CelluX™ 4

Dry ethanol yeast

CelluX™ is a genetically modified strain of *Saccharomyces cerevisiae* that has been developed for the cellulosic ethanol industry. With a high ethanol tolerance, this yeast strain demonstrates the ability to resist stresses and maintains higher cell viability especially during fermentations of hydrolyzed cellulosic material.

Ingredients :

Yeast (*Saccharomyces cerevisiae* expressing xylose isomerase from Clostridium), emulsifier: sorbitan monostearate (E491).

Instructions of use:

Direct pitching (no propagation):

A minimum of 4-8 lbs per 1000 gallons of mash (0.5-1.0 kg per m^3) to achieve an initial viable cell concentration approximately 36 -72 billion viable cells per gallon (10–20 million per milliliter) in the fermentation vessel.

Indirect pitching (short propagation):

In state-of-art facilities, exerting strict control over contamination issues, dry yeast can be propagated during a short period. The required quantity of yeast will be dependent on fermentation capacity of desired objectives at the ethanol plant.

Prior to using in fermentation, the yeast should be rehydrated in 5 times its weight of sterile water. This is done at 89°F ± 6°F (32°C ± 3°C) for 15-30 minutes to ensure "conditioning" and a perfect homogenization.

Fermentation temperature

86 –95°F (30-35°C)

Packaging:

1 x 10 kg (22.05 lbs) vacuum-packed sachets in cardboard box.

Storage:

Activity loss can be expected to be 1% per month. Higher storage temperatures will result in increased loss of activity. Product should never be stored above 80°F (27°C). Partially used packages should be tightly sealed, removing as much air as possible, stored at refrigerated temperatures 40°F (4°C) and used within one week of opening.

Shelf life:

24 months from production date under recommended storage conditions.
Refer to best before end date on sachets.

Typical analysis*

% dry matter: 94.0 – 96.5
Living cells: ≥ 10 x 10^9 CFU/ gram
Total Plate Count: ≤ 1 x 10^4 CFU/ gram
*Given for indication only

Please note that any change to a fermentation process may alter the final product quality. We therefore advise that fermentation trials are carried out prior to using our yeast commercially.