

BIOQUAT

SUGAR PROCESSING CHEMICAL

BIOQUAT : QUATERNARY AMMONIUM BASE BIOCIDES FOR SUGAR MILLS

❖ PRODUCT DESCRIPTION

BIOQUAT inhibits enzyme Inverters and is a broad spectrum microbicide against bacteria like Leuconostoc and fungi that cause sucrose losses, troublesome slime and bad odours during the manufacture of cane sugar.

❖ PURPOSE

Sugarcane contains an enzyme Invertase that is released and activated when cane is crushed and is one of the major factors responsible for sucrose loss. Sugarcane juice is a perfect medium for the growth of many bacteria and fungi. These micro-organisms proliferate in the crushers, piping and weigh tanks through which the juice passes and become another major source of sucrose loss. BIOQUAT is recommended to minimise this loss.

❖ SPECIFICATIONS

Appearance	: Colour less liquid
Odour	: Characteristic
Wt./ml.	: 1.15 ± 0.05 gm.
pH (100 ppm in distilled water)	: 9 - 10
Solubility	: Dissolves in water

❖ APPLICATION

BIOQUAT is highly effective against enzyme Inverters, troublesome bacteria like Leuconostoc mesenteroides, Aerobacter and yeasts like Saccharomyces, which are unavoidable in sugar mill system. Inversion losses, hence, are reduced by the use of BIOQUAT, which results in reduction of invert/reducing sugar of mixed juice (and increase in sugar recovery)

BIOQUAT can be added to the cane juice at a point / points. Where it will circulate to all parts of grinding equipments, troughs, screens and pipes with which the juice comes in contact. Two point feeding is usually recommended for the application of BIOQUAT. Approximately 35 per cent of the dosage should be added to the juice from the crusher (i.e. on 1st mill) and remaining quantity (approximately 65 % of the dosage) should be added to the juice from the next to last mill. BIOQUAT should never be added to the maceration / imbibition water.

BIOQUAT is more effective when added to the juice having pH value below 5.5. Higher juice temperature up to 65 C also increases its efficiency.

❖ **ADVANTAGES**

1. Prevents sugar loss by enzyme invertase
2. Acts against enzymes released by micro-organisms
3. Prevents bacterial & fungal inversion of sugar
4. Reduces invert sugars in mixed juice & clarified juice
5. Destroys bacteria and fungi.
6. Controls slime and odour.
7. Reduces corrosion of grinding equipment.
8. Improves clarification & pan boiling.
9. Reduces need for cleaning.
10. Converted to non-toxic product & does not remain in sugar hence is safest for use in sugar mill.
11. Easy to do & handle as in liquid form.

❖ **DOSAGE**

BIOQUAT should be fed continuously at a total feed rate of 3 - 4 parts per million based on the weight of cane ground. In other words, 3 - 4 kg. BIOQUAT for each 1000 tons of cane crushed.

❖ **FEEDING**

BIOQUAT should be fed continuously at the desired dosage. It can be fed directly, as is or can be diluted with water & fed at the points mentioned. Since BIOQUAT has a characteristic smell, the feed tube should be immersed into juice. Dripping should be avoided.

❖ **PACKING**

BIOQUAT available in 50 kgs. HDPE carboys.

❖ **HANDLING**

Keep out of reach of children.

Poison. Do not drink or ingest. Use hand gloves and follow appropriate standard precautions while handling. Avoid contact with skin and eyes. On contact, wash affected area with plenty of water.

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