ACCEPTED
with COMMENTS
In EPA Letter Dated:
1448-84
OCT 29 1982

BUSAN® 1014

INDUSTRIAL MICROBICIDE

ACTIVE INGREDIENTS:

Oxydiethylenebis(alkyl* dimethylammonium chloride)	
(*40% C_{12}, 50% C_{14}, 10% C_{16})	36.0%
INERT INGREDIENTS (contains methanol)	64.0%
TOTAL	100.0%

EPA REG. NO. 1448-

POISON **KEEP OUT OF REACH OF CHILDREN** POISON

DANGER

STATEMENT OF PRACTICAL TREATMENT

If product gets in eyes, flush with plenty of water for at least 15 minutes. Call a physician. **In case of skin contact,** wash thoroughly with soap and water. Remove and wash contaminated clothing before reuse. **If product is swallowed,** call a physician immediately. Drink plenty of milk, gelatin solution, beaten egg whites, or if these are not available, drink large quantities of water. Avoid alcohol.

NOTE TO PHYSICIAN: Probable mucosal damage may contraindicate use of gastric lavage. Measures against circulatory shock, respiratory depression, and convulsion may be needed.

PRECAUTIONARY STATEMENTS

HAZARDS TO HUMANS AND DOMESTIC ANIMALS

DANGER: Contains methanol, which may cause blindness. Harmful or fatal if swallowed. Vapor is harmful. Avoid breathing spray mist or vapors. Corrosive. Causes eye damage and skin irritation. Do not get in eyes, on skin, or on clothing. Wear goggles or face shield and rubber gloves when handling.

ENVIRONMENTAL HAZARDS: This product is toxic to fish and birds. Do not apply in marine and/or estuarine oil fields. Do not discharge into lakes, streams, ponds, or public waters unless in accordance with an NPDES permit. For guidance, contact your regional office of the Environmental Protection Agency.

PHYSICAL AND CHEMICAL HAZARDS: Flammable. Keep away from heat or open flame.

DIRECTIONS FOR USE

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

Busan 1014 is used to inhibit the growth of both aerobic and anaerobic bacteria in industrial water systems. It is especially recommended for the control of sulfate-reducing bacteria in oil field injection water and disposal water. It is also recommended for the control of iron bacteria and other troublesome bacteria in oil field water as well as in petrochemical and other industrial water, including recirculating cooling water systems. Busan 1014 should be used only in industrial water systems where the effluent does not drain into lakes, streams, ponds, or public water supplies. This microbicide should *not* be used in domestic or potable water systems.

Busan 1014 is employed as a bactericide in industrial water systems at concentrations of 5 to 500 ppm (0.04 pint to 0.5 gallon per 1000 gallons), based on the volume of water treated. For continuous applications, it can be fed into systems directly from the shipping container by means of chemical-metering pumps. For slug treatments, it can be dispensed in suitable measuring containers. In most systems, slug dosing of Busan 1014 is the preferred means of treatment. A typically recommended slug treatment is 125 ppm (1 pint per 1000 gallons), based on the volume of water treated. However, required slug dosages may run as high as 500 ppm (0.5 gallon per 1000 gallons). Repeat dosages as required to establish and maintain control of bacterial growth. Where continuous application of bactericide is required, the system should first be treated with slug doses of Busan 1014 as described above until control is evident. Then continuous treatment with the bactericide should be begun at a rate of 5 to 50 ppm (0.04 to 0.4 pint per 1000 gallons), as needed to maintain control.

For more details on these uses, see the Buckman bulletin *Busan 1014—For the Control of Sulfate-Reducing and Other Bacteria in Industrial Water Systems.*

STORAGE AND DISPOSAL

PROHIBITIONS: Do not contaminate water, food, or feed by storage or disposal. Open dumping is prohibited. Do not reuse empty container.

PESTICIDE DISPOSAL: Pesticide, spray mixture, or rinsate that cannot be used according to label directions must be disposed of according to applicable Federal, state, or local procedures.

CONTAINER DISPOSAL: Triple rinse (or equivalent). Then offer for recycling or reconditioning, or dispose of in a sanitary landfill, or by other approved state and local procedures.

