June 1, 1975

Bulletin No. E24

BUSAN 881M

(Patents issued or pending in the U.S.A. and other countries)

FOR MICROORGANISM CONTROL IN COOLING WATER SYSTEMS

Busan 881M is effective for the control of algae, bacteria, and fungi in recirculating commercial and industrial cooling water systems. It does not cause foaming and thus can be added to systems by slug addition at maximum use concentrations. Busan 881M also is not lost from systems by evaporation.

PRODUCT CHARACTERISTICS

Busan 881M is a liquid packed in 240-kg. (530-lb.) net weight, lined, nonreturnable steel drums with bungs. Penton, Teflon, polyethylene, polypropylene, molded nylon, and stainless steel are all satisfactory for storing and handling Busan 881M. Prolonged contact of concentrated Busan 881M with copper or copper alloys, however, should be avoided. Busan 881M is completely soluble in water. The composition and some of the physical properties of Busan 881M are as follows:

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Active ingredients	. 35 percent
Disodium cyanodithioimidocarbonate 14.7	percent
Potassium N-methyldithiocarbamate 20.3	percent
Inert ingredients	. 65 percent
Density at 25° C. (77° F.) 1.	22 g. per ml.
Approximate weight per U.S. gallon	10.2 lb.
Approximate volume per kilogram	820 ml.
Approximate volume per pound	370 ml.
Flashpoint by Tagliabue open-cup method Above 100°	C. (212° F.)
pH of 100 parts per million in distilled water	9-10

Busan 881M will freeze if stored at very low temperatures for prolonged periods, but will not solidify above -18°C. (0° F.). Before being opened and used, drums of Busan 881M that may be frozen should be stored in an area with a temperature above 4°C. (40° F.) for sufficient time to allow complete thawing.

Busan 881M is moderately toxic by ingestion in single doses and is irritating to the skin and eyes. Workmen handling the product should wear rubber gloves and goggles and should observe other precautions shown on the label.

METHODS OF APPLICATION

Busan 881M can be fed into systems by means of chemical-metering pumps or can be dispensed in suitable measuring containers. As a general rule, it is recommended that before treatment of a cooling water system with Busan 881M is begun, the system should be cleaned

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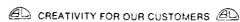
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thoroughly to remove all old algal growths, microbiological slime, and other deposits. The system then should be drained, flushed, and refilled with fresh water and regular treatment with Busan 881M initiated.

To control the growth of algae, bacteria, and fungi on cooling towers, in heat exchangers, and in other parts of recirculating cooling water systems, Busan 881M is used at concentrations of 5 to 30 parts per million (p.p.m.) by weight or 0.5 to 3.0 U.S. Fl. oz. of Busan 881M per 1,000 U.S. gal. of water in the system. However, an initial addition of 15 to 30 p.p.m. Busan 881M, based on the total weight of water in the system (1.5 to 3.0 U.S. fl. oz. of Busan 881M per 1,000 U.S. gal. of water) is recommended. Subsequent additions of 5 to 30 p.p.m. Busan 881M (0.5 to 3.0 U.S. fl. oz. of Busan 881M per 1,000 U.S. gal. of water) should be made at 1 to 5 day intervals, depending on the amount of blowdown or bleedoff and the severity of the microbiological fouling.

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 bijury 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 liceuse to operate under or recommendation to infringe any patent.

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