microbiocide may be dosed directly into the mud or brine.

Frequency And Dose: A single slug dose one to three times each 24 hours. Dosing may be less frequent where the contamination is low. Each slug dose should be 0.18 to 0.36 pt./barrel total mud volume.

INJECTION FLUIDS

To control contamination and corrosion from bacterial sources in fluids/waste fluids that are disposed of through injection into an approved well following approved guidelines, add AQUCAR BP 10 Water Treatment Microbiocide to each volume of fluid prior to injection.

Frequency And Dose: AQUCAR BP 10 Water Treatment Microbiocide should be added at a rate of 500-1000 ppm (0.18-0.36 pt./barrel) based on the water percent of the injection fluid.

ENHANCED OIL RECOVERY (EOR) FLUIDS

For the effective control of bacterial growth and eliminating degradation of EOR gels and fluids used in the oil and gas industry, add AQUCAR BP 10 Water Treatment Microbiocide during mixing or by injection during the EOR procedure.

Frequency And Dose: AQUCAR BP 10 Water Treatment Microbiocide should be added throughout the EOR operation. AQUCAR BP 10 Water Treatment Microbiocide should be added at the rate of 500-1000 ppm (0.18-0.36 pt./barrel) depending on the quality of the makeup water.

WELL SQUEEZE FLUIDS

For the effective control of aerobic and anaerobic bacteria in squeeze fluids and downhole well bore areas, add AQUCAR BP 10 Water Treatment Microbiocide during pre-mixing of the well squeeze fluid or by direct injection at the well head during the well squeeze procedure.

Frequency And Dose: AQUCAR BP 10 Water Treatment Microbiocide should be used for each well squeeze operation to ensure best results. Add AQUCAR BP 10 Water Treatment Microbiocide at a rate of 2-16 pt./1000 gallons, depending on the quality of the makeup water.

FRACTURING FLUIDS

AQUCAR BP 10 Water Treatment Microbiocide reduces bacterial contamination and degradation of fracturing gels and fluids used as well stimulants in the oil and gas industry. Add AQUCAR BP 10 Water Treatment Microbiocide directly to the water phase at any stage of the fracturing operation, for example, at the pre-mixing stage or by direct injection at the well head in combined mix/injection procedures.

Frequency And Dose: AQUCAR BP 10 Water Treatment Microbiocide should be used for each fracturing operation to ensure best results. Add AQUCAR BP 10 Water Treatment Microbiocide at a rate of 4-8 pt./1000 gallons, depending on the quality of the makeup water.

INDUSTRIAL RECIRCULATING WATER COOLING TOWERS AND EVAPORATIVE CONDENSERS

To control slime-forming bacteria and algae in industrial recirculation cooling towers and evaporative condensers, AQUCAR BP 10 Water Treatment Microbiocide may be slug-dosed directly into the sump or basin or it may be added by a suitable chemical pump. Where metering pumps are used, these must be set to deliver the required dose as fast as possible (e.g., within 1 hour). The dosing point should be located close to the outlet from the basin to ensure rapid dispersal around the system.

Frequency And Dose: AQUCAR BP 10 Water Treatment Microbiocide may be shock-dosed once or twice weekly as a normal routine. Where contamination is heavy, more frequent dosing may be required. In heavily fouled systems, the tower should be drained and cleaned before treating with AQUCAR BP 10 Water Treatment Microbiocide. AQUCAR BP 10 Water Treatment Microbiocide should be shock-dosed at between 2-8 pt./1000 gallons depending on the condition of the tower, the quality of raw water input, and the amount of bleed off.

PRODUCED WATER

To inhibit the growth of slime-forming or corrosion-inducing sulfate-reducing bacteria in formation water produced by wells together with oil or gas, inject AQUCAR BP 10 Water Treatment Microbiocide into the water-containing oil or gas stream at any convenient point. It should be injected as slug doses, not continuous feed.

Frequency And Dose: Depending on severity and rapidity of contamination, AQUCAR BP 10 Water Treatment Microbiocide should be slug-dosed from once a week to once a month with 0.083-0.33 pt./barrel.

INDUSTRIAL PROCESS WATER

Use AQUCAR BP 10 Water Treatment Microbiocide to effectively control bacterial and algal growth in industrial process water, including closed circuit machine cooling (injection molding, etc.) and stored (non-potable) water, as well as to reduce the biofouling of pipework, heat exchangers, condenser tubes, and to minimize microbially produced corrosion. Dosing should be carried out into the sump/tank of the process water system. Shock-dosing is preferred. AQUCAR BP 10 Water Treatment Microbiocide can also be added as an intermittent flush treatment during regular maintenance cleaning of watertanks (non-potable) or equipment.

