



# custom enzymes

## CUSTOM E - S

**Multiple enzyme components for increased Ethanol production**

### **Enzymes based Formulation for Starch/Grain based Distilleries**

Enzymes have been widely used in distilleries for various benefits like increasing the yield and efficiency by utilizing dextrin's and polymers which yeast cannot metabolize directly, streamlining the processes, eliminating bacterial contaminants, thus lower biproducts and improving spirit quality.

CUSTOM E – S is a combination of specific micro elements and enzymes, developed to increase the Ethanol yield of the distillery between 5 to 10 litres per metric tonne, thereby streamlining overall processes and increasing the fermentation efficiency.

#### **Advantages of CUSTOM E – S**

- Increase in efficiency and alcohol yield by 5/10l MT of molasses
- Increased alcohol concentration in mash and a reduction in spent wash quantity
- High rate of yeast growth and metabolism
- Low residual sugar
- Prevention of bacterial contamination & reduction in the mash volatile acidity
- Low biproducts in mash
- High improved neutral spirit quality
- Reduction in the fermentation hold up
- Longer duration of continuous fermentation

#### **Primary Functions of CUSTOM E - S**

- Converting Unfermentable Sugars to Fermentable Sugar
- Strengthening the Yeast Cell Wall.
- Controlling Bacterial Contamination and Proliferation.
- Smooth and steady flow of slurry
- Prevents bad effects of yeast inhibitors

#### **Method of application:**

- CUSTOM E – S is in powder form. It should be weighed as per dosage required and added in the Pre – Fermenters and Fermenters directly.
- The application in Pre – Fermenters must be done along with Yeast addition while the application in Fermenters has to be done along with transfer of Pre – Fermenter.
- In continuous Fermentation, the application of CUSTOM E – S should be done regularly on per shift basis. The dosage points of the Fermenters shall be optimised based on the plant operational details.

**Dosage:**

- 5 PPM on Mash Volume basis.

**Process Parameters:**

- CUSTOM E – S has been designed to suit all the process parameters such as temperature and pH of the Pre – Fermenters and Fermenters.

**Storage and shelf life:**

- Store it in cool and shaded place and avoid keeping it in direct sunlight. Enzyme dust may cause irritation when inhaled. Unnecessary contact with product should be avoided. The shelf life of CUSTOM E – S under recommended conditions is for the period of 1 year.

**Packaging:**

- CUSTOM E – S is packed in 1 Kg Aluminium Poly Pouches which are further packed in 25kg HDPE Drums. The packing can also be customised as per the requirements.