

# Natunase™ ALDC

An Efficient Solution for Brewery Industry

Natunase ALDC is a purified alpha-acetolactate decarboxylase enzyme derived from *Bacillus licheniformis*. Acetolactate decarboxylase (ALDC) has the unique ability to decarboxylate both enantiomers of acetolactate to give a single enantiomer of the decarboxylation product, (R)-acetoin. This enzyme has application in brewing industry. Natunase ALDC meets requirements for food grade enzymes as designated by JECFA/FCC. Local food regulations should always be consulted with respect to specific applications and necessary declarations.

## BENEFICIARY FUNCTIONS

- Natunase ALDC is used in the fermentation of beer
- It converts acetolactate in beer into acetoin, bypassing the formation of diacetyl. Diacetyl has a very low off-flavor threshold.
- Treatment with Natunase ALDC significantly reduces the maturation period
- Natunase ALDC is to be added to the cold wort at the beginning of fermentation. It can also be added just after filtration & before canned in order to eliminate the rebound of the diacetyl during beer storage.

## PRODUCT APPLICATION

A 15 days curing process is required during the brewing of beer to ensure that yeast has time to absorb diacetyl, produced during conventional brewing-otherwise the beer has a characteristic 'off' odour and taste, rendering it undrinkable. Acetolactate decarboxylase (ALDC) allows brewers to bypass the reaction that produces diacetyl by catalysing non-oxidative decarboxylation.



## PRODUCT CHARACTERISTICS

Occurrence	Powder
Appearance	White to Off White

## PRODUCT OPERATING PARAMETERS

To be added in cold wort at the beginning of fermentation

Operating pH	4.0-5.0
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## DOSING

1-1.5 gm per 10 HL of wort

## PACKAGING

Available in 5 Kg HDPE drums

## PRODUCT SHELF LIFE

Below 10°C	12 months shelf life under cold & dry condition
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## PRODUCT HANDLING

- Enzymes are proteins. Inhalation of dust or aerosols may induce sensitization and may cause allergic reactions in sensitized individuals. Some enzymes may irritate the skin, eyes and mucous membranes upon prolonged contact. The product may create easily inhaled aerosols if splashed or vigorously stirred.
- Spilled product may dry out and create dust. Spilled material should be flushed away with water. Avoid splashing. Left over material may dry out and create dust.
- Wear suitable protective clothing, gloves and eye/face protection
- Contaminated cloths should be properly washed
- MSDS is supplied with the product. Follow MSDS safety instructions for more details.



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