Frequency And Dose: In open systems, shock dosing should be carried out on a once weekly to once monthly basis depending on the degree of contamination. In closed circuit systems, with little possibility of re-infection or loss of AQUCAR BP 10 Water Treatment Microbiocide because of makeup or dilution, less frequent dosing (once monthly/twice monthly) should be sufficient. Dosing should be carried out to give an initial concentration of 500 ppm AQUCAR BP 10 Water Treatment Microbiocide (4 pt./1000 gallons). When the above treatment has been successful, dosing can be lowered to a minimum of 100 ppm AQUCAR BP 10 Water Treatment Microbiocide (0.8 pt./1000 gallons). For intermittent treatment of industrial process water during routine maintenance, AQUCAR BP 10 Water Treatment Microbiocide should be used at 1000 ppm (8 pt./1000 gallons) and a contact time of at least one hour.

PAPER MILL PROCESS WATER

To control slime-forming bacteria in paper or paperboard process water systems, AQUCAR BP 10 Water Treatment Microbiocide may be dosed at a convenient point early in the process system. Suitable dosing points are the machine chest, constant head box, or backwater loop system.

Frequency And Dose: AQUCAR BP 10 Water Treatment Microbiocide should be shock-dosed once, twice, or three times daily in quantities sufficient to meet the required dose based on the daily production of finished products. Dose at between 0.2-5 pints per ton of finished paper or paperboard depending on the complexity of the system, quality of the raw paper and type and the degree of contamination.

PAPER MILLS - BULK PULP

To preserve bulk quantities of pulp in paper and paperboard manufacturing systems or to prevent foul odors and general biodeterioration of stock when it is stored in bulk for any significant period of time, add AQUCAR BP 10 Water Treatment Microbiocide directly into the hydropulper, machine chest, or stock chest.

Frequency And Dose: In general, a single slug dose will provide control for up to 3 days or longer depending upon the initial level of contamination in the stock. In situations where contamination is high, repeat dosing every 1-7 days may be required. AQUCAR BP 10 Water Treatment Microbiocide should be dosed at 4-16 pt./1000 gallons per ton of stock depending on the type and degree of contamination.

USES UNAPPROVED IN CALIFORNIA

PIPELINE MAINTENANCE

To control aerobic and anaerobic bacteria, particularly sulfate-reducing bacteria, growth in oil and gas related production piping and transportation systems, inject AQUCAR BP 10 Water Treatment Microbiocide directly into the pipeline or add to the hydrocarbon phase. Addition of the AQUCAR BP 10 Water Treatment Microbiocide will produce long-term water concentrations by a diffusion process.

Frequency And Dose: Slug treatments are recommended and can vary from daily to monthly to control growth. AQUCAR BP 10 Water Treatment Microbiocide should be dosed at a rate which will achieve concentrations of 250-2000 ppm in the aqueous phase. Higher concentrations may be used to allow diffusion into the aqueous phase. Dose will depend on the volume of crude or oil and the expected water fraction.

WATER BOTTOMS IN OIL OR TRANSPORTATION TANKS

AQUCAR BP 10 Water Treatment Microbiocide provides effective control of bacterial contamination in water bottoms, in crude, and refined hydrocarbon storage systems. Above and below ground storage tanks and large marine systems are all suitable for treatment. AQUCAR BP 10 Water Treatment Microbiocide may be injected directly into the water bottom or may be sprayed over the surface of the hydrocarbon phase and allowed to percolate through.

Frequency And Dose: Direct addition to the water phase by injection or percolation should be carried out every 30-60 days, depending on the severity of the problem. Addition to the hydrocarbon phase will result in longer term protection by gradual diffusion from the hydrocarbon phase into the water phase (depending on storage conditions). Incorporate AQUCAR BP 10 Water Treatment Microbiocide at a rate which will achieve concentrations of 500-1000 ppm in the aqueous phase. Larger quantities may be added when dosing the hydrocarbon phase to allow diffusion of the active ingredient into the water bottom.

Produced For:



THE DOW CHEMICAL COMPANY

Midland, Michigan 48674

(989) 636-4400

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AQUCAR™ BP 10 Water Treatment Microbiocide

Active Ingredient(s)

2-Bromo-2-nitropropane-1,3-diol 10%

Inert Ingredient(s): 90%

Total 100%

E.P.A. Registration No. 464-680

E.P.A. Est. 5905-IA-01

KEEP OUT OF REACH OF CHILDREN DANGER

PRECAUTIONARY STATEMENTS

Hazards To Humans And Domestic Animals

CORROSIVE. CAUSES IRREVERSIBLE EYE DAMAGE AND SKIN IRRITATION. HARMFUL IF SWALLOWED, ABSORBED THROUGH THE SKIN, OR INHALED. PROLONGED OR FREQUENTLY REPEATED SKIN CONTACT MAY CAUSE ALLERGIC REACTION IN SOME INDIVIDUALS.

