aqua-serv

**aqua-serv engineers, inc.**

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**EPA EST. NO. 10832-CA-1** **EPA REG. NO.**

# AN

***Controls bacteria, fungi, and yeasts in paper mills, metalworki***
***recirculating water cooling towers and in once-through fresh a***

| Active ingredient | |
|---|---|
| 2, 2-Dibromo-3-nitrilopropionamide | 5% |
| Inert Ingredients | 95% |

## DANGER

**CAUSES SEVERE BURNS OF EYES**
**CAUSES SKIN IRRITATION**
**HARMFUL IF SWALLOWED**
**Do Not Get in Eyes, on Skin, or Clothing**
**Wear Chemical Workers' Goggles when Handling**

**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. Get medical attention if irritation persists.

If swallowed, induce vomiting immediately by giving two glasses of water and sticking finger down throat. Repeat until vomit is clear. Call a physician. Never give anything by mouth to an unconscious person.

**WASH THOROUGHLY AFTER HANDLING**

ACCEPTED
10932-G
SEP 16 1982
Under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended for the pesticide registered under Reg. No.

**TO MAINTAIN PRODUCT QUALITY, STORE AT TEMPERATURES BELOW 60°C**
**KEEP CONTAINER TIGHTLY CLOSED**
**WHEN NOT IN USE • FOR INDUSTRIAL USE ONLY**

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

**NOTE:** Do not discharge into lakes, streams, ponds, or public waters unless in accordance with a NPDES permit. For guidance, contact your regional office of the EPA.

Do not reuse empty container. **Return to drum reconditioner;** or destroy by perforating or crushing, and burying or discarding in a safe place away from water supplies.

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

## DIRECTIONS FOR USE

NOTE: ADD ANTIMICROBIAL 7413 *SEPARATELY* TO THE SYSTEM. DO *NOT* MIX IT WITH OTHER ADDITIVES, IN ORDER TO AVOID DECOMPOSITION OF ANTIMICROBIAL 7413 DUE TO THE HIGH pH OF MANY ADDITIVE FORMULATIONS.

## PAPER MILLS

For the control of bacterial, fungal, and yeast growth in pulp, paper, and paperboard mills, add ANTIMICROBIAL 7413 at the rate of 0.06-0.21 gal/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 ANTIMICROBIAL 7413 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 0.06-0 15 gal. ANTIMICROBIAL 7413/ton of paper (dry basis), as necessary for control.

**Moderately fouled systems** should be treated continuously with 0.15-0.21 gal. ANTIMICROBIAL 7413/ton of paper (dry basis) until the slime accumulation is controlled. Addition rates can then be reduced to 0.06-0.15 gal. ANTIMICROBIAL 7413/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 0.06-0.15 gal. ANTIMICROBIAL 7413/ton of paper (dry basis) until the slime is controlled, then added on an intermittent basis to maintain control.

## INDUSTRIAL WATER CO

Add ANTIMICROBIAL 7413 to the b
Addition should be made with a me
mittent, depending on the severity
begun, and the retention time in the

Optimum performance with this p
mittent treatment. If "shock" trea
discontinued for 2 4 - 4 8 hr.

### FOR CONTR

Add 0.0038-0.038 gal ANTIMICROB
depending on the severity of contam

**Intermittent or Slug Method**
**Initial Dose:** When the syste m is
TIMICROBIAL 7413/1,000 ga. of w
achieved.

**Subsequent Dose:** When microbi
ANTIMICROBIAL 7413/1,000 gal o
needed to maintain control.

**Badly fouled systems** must be cle

**Continuous Feed Method**
**Initial Dose:** When the system is
TIMICROBIAL 7413/1,000 gal of wa

**Subsequent Dose:** Maintain this
0.0038-0.019 gal ANTIMICROBIAL 7
blowdown.

**Badly fouled systems** must be cle

### FOR CONTROL O

Add 0.116-0.380 gal ANTIMICROBI
depending on the severity of contam

**Intermittent or Slug Metho.l**
**Initial Dose:** When the syste n is
TIMICROBIAL 7413/1,000 gal of w
achieved.

**Subsequent Dose:** When microbial
TIMICROBIAL 7413/1,000 gal of w
maintain control.

**Badly fouled systems** must be cle

**Continuous Feed Method**
**Initial Dose:** When the system is
TIMICROBIAL 7413/1,000 gal of wa

# ANTIMICROBIAL 74

***in paper mills, metalworking fluids containing water, and enhanced oil recovery systems; controls bacteria, fungi, a***
***and in once-through fresh and sea water industrial cooling water systems, controls slime-forming bacteria and fungi in ai***

## INDUSTRIAL RECIRCULATING WATER COOLING TOWERS

Add ANTIMICROBIAL 7413 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 2.4 - 4.8 hr.

