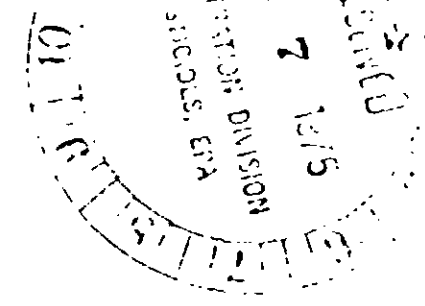




ACCEPTED

SEP 30 1975

BUSAN 881M



1448 53

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

Active ingredients	35 percent
Disodium cyanodithioimidocarbonate	14.7 percent
Potassium N-methylthiocarbamate	20.3 percent
Inert ingredients	65 percent

Weight per gallon 10.2 lb.

Weight of active ingredients per gallon 3.57 lb.

APPLICATIONS

Busan 881M is employed for microorganism control in pulp and paper mills, cane and beet sugar mills, petroleum secondary recovery operations, and recirculating commercial and industrial cooling water systems.

In pulp and paper mills, Busan 881M is used to control bacterial and fungal slime. Directions for this use are contained in the Product Data bulletin *Busan 881M - For Microorganism Control in Pulp and Paper Mills*.

In cane and beet sugar mills producing raw sugar, Busan 881M is employed to inhibit the growth of bacteria and fungi that cause the inversion of sucrose, slime, and odors. Directions for this application are given in the Product Data bulletin *Busan 881M - For Microorganism Control in Cane and Beet Sugar Mills*.

In petroleum secondary recovery operations, Busan 881M is used in waterfloods to control sulfate reducing bacteria, iron bacteria, and bacteria that cause slime. For directions for this use, see the Product Data bulletin *Busan 881M - For Microorganism Control in Petroleum Secondary Recovery Waters*.

In recirculating commercial and industrial cooling water systems, Busan 881M is used to inhibit the growth of algae, bacteria, and fungi. For the methods of application, see the Product Data bulletin *Busan 881M - For Microorganism Control in Cooling Water Systems*.

WARNING

KEEP OUT OF REACH OF CHILDREN

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. Harmful or fatal if swallowed. Avoid contamination of food.

FIRST AID: In case of contact, immediately flush eyes or skin with plenty of water for at least 15 minutes. For eyes, call a physician. Remove and wash contaminated clothing before reuse.

If swallowed, give patient doses of powdered charcoal immediately or all he can swallow of raw egg whites, milk, gruel, or flour and water. Then induce vomiting with salt, soap, or mustard in warm water. Call a physician immediately.

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

This product is toxic to fish. Treated effluent should not be discharged where it will drain into lakes, streams, ponds, or public water. Do not contaminate water by cleaning of equipment, or disposal of wastes. Apply this product only as specified on this label.

Do not reuse empty drum. Return to drum reconditioner or destroy it by perforating or crushing and burying in a safe place.

MANUFACTURED BY

BUCKMAN LABORATORIES, INC.

MEMPHIS, TENN. 38108, U.S.A.



PRODUCT DATA

June 1, 1975

Bulletin No. S2

BUSAN[®] 881M

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

FOR MICROORGANISM CONTROL IN CANE AND BEET SUGAR MILLS

Busan 881M is a broad-spectrum microbicide that is effective in the control of the bacteria and fungi that cause sucrose losses, troublesome slimes, and bad odors during the manufacture of raw cane and beet sugar.

The application of Busan 881M as recommended reduces sucrose losses caused by enzymatic inversion, provides control of troublesome bacteria, e.g., *Leuconostoc mesenteroides* and *Bacillus stearothermophilus*, and helps to keep mill systems free of microbiological slime and odors. Busan 881M is simple to apply, and its use can increase the recovery of commercial sugar, reduce corrosion of mill equipment, improve clarification and pan boiling, and reduce man-hours required for cleaning of mill systems.

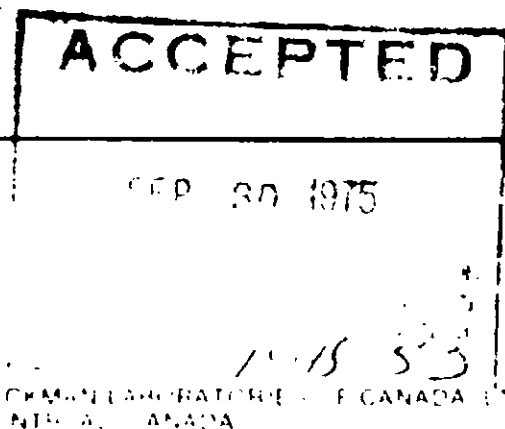
PRODUCT CHARACTERISTICS

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 the product. However, prolonged contact of concentrated Busan 881M with copper or copper alloys should be avoided. Busan 881M is completely soluble in water. The composition and some of the physical properties of Busan 881M are as follows:

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. 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.