Do not get in eyes, on skin, or on clothing. Wear overalls over long-sleeved shirt and long pants, socks, chemical-resistant footwear, goggles, and chemical-resistant gloves (such as nitrile, butyl rubber, neoprene rubber, or barrier laminate). Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Use detergent and hot water. Keep and wash PPE separately from other laundry. Discard clothing or other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Wash the outside of gloves before removing. As soon as possible wash thoroughly and change into clean clothing.

Physical and Chemical Hazards

This product is corrosive to mild steel

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Made in U.S.A.

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FIRST AID

IF IN EYES	<ul style="list-style-type: none"> •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.
IF SWALLOWED	<ul style="list-style-type: none"> •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.
IF ON SKIN	<ul style="list-style-type: none"> •Take off contaminated clothing. •Rinse skin immediately with plenty of water for 15–20 minutes. •Call a poison control center or doctor for treatment.
IF INHALED	<ul style="list-style-type: none"> •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.

HOT LINE NUMBER

IN CASE OF AN EMERGENCY endangering life or property involving this product, call collect (989)636-4400. Have the product container or label with you when calling a Poison Control Center or doctor or going for treatment.

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

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. Do not contaminate water by cleaning of equipment, or disposal of wastes.

STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage or disposal. Keep away from heat.

Pesticide Storage: Do not store or transport in unlined metal container.

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 of the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL: Nonrefillable Container. Do not reuse or refill this container. Triple rinse or pressure rinse container (or equivalent) promptly after emptying. Then offer for recycling if available or puncture and dispose of in a sanitary landfill, or, by incineration, or if allowed by state and local authorities, by burning. If burned, stay out of smoke.

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.



LICENSED

LICENSED

PERIOD **2011-2013** LIC. NO. PERIOD **2014-2016** LIC. NO.

9197.319

See Directions For Use Label Adjacent To The AQUCAR BP 10 Drum Label

NET CONTENTS: 475 lbs / 215.5 kgs

NET WT: 54 gallons

Lot No.

AQUCAR™ BP 10 Water Treatment Microbiocide

Directions For Use Label To Be Used With AQUCAR BP 10 Water Treatment Microbiocide Drum Label.

IN CASE OF AN EMERGENCY endangering life or property involving this product, call collect (989)636-4400. Have the product container or label with you when calling a Poison Control Center or doctor or going for treatment.

DIRECTIONS FOR USE

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

GENERAL USE DIRECTIONS: To control the growth of slime-forming, spoilage, odor-causing and corrosion inducing bacteria and algae in industrial applications. **Not for control of algae in California.**

AQUCAR BP 10 Water Treatment Microbiocide can be dosed directly by preparing a stock solution immediately prior to application either by open pouring (not cooling water treatment) or by metered pump. For product preservation AQUCAR BP 10 Water Treatment Microbiocide is best added to any liquid phase as late as possible during the manufacturing process and after any heating stage, or when the product has cooled below 40 °C.

OIL FLOODING WATER / INJECTION WATERS

To inhibit the growth of slime-forming or corrosion-inducing sulfate-reducing bacteria in oil well injection waters, inject AQUCAR BP 10 Water Treatment Microbiocide as a slug dose at any convenient point.

Frequency And Dose: Depending on severity and rapidity of contamination, AQUCAR BP 10 Water Treatment Microbiocide should be used from once a week to once a month at a concentration of 2-8 pt./1000 gallons.

DRILLING MUDS

To preserve oil and gas well drilling muds by inhibiting growth of cellulolytic, slime-forming or sulfate-reducing bacteria. AQUCAR BP 10 Water Treatment Microbiocide may be dosed directly into the mud hopper.

Frequency And Dose: A single slug dose one to three times each 24 hours. Each slug dose should be 0.18 to 0.36 pt./barrel total mud volume.

DRILLING FLUIDS AND WORKOVER AND COMPLETION FLUIDS

For use in oil and gas well drilling muds, and brines, inhibiting growth of cellulolytic, slime-forming or sulfate-reducing bacteria. AQUCAR BP 10 Water Treatment Microbiocide may be dosed directly into the mud or brine.

