

Allpen Special

Fermentation Antimicrobial

Allpen Special antimicrobial is a penicillin based product for use in fuel ethanol fermentations. The active ingredient is penicillin, which controls a wide range of fermentation contaminants known to be detrimental to ethanol production. Allpen Special antimicrobial is especially effective in controlling gram-positive bacteria, such as *Lactobacillus sp.*

CHARACTERISTICS

Acts by inhibiting bacterial cell wall synthesis. It is easily soluble. Eliminates contaminating bacteria, resulting in:

- prevents competition for glucose
- reduces yeast stress
- increases alcohol yields

INGREDIENTS

White free flowing powder in a water soluble bag that contains penicillin

APPLICATIONS

Allpen Special antimicrobial is used as a bacterial growth inhibitor and is intended for use in ethanol fermentations.

- is effective over a pH range of 4.2 - 5.8. However, due to the instability of penicillin at pH values below 4.5, this product is most effective at 4.5 - 5.0
- is most effective at temperatures below 38°C (100°F)
- however, since penicillin decomposes rapidly at temperatures above 52°C (125°F) any Allpen Special antimicrobial present at the end of fermentation is deactivated in the still
- can be added to the yeast propagator or to the fermentor. However, it is most effective in the propagator

PACKAGING

Available in water soluble bags 500 g or 250 g (1.10 lb or 0.55 lb) packaged in 25 kg (55.12 lb) boxes

DIRECTIONS FOR USE

Allpen Special antimicrobial should be added during the fermentation phase of ethanol production. It can be added to the propagation system such that the final concentration in the fermentor equals 1 - 6 ppm. (1 - 6 g per 1000 L) or 3.8 - 22.8 mg per gal. Do not exceed 6.0 ppm (22.8 mg per US gal) during the fermentation cycle.

Contact your Lallemand Biofuels & Distilled Spirits Technical Representative for more details.

STORAGE & HANDLING

In order to maintain the integrity of the water soluble bags, the product should be stored in a dry area away from extreme temperature variations and moisture for maximum stability. When stored under these conditions, the product is stable for 18 months from the date of manufacture.

REGULATORY & CERTIFICATIONS

CFIA Approved

PRECAUTIONS

Color may vary per batch, but in no way affects the performance of the product.