



FERMSTAB

Specially designed for stressful ethanol fermentation

Praj's Bioproducts Division specializes in the development of Innovative Solutions that add Economic Value to Biochemical processes. The expertise comes from

- Vast experience of design and operation of Continuous, Fed-batch and Batch type fermentation processes.
- Comprehensive knowledge of feedstocks composition and its effect on fermentation and yeast.

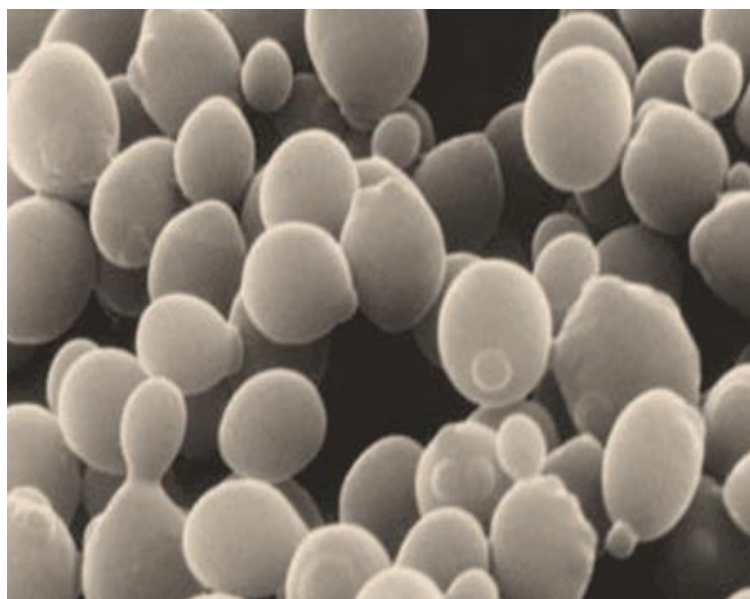
Globally, Molasses / Juice / Syrup based alcohol fermentation faces several limitations, such as:

- Seasonal variations in molasses composition
- Frequently disturbed process due to inhibitors
- Lack of yeast growth & performance
- Severe problems of contamination

Fermstab is the specially designed for stressful fermentation process with recycle of spent streams.. The product is a combination of specific micro-elements and bio-chemicals. The product is formulated after careful study of the parameters and requirements of process.

Key Actions of Fermstab in Fermentation:

- Eliminates bacterial contamination
- Converts non-fermentable carbohydrates in to fermentable sugars
- Provides vital elements and growth factors for yeast growth
- Prevents bad effects of yeast inhibitors



Fermstab Typical Properties:

Appearance	White or off white coloured powder
Bulk density – Kg/M ³	300 to 600
pH	4 to 7
Moisture - % w/w	3 to 10

Advantages of Fermstab :

- Increases efficiency & alcohol yield
- Increased alcohol concentration in mash by 0.5 to 1.0%
- Stable yeast growth & metabolism
- Prevention of bacterial contamination & reduction in mash volatile acidity
- Low by-products in mash
- Reduction in spent wash quantity
- Possibility of spent wash recycle In fermentation
- Reduction in fermentation hold up time
- Longer duration of continuous fermentation operations without reduction in performance

Method of Application:

The required quantity of Fermstab is calculated based on mash volume of fermentation and mixed with 5 to 6 parts of water. The uniform suspension is then added to the fermentation in single dose.

Dosage:

Fermstab is added @ of 5.0 ppm to the fermentation. Depending on feedstock and process, dose may be optimized if required.

Packing:

Fermstab is supplied in laminated poly-pouches of sizes custom made to distillery production capacity.

Shelf Life:

Store away from direct heat and sunlight. When stored under recommended conditions in original container, the product is stable for one year.

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Seller warrants that this product formulation confirms to its description and is reasonably fit for the purpose referred to in the directions for use when used in accordance with the directions under normal conditions. The conformance of product performance will be done strictly by the analytical protocols given by the seller. All risks on account of use of the product not in accordance with the directions will be with the buyer. Seller makes no other warranty or representation of any kind, express or implied, about the product, including NO IMPLIED

WARRANTY OF MERCHANTABILITY OR FITNESS OF THE GOODS for purposes other than specified by the seller. No such warranties shall be implied by law and no agent of seller is authorized to alter this warranty in any way except in writing with a specific reference to this warranty. The exclusive and maximum possible remedy against the seller shall be a claim for damages not to exceed the purchase price of the product, without regard to whether such a claim is based upon breach of contract/ warranty. Any dispute, controversy or claim arising out of this contract or breach thereof, shall be settled by arbitration in accordance with the provision of Indian arbitration and reconciliation act 1996 and shall be governed by Indian laws and shall have exclusive jurisdiction of Pune Maharashtra Court.



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