

Key To Successful Grain Ethanol Fermentation

Praj's Bio-products Division specializes in the development of Innovative Solutions that add Economic Value to ethanol fermentation process. The expertise comes from vast experience on design and operation of ethanol processes based on Corn, Wheat, Rice, Sorghum, Bajra and various mixed feed stocks.

Effygren is a combination of specific micro elements and bio-chemicals for healthy yeast growth. The product is formulated after careful study of the grain fermentation process requirements.

Effygren is the practical solution to achieve high yielding stable fermentation process. 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 Effygren in Fermentation:

- Effectively controls bacterial contaminations
- Converts resistant starch in to sugars
- Provide vital nutrients for boosting yeast growth

Typically the grain ethanol fermentation process faces challenges like:

- Grain composition variations like starch & non-starch polymers.
- Recalcitrant Starch & formation of inhibitors
- Bacterial contaminations
- Sluggish fermentations
- Poor yeast growth



This document is intellectual property of PRAJ Industries limited and is generated for confidential business purposes. It should not be used for purposes other than designated purpose or reproduced without written permission from "PRAJ INDUSTRIES LTD, "Praj Tower", 274 & 275/2, Bhumkar Chowk- Hinjewadi Road, Hinjewadi, Pune 411 057, India. (WWW.PRAJ.NET)

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

Effygren Typical Properties:

Appearance	White Or Off White free flowing powder
Bulk density - Kg/M ³	400 to 600
pH	5 to 6
Moisture %	3 to 6

Advantages of Effygren:

- Increase in efficiency and yield of alcohol by 5 to 10 litters/MT of starch
- Increased alcohol concentration in mash by about 0.5 to 1%
- High rate of Yeast Growth & Metabolism.
- Low Residual starch/sugar loss
- Prevention of bacterial contamination & Reduction in the mash volatile acidity
- Low By-product formation in Mash
- Highly Improved Neutral Spirit quality
- Improvement in Thin slop recycle quantity
- Reduction in the fermentation hold up time due to quick reaction

Thus, Effygren is a very effective and proven product formulation which improves the Grain based Fermentation process and yields. Effygren has been successfully tested and regularly used in several grain ethanol plants.

Method of Application:

The required quantity of Effygren 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:

Effygren is added @ of 5.0 ppm to the fermentation.

Packing:

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

Shelf Life:

Store away from direct heat and sunlight. Preferably below 30 Deg C. When stored under recommended conditions in original container, the product is stable for one year.