BUCKMAN LABORATORIES, INC. 1256 N. McLEAN BLVD., MEMPHIS, TENN. 38108, U.S.A.
EPA ESTABLISHMENT NO. 1448-TN-1

Net Contents: As Marked on Container

Product Data

June 20, 1982
ACCEPTED
with COMMENTS
In EPA Letter Dated:

OCT 29 1982

Pursuant to the Federal Insecticide, Fungicide, and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. 1448-84

Bulletin No. C60W

Busan® 1014

For the Control of Sulfate-Reducing and Other Bacteria in Industrial Water Systems

Busan 1014 is a highly effective bactericide for the control of both aerobic and anaerobic bacteria in industrial water systems. It is especially recommended for the control of sulfate-reducing bacteria, the anaerobic microorganisms that produce hydrogen sulfide and cause corrosion, odors, increased solids, and other problems in oil field injection water, disposal water, and other industrial water systems. Busan 1014 is also recommended for the control of iron bacteria and other troublesome bacteria in oil field water as well as in petrochemical and other industrial water, including recirculating cooling water systems.

PACKAGING AND HANDLING

Busan 1014 is a liquid packed in nonreturnable drums with bungs. It can be handled and stored in stainless steel, glass, fiberglass-reinforced polyester, polyethylene, polypropylene, and other methanol-resistant plastics. Busan 1014 contains methanol, which is flammable and considered a poison. The product also can cause eye damage and skin irritation. Workers handling the product should wear rubber gloves and goggles or a face shield. Keep away from heat or open flame. Observe other precautions shown on the label and material safety data sheet.

PRODUCT CHARACTERISTICS

The product has the following composition and typical physical properties:

Active ingredients:	
Oxydiethylenebis(alkyl* dimethylammonium chloride)	36.0%
(*40% C_{12}, 50% C_{14}, 10% C_{16})	
Inert ingredients	64.0%
Density at 25 °C (77 °F)	0.92 g/mL
Weight/gallon	7.7 lb
Volume/kilogram	1087 mL
Volume/pound	493 mL
Flashpoint (Tagliabue closed cup)	25 °C (77 °F)
pH (100 ppm in water)	7-8

Buckman Laboratories, Inc.
BUCKMAN LABORATORIES INTERNATIONAL, INC.
MEMPHIS, TENNESSEE 38108, U.S.A.

BUCKMAN LABORATORIES PTY LTD
SYDNEY N.S.W. AUSTRALIA

BUCKMAN LABORATORIES, S.A.
GHENT BELGIUM

BUCKMAN LABORATORIOS LTDA
CAMPINAS, S.P., BRAZIL

BUCKMAN LABORATORIES OF CANADA LTD.
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BUCKMAN LABORATORIES LTD
TOKYO JAPAN

BUCKMAN LABORATORIES S.A. DE C.V.
MEXICO D.F. MEXICO

BUCKMAN LABORATORIES (PTY) LTD
HAMMARSDALE NATAL, SOUTH AFRICA

CREATIVITY FOR OUR CUSTOMERS

APPLICATION

For continuous applications, Busan 1014 can be fed into systems directly from the shipping container by means of chemical-metering pumps. For slug treatments, it can be dispensed in suitable measuring containers.

Busan 1014 is employed as a bactericide in industrial water systems at concentrations up to 500 ppm, based on the volume of water treated. A typical slug treatment would be 125 ppm (1 pint per 1000 gallons), based on the volume of water treated. Repeat dosages as required to establish and maintain control of bacterial growth.

Where continuous application of bactericide is required, the system should first be treated with slug doses of Busan 1014 as described above until control is evident. Then continuous treatment with the bactericide should be begun at a rate of 5 to 50 ppm (0.04 to 0.4 pint per 1000 gallons), as needed to maintain control.

Water Flood Operations

Because of its compatibility with sea water as well as fresh water, Busan 1014 may be used effectively in all water flood systems with produced water or commingled water. In produced salt water, or commingled waters, sulfate-reducing bacteria (*Desulfovibrio* sps.) are frequently encountered. To control their growth Busan 1014 should be used at concentrations between 5 and 50 ppm. However, in severely fouled systems, higher concentrations may be required. Preferred addition points are at the heater-treater dump, gathering lines, or the receiving tanks. Additions should precede the filter where possible.