Frequency And Dose: A single slug dose one to three times each 24 hours. Dosing may be less frequent where the contamination is low. Each slug dose should be 0.18 to 0.36 pt./barrel total mud volume.

INJECTION FLUIDS

To control contamination and corrosion from bacterial sources in fluids/waste fluids that are disposed of through injection into an approved well following approved guidelines, add AQUCAR BP 10 Water Treatment Microbiocide to each volume of fluid prior to injection.

Frequency And Dose: AQUCAR BP 10 Water Treatment Microbiocide should be added at a rate of 500-1000 ppm (0.18-0.36 pt./barrel) based on the water percent of the injection fluid.

Produced For:



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ENHANCED OIL RECOVERY (EOR) FLUIDS

For the effective control of bacterial growth and eliminating degradation of EOR gels and fluids used in the oil and gas industry, add AQUCAR BP 10 Water Treatment Microbiocide during mixing or by injection during the EOR procedure.

Frequency And Dose: AQUCAR BP 10 Water Treatment Microbiocide should be added throughout the EOR operation. AQUCAR BP 10 Water Treatment Microbiocide should be added at the rate of 500-1000 ppm (0.18-0.36 pt./barrel) depending on the quality of the makeup water.

WELL SQUEEZE FLUIDS

For the effective control of aerobic and anaerobic bacteria in squeeze fluids and downhole well bore areas, add AQUCAR BP 10 Water Treatment Microbiocide during pre-mixing of the well squeeze fluid or by direct injection at the well head during the well squeeze procedure.

Frequency And Dose: AQUCAR BP 10 Water Treatment Microbiocide should be used for each well squeeze operation to ensure best results. Add AQUCAR BP 10 Water Treatment Microbiocide at a rate of 2-16 pt./1000 gallons, depending on the quality of the makeup water.

FRACTURING FLUIDS

AQUCAR BP 10 Water Treatment Microbiocide reduces bacterial contamination and degradation of fracturing gels and fluids used as well stimulants in the oil and gas industry. Add AQUCAR BP 10 Water Treatment Microbiocide directly to the water phase at any stage of the fracturing operation, for example, at the pre-mixing stage or by direct injection at the well head in combined mix/injection procedures.

Frequency And Dose: AQUCAR BP 10 Water Treatment Microbiocide should be used for each fracturing operation to ensure best results. Add AQUCAR BP 10 Water Treatment Microbiocide at a rate of 4-8 pt./1000 gallons, depending on the quality of the makeup water.

INDUSTRIAL RECIRCULATING WATER COOLING TOWERS AND EVAPORATIVE CONDENSERS

To control slime-forming bacteria and algae in industrial recirculation cooling towers and evaporative condensers, AQUCAR BP 10 Water Treatment Microbiocide may be slug-dosed directly into the sump or basin or it may be added by a suitable chemical pump. Where metering pumps are used, these must be set to deliver the required dose as fast as possible (e.g., within 1 hour). The dosing point should be located close to the outlet from the basin to ensure rapid dispersal around the system.

Frequency And Dose: AQUCAR BP 10 Water Treatment Microbiocide may be shock-dosed once or twice weekly as a normal routine. Where contamination is heavy, more frequent dosing may be required. In heavily fouled systems, the tower should be drained and cleaned before treating with AQUCAR BP 10 Water Treatment Microbiocide. AQUCAR BP 10 Water Treatment Microbiocide should be shock-dosed at between 2-8 pt./1000 gallons depending on the condition of the tower, the quality of raw water input, and the amount of bleed off.

PRODUCED WATER

To inhibit the growth of slime-forming or corrosion-inducing sulfate-reducing bacteria in formation water produced by wells together with oil or gas, inject AQUCAR BP 10 Water Treatment Microbiocide into the water-containing oil or gas stream at any convenient point. It should be injected as slug doses, not continuous feed.

Frequency And Dose: Depending on severity and rapidity of contamination, AQUCAR BP 10 Water Treatment Microbiocide should be slug-dosed from once a week to once a month with 0.083-0.33 pt./barrel.

INDUSTRIAL PROCESS WATER

Use AQUCAR BP 10 Water Treatment Microbiocide to effectively control bacterial and algal growth in industrial process water, including closed circuit machine cooling (injection molding, etc.) and stored (non-potable) water, as well as to reduce the biofouling of pipework, heat exchangers, condenser tubes, and to minimize microbially produced corrosion. Dosing should be carried out into the sump/tank of the process water system. Shock-dosing is preferred. AQUCAR BP 10 Water Treatment Microbiocide can also be added as an intermittent flush treatment during regular maintenance cleaning of watertanks (non-potable) or equipment.

