



PRODUCT DATA SHEET

XYLOGENICS

— REDEFINING FERMENTATION —

DESCRIPTION AND USE:

FX23 is used in the production of fuel ethanol from liquefied grains. Designed to be robust, it is an advanced and improved strain of *Saccharomyces cerevisiae* that expresses multiple enzymes. Fuel ethanol production facilities using FX23 often experience ethanol yield improvements, a decrease in fermentation time of up to 24 hours, and a reduction of separately purchased GA enzyme up to 100% when compared to conventional industry yeasts.



DIRECTIONS FOR USE:

With 6-10 hours propagation time, the recommended dosage is 0-0.03% w/w into the propagation tank. As a direct pitch option, the recommended dosage is 0.025-0.050% w/w into the main fermentor.

This product is only to be used as a processing aid in the production for fuel ethanol and distillers co-products. It is not to be used as a direct addition to food or animal feeds. This product may only be used in fuel ethanol production processes where the time and temperature following ethanol fermentation is sufficient to completely inactivate yeast (minimum exposure of 175°F (80°C) for 2 minutes). No viable yeast may be present in the distillers feed product.

GUIDELINES FOR PRODUCT STORAGE:

Store refrigerated at 32°F to 36°F (0°C to 2°C). When stored under these conditions, the product is stable for 3 months from the date of manufacture.

QUALITY SPECIFICATIONS:

Percent Solids	Viable Yeast Cells per mL	Total Bacterial Count per mL
20-24%	>1 X 10 ⁹	<10 ⁵

INGREDIENTS

Water, yeast, food-grade stabilizers.

APPLICATIONS

For use in fuel ethanol fermentations. Fermentations are often staged within a temperature range between 88°F and 95°F (31°C to 35°C) with optimal use in a pH range of 4.2 to 5.5. It is also important to maintain rigorous contamination controls and maintain low fusel alcohol levels.