Where sea water is used, the recommended addition point is usually on the suction side of the source water pump. Water obtained from wells adjacent to a sea water source should receive treatment into the annulus of the well to protect well components and transfer lines.

Because no microbicide is equally effective against all microflora encountered in water floods, it is frequently advisable to alternate microbicides to ensure maximum control. For example Busan 1014, which is a cationic quaternary amine, alternated with Busan 85*, an anionic dithiocarbamate, may in some water floods provide a more complete control than either product alone. However, both products are effective against most aerobic and anaerobic microorganisms generally encountered in water floods.

Cooling Water Systems

Busan 1014 is recommended for biological treatment of cooling water systems where the microflora may include green and blue-green algae and aerobic or anaerobic bacteria. For the most effective and economical use of Busan 1014, it is recommended that prior to treatment with Busan 1014 the cooling tower be manually cleaned and an organic dispersant such as Busperse® 47* be added to the recirculating water to assist in the removal of both microbiological and non-microbiological deposits from the systems. Where manual cleaning is not possible, it is recommended that an initial slug addition of Busan 85* be made, followed by a maintenance treatment with Busan 1014. Busan 1014 should be added to maintain a concentration of 5 to 20 ppm. In many open decked cooling towers where algae is the predominant microflora, the most economical microbiological control may be achieved by slug additions of Busan 1014. Slug additions can be made into the distributor tray or sump of the cooling tower or fed into the recirculation line as quickly as the chemical-feed pump permits. Concentrations as high as 500 ppm may be required where systems are heavily fouled. Treatment should be repeated twice per week or as needed.

In many industrial cooling water systems and particularly those where distribution trays are covered, the predominant microflora is generally bacterial. In such cases, a continuous treatment of Busan 1014 is recommended following an initial slug dosage. A chemical-metering pump should be employed to continuously maintain a concentration of 5 to 50 ppm of Busan 1014. The minimal effective dosage should be determined only after control has been achieved.

*Busan 85 and Busperse 47 are products manufactured by Buckman Laboratories, Inc. Product literature is available upon request

Recommendations given in this bulletin are based on tests believed to be reliable. However, the use of the product is beyond the control of Buckman Laboratories, Inc., and no guarantee, expressed or implied, is made as to the effects of such or the results to be obtained if not used in accordance with directions or established safe practice. The buyer must assume all responsibility, including injury or damage, resulting from misuse of the product as such, or in combination with other materials. This bulletin is not to be taken as a license to operate under or recommendation to infringe any patent.

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U.S. ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF PESTICIDES PROGRAMS
REGISTRATION DIVISION (WH-567)
WASHINGTON, D.C. 20460

NOTICE OF PESTICIDE: ☐ REGISTRATION ☒ REREGISTRATION

(Under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended)

EPA REGISTRATION NO.	DATE OF ISSUANCE
TERM OF ISSUANCE	
NAME OF PESTICIDE PRODUCT 29 OCT	

NAME AND ADDRESS OF REGISTRANT *(Include ZIP code)*

NOTE: Changes in labeling formula differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce. In any correspondence on this product always refer to the above U.S. EPA registration number.

On the basis of information furnished by the registrant, the above named pesticide is hereby Registered/Reregistered under the Federal Insecticide, Fungicide, and Rodenticide Act.

A copy of the labeling accepted in connection with this Registration/Reregistration is returned herewith.

Registration is in no way to be construed as an indorsement or approval of this product by this Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

☒ ATTACHMENT IS APPLICABLE

SIGNATURE OF APPROVING OFFICIAL	DATE

EPA Form 8570-6 (Rev. 5-76) PREVIOUS EDITION MAY BE USED UNTIL SUPPLY IS EXHAUSTED.

If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA Sec. 6(e). Your release for shipment of the product constitutes acceptance of these conditions.

A stamped copy of the label is enclosed for your records.

Sincerely,

John H. Lee
Product Manager 31
Disinfectants Branch
Registration Division (TS-767C)