Frequency And Dose: In open systems, shock dosing should be carried out on a once weekly to once monthly basis depending on the degree of contamination. In closed circuit systems, with little possibility of re-infection or loss of AQUCAR BP 10 Water Treatment Microbiocide because of makeup or dilution, less frequent dosing (once monthly/twice monthly) should be sufficient. Dosing should be carried out to give an initial concentration of 500 ppm AQUCAR BP 10 Water Treatment Microbiocide (4 pt./1000 gallons). When the above treatment has been successful, dosing can be lowered to a minimum of 100 ppm AQUCAR BP 10 Water Treatment Microbiocide (0.8 pt./1000 gallons). For intermittent treatment of industrial process water during routine maintenance, AQUCAR BP 10 Water Treatment Microbiocide should be used at 1000 ppm (8 pt./1000 gallons) and a contact time of at least one hour.

PAPER MILL PROCESS WATER

To control slime-forming bacteria in paper or paperboard process water systems, AQUCAR BP 10 Water Treatment Microbiocide may be dosed at a convenient point early in the process system. Suitable dosing points are the machine chest, constant head box, or backwater loop system.

Frequency And Dose: AQUCAR BP 10 Water Treatment Microbiocide should be shock-dosed once, twice, or three times daily in quantities sufficient to meet the required dose based on the daily production of finished products. Dose at between 0.2-5 pints per ton of finished paper or paperboard depending on the complexity of the system, quality of the raw paper and type and the degree of contamination.

PAPER MILLS - BULK PULP

To preserve bulk quantities of pulp in paper and paperboard manufacturing systems or to prevent foul odors and general biodeterioration of stock when it is stored in bulk for any significant period of time, add AQUCAR BP 10 Water Treatment Microbiocide directly into the hydropulper, machine chest, or stock chest.

Frequency And Dose: In general, a single slug dose will provide control for up to 3 days or longer depending upon the initial level of contamination in the stock. In situations where contamination is high, repeat dosing every 1-7 days may be required. AQUCAR BP 10 Water Treatment Microbiocide should be dosed at 4-16 pt./1000 gallons per ton of stock depending on the type and degree of contamination.

USES UNAPPROVED IN CALIFORNIA

PIPELINE MAINTENANCE

To control aerobic and anaerobic bacteria, particularly sulfate-reducing bacteria, growth in oil and gas related production piping and transportation systems, inject AQUCAR BP 10 Water Treatment Microbiocide directly into the pipeline or add to the hydrocarbon phase. Addition of the AQUCAR BP 10 Water Treatment Microbiocide will produce long-term water concentrations by a diffusion process.

Frequency And Dose: Slug treatments are recommended and can vary from daily to monthly to control growth. AQUCAR BP 10 Water Treatment Microbiocide should be dosed at a rate which will achieve concentrations of 250-2000 ppm in the aqueous phase. Higher concentrations may be used to allow diffusion into the aqueous phase. Dose will depend on the volume of crude or oil and the expected water fraction.

STARCH, PIGMENT AND EXTENDER SLURRIES

To inhibit the growth of spoilage bacteria during the manufacture, storage and distribution of water-based suspension concentrates, AQUCAR BP 10 Water Treatment Microbiocide may be dosed at or close to the end of the manufacturing process in a quantity of the process water. If the manufacturing process involves a heating stage, AQUCAR BP 10 Water Treatment Microbiocide should be added after this stage when the product has cooled to below 40 °C.

Frequency And Dose: AQUCAR BP 10 Water Treatment Microbiocide should be dosed at 1000 - 5000 ppm based on the final formulation volume (8-40 pt./1000 gallons).

WATER BOTTOMS IN OIL OR TRANSPORTATION TANKS

AQUCAR BP 10 Water Treatment Microbiocide provides effective control of bacterial contamination in water bottoms, in crude, and refined hydrocarbon storage systems. Above and below ground storage tanks and large marine systems are all suitable for treatment. AQUCAR BP 10 Water Treatment Microbiocide may be injected directly into the water bottom or may be sprayed over the surface of the hydrocarbon phase and allowed to percolate through.

Frequency And Dose: Direct addition to the water phase by injection or percolation should be carried out every 30-60 days, depending on the severity of the problem. Addition to the hydrocarbon phase will result in longer term protection by gradual diffusion from the hydrocarbon phase into the water phase (depending on storage conditions). Incorporate AQUCAR BP 10 Water Treatment Microbiocide at a rate which will achieve concentrations of 500-1000 ppm in the aqueous phase. Larger quantities may be added when dosing the hydrocarbon phase to allow diffusion of the active ingredient into the water bottom.