BIOBAN™ BP-10

Active Ingredient(s)

2-Bromo-2-nitropropane-1,3-diol	10.0%
Inert Ingredient(s)	90.0%
Total	100.0%

E.P.A. Registriation No. 464-680
E.P.A. Est. 73721-KOR-001

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 · DO NOT GET IN EYES, ON SKIN, OR ON CLOTHING. PROLONGED OR FREQUENTLY REPEATED SKIN CONTACT MAY CAUSE ALLERGIC REACTION IN SOME INDIVIDUALS.

ACCEPTED

MAY 2 3 2002

Under the Federal Insecticide, Fungicide, and Rodenticide Act as amended, for the pesticide, registered under EPA Reg. No. 464-680

DOW *

THE DOW CHEMICAL COMPANY
Midland, Michigan 48674 U.S.A.
1-800-258-CHEM

Made in Korea

Wear overalls over long-sleeved shirt and long pants, socks, chemical resistant footwear, goggles or face shield, 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.

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

FIRST AID:

IF IN EYES: Hold eyes open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first five minutes, then continue rinsing eyes. 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 by a poison control center or doctor.

IF ON SKIN: 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: 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.

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

PHYSICAL AND CHEMICAL HAZARDS
This product is corrosive to mild steel.

NET WT: 215.4 kg/475 lb

LOT

8406 1/2001-1712 Active

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.

DIRECTIONS FOR USE

IT IS A VIOLATION OF FEDERAL LAW TO USE THIS PRODUCT IN A MANNER INCONSISTENT WITH ITS LABELING.

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 rinstate 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: Empty residue into application equipment, triple rinse (or equivalent), then offer drum for recycling or reconditioning, or puncture. Dispose of container in sanitary landfill, or by incineration, if allowed by State and local authorities. If burned, stay out of smoke.

GENERAL USE DIRECTIONS: to control the growth of slime-forming, spoiling, odor-causing and corrosion inducing bacteria and algae in industrial applications. Not for Control of algae in California.
BIOBAN BP-10 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 BIOBAN BP-10 is best added after any heating stage or when the product has cooled below 40°C.

See Directions For Use label adjacent to the BIOBAN BP-10 drum label.

DISINFECTANT LIQUID, CORROSIVE, N.O.S.
(2-BROMO-2-NITRO-1,3 PROPANEDIOL SOLUTION)
UN1903
Apply **Corrosive 8** label.

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Directions For Use label to be used with BIOBAN BP-10 drum label.

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

DIRECTIONS FOR USE

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

OIL FLOODING/INJECTION WATERS
To inhibit the growth of slime-forming or corrosion -inducing sulfate-reducing bacteria in oil well injection waters, inject BIOBAN BP-10 as a slug dose at any convenient point.
FREQUENCY AND DOSE: Depending on severity and rapidity of contamination, BIOBAN BP-10 should be used from once a week to once a month at a concentration of 2-8 pt./1000 gallons.

PIPELINE MAINTENANCE
To control aerobic and anaerobic bacteria, particularly sulfate-reducing bacteria, growth in oil and gas related production piping and transportation systems, inject BIOBAN BP-10 directly into the pipeline or add to the hydrocarbon phase. Addition of the BIOBAN-BP10 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. BIOBAN BP-10 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.

DRILLING FLUIDS
To preserve oil and gas well drilling muds by inhibiting growth of cellulolytic, slime-forming or sulfate-reducing bacteria. BIOBAN BP-10 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.

DOW *

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Midland, Michigan 48674 U.S.A.
1-800-258-CHEM

Made in Korea

84060•162318-DFU Only•8/14/2001•1776 Active

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. BIOBAN BP-10 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 BIOBAN BP-10 to each volume of fluid prior to injection.
FREQUENCY AND DOSE: BIOBAN BP-10 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 BIOBAN BP-10 during mixing or by injection during the EOR procedure.
FREQUENCY AND DOSE: BIOBAN BP-10 should be added throughout the EOR operation. BIOBAN BP-10 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 BIOBAN BP-10 during pre-mixing of the well squeeze fluid or by direct injection at the well head during the well squeeze procedure.
FREQUENCY AND DOSE: BIOBAN BP-10 should be used for each well squeeze operation to ensure best results. Add BIOBAN BP-10 at a rate of 2-16 pt./1000 gallons, depending on the quality of the makeup water.

FRACTURING FLUIDS
BIOBAN BP-10 reduces bacterial contamination and degradation of fracturing gels and fluids used as well stimulants in the oil and gas industry. Add BIOBAN BP-10 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: BIOBAN BP-10 should be used for each fracturing operation to ensure best results. Add BIOBAN BP-10 at a rate of 4-8 pt./1000 gallons, depending on the quality of the makeup water.

WATER BOTTOMS IN OIL OR TRANSPORTATION TANKS
For effective control of bacterial contamination in water bottoms, in crude, and refined hydrocarbon storage systems. Above and below ground stroage tanks and large marine systems are all suitable for treatment. BIOBAN BP-10 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 stroage conditions). Incorporate BIOBAN BP-10 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 active ingredient into the water bottom during the long term.

INDUSTRIAL RECIRCULATING WATER COOLING TOWERS AND EVAPORATIVE CONDENSERS
To control slime-forming bacteria and algae in industrial recirculation cooling towers and evaporative condensers, BIOBAN BP-10 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: BIOBAN BP-10 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 BIOBAN BP-10. BIOBAN BP-10 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 BIOBAN BP-10 into the water-containing oil or gas stream at any convenient point. It should be injected as slug doses, not as a continuous feed.
FREQUENCY AND DOSE: Depending on severity and rapidity of contamination, BIOBAN BP-10 should be slug-dosed from once a week to once a month with 0.083-0.33 pt./barrel.

INDUSTRIAL PROCESS WATER
Use BIOBAN BP-10 to effectively control bacterial and algal growth in industrial process water, including closed circuit machine cooling (injection molding, etc.) and stored (nonpotable) 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. BIOBAN BP-10 can also be used 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 BIOBAN BP-10 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 BIOBAN BP-10 (4 pt./1000 gallons). When the above treatment has been successful, dosing can be lowered to a minimum of 100 ppm BIOBAN BP-10 (0.8 pt./1000 gallons). For intermittent treatment of industrial process waters during routine maintenance, BIOBAN BP-10 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, BIOBAN BP-10 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: BIOBAN BP-10 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 BIOBAN BP-10 directly into the hydropulper, machine chest, or stock chest.

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