### FOR CONTROL OF BACTERIA

Add 0.0038-0.038 gal ANTIMICROBIAL 7413/1,000 gal of water in the system, depending on the severity of contamination

**Intermittent or Slug Method**

**Initial Dose:** When the system is noticeably fouled, add 0.019-0.038 gal ANTIMICROBIAL 7413/1,000 gal of water in the system. Repeat until control is achieved.

**Subsequent Dose:** When microbial control is evident, add 0.0095-0.038 gal ANTIMICROBIAL 7413/1,000 gal of water in the system every 4 days, 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, add 0.019-0.038 gal ANTIMICROBIAL 7413/1,000 gal of water to the system

**Subsequent Dose:** Maintain this level by pumping a continuous feed of 0.0038-0.019 gal ANTIMICROBIAL 7413/1,000 gal of water in the system lost by blowdown.

**Badly fouled systems** must be cleaned before treatment is begun.

### FOR CONTROL OF FUNGI AND ALGAE

Add 0.116-0.380 gal ANTIMICROBIAL 7413/1,000 gal of water in the system, depending on the severity of contamination.

**Intermittent or Slug Method**

**Initial Dose:** When the system is noticeably fouled, add 0.192-0.380 gal ANTIMICROBIAL 7413/1,000 gal of water in the system. Repeat until control is achieved.

**Subsequent Dose:** When microbial control is evident, add 0.116-0.380 gal ANTIMICROBIAL 7413/1,000 gal of water in the system daily, 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, add 0.192-0.380 gal ANTIMICROBIAL 7413/1,000 gal of water to the system.

**Subsequent Dose:** Maintain this treatment level by pumping a continuous feed of 0.116-0.380 gal ANTIMICROBIAL 7413/1,000 gal of water in the system per day.

**Badly fouled systems** must be cleaned before treatment is begun

## AIR-WASHER SYSTEMS

Add 0.0078 – 0.250 gal ANTIMICROBIAL 7413/1,000 gal of water in the system, depending upon the severity of contamination to control slime-forming bacteria and fungi in industrial air-washer systems.

**Intermittent or Slug Method**

**Initial Dose:** When the system is noticeably fouled, add 0.156 – 0.250 gal ANTIMICROBIAL 7413/1,000 gal of water in the system. Repeat until control is achieved.

**Subsequent Dose:** When microbial control is evident, add 0.0078 - 0.125 gal ANTIMICROBIAL 7413/1,000 gal of water in the system every 2 days 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, add 0.156 - 0.250 gal ANTIMICROBIAL 7413/1,000 gal of water in the system.

**Subsequent Dose:** Maintain this level by pumping a continuous feed of 0.0078 - 0.125 gal ANTIMICROBIAL 7413/1,000 gal of water in the system per day.

**Badly fouled systems** must be cleaned before treatment is begun

**Note:** For use only in industrial air-washer systems that maintain effective mist eliminating components.

## METALWORKING 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 ANTIMICROBIAL 7413 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 ANTIMICROBIAL 7413/1,000 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 ANTIMICROBIAL 7413/1,000 gal of metalworking fluid per day, or as needed to maintain control. Additions can be made continuously or intermittently. Slug the system as required.

## ENHANCED OIL RE

For controlling slime-forming bacteria, fungi in oil field water, polymer or mi other oil field water systems, add 4-32 gal ANTIMICROBIAL 7413 per 2400 ba of contamination. Additions should be tinuously or intermittently.

**Continuous Feed Method**

When the system is noticeably fouled, (3.6-28.6 gal ANTIMICROBIAL 7413 pe the desired degree of control is achiev *ANTIMICROBIAL 7413 (0.4-5.4 gal AN* water) continuously or as needed to m

**Intermittent or Slug Method**

When the system is noticeably fouled, *40-320 ppm ANTIMICROBIAL 7413 (* 2400 barrels of water) intermittently for week, or as needed depending on the

Addition of ANTIMICROBIAL 7413 ma before or after the injection pumps an

**NOTE: For control of bacteria, yea biopolymer used in flooding operat** 7413 (5.4-28.6 gal ANTIMICROBIAL 7 of ANTIMICROBIAL 7413 should be m after preparation of the aqueous biopol

## ONCE-THROUGH INDUS SYS

For controlling bacteria, fungi, and alga and sea water cooling systems, cooli TIMICROBIAL 7413 to the system inle area in the system. Addition should b continuous or intermittent depending o treatment is begun, and the retention

### FOR CONTRO

Add 4-48 ppm ANTIMICROBIAL 74 system, depending on the severity of

**Intermittent Method**

**Initial Dose:** When the system is TIMICROBIAL 7413. Minimum treatme until control is achieved.

# OBIAL 7413

***l oil recovery systems; controls bacteria, fungi, and algae in industrial ms, controls slime-forming bacteria and fungi in air-washer systems.***

is treatment level by pumping a continuous feed OBIAL 7413/1,000 gal of water in the system per

be cleaned before treatment is begun.

