



UREFERM[®]

Effective Ammoniacal Nitrogen for Ethanol Fermentation

Nitrogenous compounds are the most important nutrient substances for stable ethanol fermentation. They serve as nutrients for the growth and metabolic activity of the yeast during fermentation and as proteins they also influence fermentation stability. Healthy growth of Yeast is the key aspect of achieving complete and healthy fermentation performance. Irrespective of the feedstock (Molasses, different grains), devising a proper and effective nutrition strategy for healthy growth of yeast is challenging task. Conventionally, urea is the choice of ammoniacal nitrogen source for various ethanol fermentations.

Since a feedstock cannot meet all requirements for yeast, Praj has developed a comprehensive research based product—**Ureferm** - to meet FAN requirement of yeast for healthy fermentation.

Ureferm is a special blend of nutrients, which are vital to meet nitrogen requirement for robust yeast growth and strong metabolism. **Ureferm** is well balanced for a consistent and quality fermentation

Key Actions of Ureferm: It Provides

- Quick assimilable nitrogen to yeast
- Adequate FAN to support healthy yeast growth
- Relieves metabolic stress on the yeast
- Provides micronutrients such as magnesium.

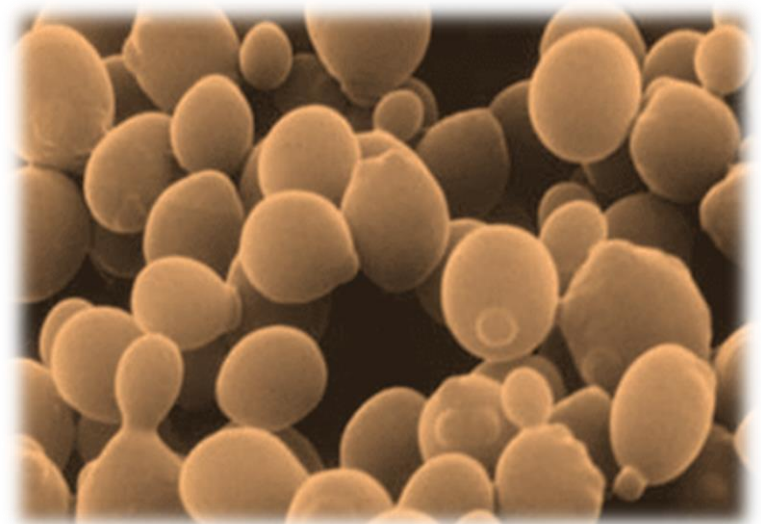
Fermentable Nitrogen is required not only during **active growth**, but also during the **Stationary phase of fermentation** and to **prevent loss of viability** as ethanol accumulates in the medium

Typical Nitrogen Requirements of Yeast & Source

In addition to FAN dietary requirements, the type of FAN also impacts the Yeast nutrition.

Unlike amino nitrogen which requires active transport and facilitated diffusion across cell membrane, *Ureferm* provides ammoniacal nitrogen which passively and effectively diffuses in to yeast cell and does not pose a metabolic penalty

Does not require special metabolic mechanism for uptake and utilization by the yeast. With reduced metabolic stress, helps achieve healthy yeast growth



Ureferm Typical Properties:

Appearance	White or off white coloured powder
Bulk density – Kg/M³	0.6 to 0.8
pH	5 to 6
Moisture - % w/w	3 to 5
Key Ingredients	assimilable nitrogen, trace mineral

Advantages of Ureferm:

- Quickly dissolves in the fermentation
- Sustains optimum yeast growth
- Low by-products in mash
- Low residual sugar loss
- Reduction in fermentation hold up time

Method of Application:

The required quantity of Ureferm is calculated based on mash volume of fermentation and then added to the fermentation in single dose.

Dosage:

The dosage requirement varies based on feedstock properties. Contact Praj technical support for Optimum dose.

Packing:

Ureferm primary packing in 25 Kg HDPE bags which are further packed in to woven polythene lined bags.

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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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.



Innovate • Integrate • Deliver

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