

# FERMENTATION EFFCIENCY BOOSTER FOR MOLASSES DISTILLERIES

Catalysts is a pioneer for Enzyme based efficiency booster products in Molasses Distilleries for increasing fermentation efficiency. They introduced and established usage of such products in 2003 and since then have sold 1320 MT of such efficiency booster products to 207 clients in 18 countries across the world creating benefits worth more than 1700 crores to them. A client using EBM products from Catalysts gets an average additional profit of 95 lakhs to 8.5 crores/annum.

# **FEATURES:**

- Enzymes in Fermentation Efficiency Booster hydrolyse part of un-fermentable sugars like Dextrin, Starch, Cellulose, and other polysaccharides into fermentable sugars and thus making more sugars available for fermentation.
- Other Enzymes in a blend hydrolyse protein in

- Molasses into FAAN (free alpha amino nitrogen) which is food for yeast, thus increasing yeast cell count and its viability.
- Enzymes and Additives in a blend control bacterial contamination by lysing itself with cell walls of bacteria and thus reduces stress on yeast and saves sugars which bacteria consume and convert them into acids rather than alcohol.

### **ADVANTAGES:**

- Increase in fermentation efficiency by 2 3 % or recovery by 6 - 9 litres/MT of Molasses.
- Higher DS% in fermentation due to better yeast viability and contamination control leading to maximisation of capacity utilisation and production increase.
- Reduction in effluent generation and cost of treating the same.
- Reduction in raw water usage due to high gravity fermentation and recycling of fermentation wash or other wastewater streams.
- Reduction in energy consumption due to considerable steam savings because of higher yields and increased alcohol concentration in wort.
- Overcomes challenges in fermentation due to variations of Molasses and other process parameters leading to stable fermentation and peace of mind.
- Reduction in frequency of shutdowns required for CIP.

## **BENEFITS:**

 Catalysts Team offers the most suitable product based on raw materials and other process parameters analysis from a wide range of products/versions developed after years of research and experience.

- Products developed and offered based on analysis of Molasses and other process parameters by a DSIR accredited lab equipped with the most sophisticated equipment.
- Well qualified, trained, and experienced scientists as well as process experts for identifying challenges and offering solutions accordingly.
- Well trained and qualified Customer Support team for trials/ demonstration and trouble-shooting activities always ensuring best results.
- State of the art and well certified (FSSC 22000, HALAL, Kosher, FSSAI) production facility backed by well-defined and rigorous quality checks to ensure best quality products are always delivered to the client.
- Each batch of our product is accompanied by COA (certificate of analysis) clearly mentioning its enzyme activity. We provide testing procedures and train our clients to verify the quality of each batch being supplied by us.
- Products and solutions being offered are developed based on decades of experience of analysing Molasses and handling fermentation processes from across the world.
- Its Association with the world's best enzyme companies gives access to most advanced enzyme technologies and products.
- More than 300 satisfied customers across the world in 18 countries.

### **Product Variants**

Name	Suitable Mode	Dosage	Antimicrobial Specificity
Enzymol Plus	Batch Fermentation	3-5 ppm	General Bacillus
Enzypro M	Fed-Batch Fermentation	3-5 ppm	General Bacillus & Cocci
Enzypro MV 13	Batch/Fed-Batch Fermentation	3-5 ppm	Lactobacillus

**Cost Benefit:** Cost addition of around INR 50/MT of Molasses will give additional Ethanol/ Alcohol worth up to INR 525/MT



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