## VASHER SYSTEMS

IICROBIAL 7413/1,000 gal of water in the system, of contamination to control slime-forming bacteria her systems

ed

m is noticeably fouled, add 0.156 – 0.250 gal AN- l of water in the system. Repeat until control is

icrobial control is evident, add 0.0078 – 0.125 gal gal of water in the system every 2 days or as need

be cleaned before treatment is begun.

m is noticeably fouled, add 0.156 – 0.250 gal AN- of water in the system.

n this level by pumping a continuous feed of OBIAL 7413/1,000 gal of water in the system per

be cleaned before treatment is begun.

al air-washer systems that maintain effective mist

## FLUIDS CONTAINING WATER

metalworking fluid concentrates which have been 100-1:4

the growth of bacteria, fungi, and yeasts that may s containing water, add ANTIMICROBIAL 7413 to . Additions should be made with a metering pump. the system is just noticeably fouled, add 1.1 gal gal of metalworking fluid to the system. Repeat

icrobial control is evident, add 0.44-0.88 gal AN- of metalworking fluid per day, or as needed to n be made continuously or intermittently. Slug the

## ENHANCED OIL RECOVERY SYSTEMS

For controlling slime forming bacteria, sulfide producing bacteria, yeasts, and fungi in oil field water, polymer or micellar floods, water disposal systems, or other oil field water systems, add 4-320 ppm ANTIMICROBIAL 7413 (0.4-28.6 gal ANTIMICROBIAL 7413 per 2400 barrels of water) depending on the severity of contamination. Additions should be made with a metering pump either continuously or intermittently.

**Continuous Feed Method**

When the system is noticeably fouled, add 40-320 ppm ANTIMICROBIAL 7413 (3.6-28.6 gal ANTIMICROBIAL 7413 per 2400 barrels of water) continuously until the desired degree of control is achieved. Subsequently, treat with 4-60 ppm ANTIMICROBIAL 7413 (0.4-5.4 gal ANTIMICROBIAL 7413 per 2400 barrels of water) continuously or as needed to maintain control.

**Intermittent or Slug Method**

When the system is noticeably fouled, or to maintain control of the system, add 40-320 ppm ANTIMICROBIAL 7413 (3.6-28.6 gal ANTIMICROBIAL 7413 per 2400 barrels of water) intermittently for 4-8 hours per day, and from 1-4 times per week, or as needed depending on the severity of contamination.

Addition of ANTIMICROBIAL 7413 may be made at the free water knockouts, before or after the injection pumps and injection well headers.

**NOTE: For control of bacteria, yeast, and fungi in aqueous solutions of biopolymer used in flooding operations,** add 60-320 ppm ANTIMICROBIAL 7413 (5.4-28.6 gal ANTIMICROBIAL 7413 per 2400 barrels of water). Additions of ANTIMICROBIAL 7413 should be made with a metering pump **immediately** after preparation of the aqueous biopolymer solution to prevent loss of viscosity.

## 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 ANTIMICROBIAL 7413 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 4-48 ppm ANTIMICROBIAL 7413 based on the flow rate through the system, depending on the severity of contamination.

**Intermittent Method**

**Initial Dose:** When the system is noticeably fouled, add 24-48 ppm ANTIMICROBIAL 7413. Minimum treatment intervals should be 15 minutes. Repeat until control is achieved.

**Subsequent Dose:** When microbial control is evident, add 12-48 ppm ANTIMICROBIAL 7413 intermittently 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, add 24-48 ppm ANTIMICROBIAL 7413 continuously to the system.

**Subsequent Dose.** When microbial control is evident, pump a continuous feed of 4-24 ppm ANTIMICROBIAL 7413 to the system.

**Badly fouled systems** must be cleaned before treatment is begun.

### FOR CONTROL OF FUNGI AND ALGAE

Add 144-472 ppm ANTIMICROBIAL 7413 based on the flow rate through the system, depending on the severity of contamination.

**Intermittent Method**

**Initial Dose:** When the system is noticeably fouled, add 240-472 ppm ANTIMICROBIAL 7413 to the system. The minimum treatment interval should be 15 minutes. Repeat until control is achieved.

**Subsequent Dose:** When microbial control is evident, add 144-472 ppm ANTIMICROBIAL 7413 to the system daily or as needed to maintain control. The minimum treatment interval should be 15 minutes.

**Badly fouled systems** must be cleaned before treatment is begun.

**Continuous Feed Method**

**Initial Dose:** When the system is noticeably fouled, add 240-472 ppm ANTIMICROBIAL 7413 to the system.

**Subsequent Dose:** When microbial control is evident, pump a continuous feed of 144-472 ppm ANTIMICROBIAL 7413 to the system.

**Badly fouled systems** must be cleaned before treatment is begun.

**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, or under conditions not reasonably foreseeable to seller, and buyer assumes the risk of any such use.

**kg/ lb net**

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