Buckman Laboratories, Inc.

BUCKMAN LABORATORIES, INC. INTERNATIONAL, S.A. S. de RL

MEMPHIS, TENNESSEE 38113, U.S.A.

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METHODS OF APPLICATION

Busan 881M can be fed into the system directly from the shipping containers by use of chemical metering pumps or it can be dispensed in suitable measuring containers.

Cane Sugar Mills

Busan 881M should be added to the cane juice at a point or points where the microbicide will circulate to all parts of the grinding equipment, troughs, screens, and pipes with which the juice comes in contact. Usually two points -- one each tandem -- are recommended for the application of Busan 881M. Approximately 35 percent of the dosage should be added to the juice from the crusher and approximately 65 percent of the dosage should be added to the juice from the next to last mill. *Busan 881M should never be added to the maceration water.*

Busan 881M should be fed continuously at a total feed rate of 20 p.p.m. (parts per million) based on the weight of cane ground. This is equivalent to 11.4 ml. of Busan 881M per minute for each 1,000 metric tons of cane ground per 24-hour day -- or 0.35 U.S. fluid ounce of Busan 881M per minute for each 1,000 short tons of cane ground per 24-hour day. Do not exceed a total feed rate of 16.4 liters (20 kg.) of Busan 881M per 1,000 metric tons of cane ground per 24 hours -- or 3.9 U.S. gallons (40 lb.) of Busan 881M per 1,000 short tons of cane ground.

Busan 881M is more effective when added to juice having a pH value below 5.5. Higher juice temperatures up to about 65° C. (150° F.) will also increase its effectiveness.

Good house-keeping, including periodic cleaning *at least once per 8-hour shift*, is also important for the most efficient control of microorganisms. Regular hosing of mills, bagacillo conveyors, and screens with hot water or steam is recommended. However, it is not necessary to stop the tandem for this hosing. The regular use of Busan 881M will result in easier and quicker mill cleaning.

Soon after Busan 881M treatment is begun, some of the benefits should be obvious in that slime and odors are controlled better, and the need for cleaning is reduced. However, for the evaluation of the effect on sucrose losses and the increase in sugar production, it is necessary to compare the data obtained during periods of treatment with the data from control periods in which no microbicide treatment was used. The preferred control or no-treatment period is usually the 30-day period immediately preceding the 30-day test period in which Busan 881M is applied.

The necessary data should be obtained through regular, representative sampling and analysis of finite pressed juices, mixed juices, and clarified juices during both the control period and the test period. The measurements needed on these samples are Brix and invert-sugar content. The data for each sampling point should be averaged for each day to compute daily averages. From these data and the data on the weight of cane ground, you can calculate the amount of sucrose lost during the 30-day control period and during the 30-day test period with Busan 881M. Detailed instructions on the recommended sampling method can be found in the *Handbook of Microbiology*, 2nd Edition, 1950, published by McGraw-Hill, which is available from Federal Laboratories.

Beet Sugar Mills

Busan 881M can be used in beet sugar mills to treat the wash water used to wash the beet roots, the diffuser system, and the raw juice.

Busan 881M is added to the wash water continuously as it enters the wash water trough at 4 to 8 p.p.m. (weight weight). This is equivalent to 2.85 to 8.1 ml. of Busan 881M for each 1,000 metric tons of beets shed per 24-hour day -- or 0.087 to 0.24 U.S. fluid ounce of Busan 881M for each 1,000 short tons of beets shed per 24-hour day.

In diffuser systems, Busan 881M should be added continuously to the diffuser water supply at a dosage rate of 20 p.p.m. (weight weight). This is equivalent to 11.4 ml. of Busan 881M per minute for each 1,000 metric tons of beets shed per 24-hour day -- or 3.9 U.S. fluid ounce of Busan 881M per minute for each 1,000 short tons of beets shed per 24-hour day.

If the diffuser system is not treated with Busan 881M and the raw juice from the diffuser has to be stored for 1 to 3 days during a mill shutdown, it should be treated with 20 parts of Busan 881M per million parts of juice (weight/weight). This treatment will help prevent spoilage of the juice during storage.

Do not exceed a total feed rate of 16.4 liters (20 kg.) of Busan 881M per 1,000 metric tons of beets sliced per 24 hours or 3.9 U.S. gallons (40 lb.) of Busan 881M per 1,000 short tons of beets sliced per 24 hours.

Responsible parties for the use of this material are those who use it. It is not to be used in any way beyond the limits of the label. The user must be aware of the fact that the use of this material is the responsibility of the user. The user must be aware of the fact that the use of this material is the responsibility of the user. This bulletin is not to be used in any way beyond the limits of the label.

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