14 Pacific Place, Kilsyth, VIC 3137
PH: 03 9728 3038
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DELTAMALT

PRODUCT CODE: DG-DMALT

FOOD GRADE PRODUCT

DESCRIPTION

DELTAMALT is a purified enzyme complex system produced by the controlled fermentation of *Bacillus Subtilis*, using only food grade materials. The main enzyme activities consist of *Alpha Amylase, Beta Glucanase* and *Protease*.

PHYSICAL FORM

Dark brown, cloudy liquid, somewhat viscous and free from precipitate.

INGREDIENTS

Alpha Amylase enzyme concentrate
Protease enzyme concentrate
Beta Glucanase enzyme concentrate
Stablilizers

SPECIFICATION

All analytical methods available on request.

Activity

Neutral Protease NPU/ml	:	15,000 (-5% +15%)
Alpha Amylase BAAU/ml	:	60,000 (-5%+15%)
Beta Glucanase BGU/ml	:	300 (-5%+15%)

Physical

Specific Gravity	:	1.17 g/ml typical
pH	:	5.7 typical

Heavy Metals

Meets FCC specifications for food grade enzymes

Total heavy metals	:	<40 ppm
Lead	:	<10 ppm
Arsenic	:	<3 ppm

Microbiological

T.V.C.	:	<50,000/ml
Coliforms	:	<30 CPU/ml
Salmonella	:	absent in 25g
E coli	:	absent in 25g
Yeast & Moulds	:	<200/ml
TE	:	<30/ml

APPLICATION

DELTAMALT is used in the brewing industry where it is ideally suited to high inclusions of raw barley in barley/malt mashes.

DOSE RATE

Our recommended enzyme dose rate is 1.5 kg/tonne barley. The actual dose rate depends on the quality of the raw materials and the amount of malt which has been replaced by barley. Therefore, it is always advisable to do preliminary laboratory trials to determine optimum dose rates.
DELTAMALT should be added at the beginning of the mashing process and is ideally suited for use in beers using barley, wheat, rice and other adjuncts low in natural enzymes.

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ACTIVITY PROFILE

The protease activity of **DELTAMALT** has an optimum pH of 6.0. Under brewing conditions the enzyme is very effective at protein hydrolysis over a pH range of 5.0-7.5, and is extremely stable over the pH range 5.0-8.5. The optimum temperature being 55°C.

The alpha amylase activity of **DELTAMALT** has an optimum pH of 6.0 and starch liquefaction occurs over the pH range of 5.5-7.5 under brewing conditions. The alpha amylase is extremely stable over a pH range of 5.0-9.0.

The alpha amylase has an optimum temperature of 85°C with extended stability over the range 40°C-90°C.

The beta glucanase activity has an optimum pH of 5.0 and is stable over a pH range of 3.5-7.0. The beta glucanase has an optimum temperature of 70°C and is stable over a temperature range of 40°C-75°C.

STORAGE/SHELF LIFE

At temperatures of <20°C **DELTAMALT** will maintain the declared activity for at least 12 months. At lower temperatures the shelf life is considerably improved.

PACKAGING

Standard packaging for **DELTAMALT** is in 25kg drums, 5kg and 1kg containers. However, the product can be repacked to meet specific customer requirements.

GMO STATUS

NON GMO (According to Australian and New Zealand Food Standards Code Section 1.5.2.2)

Issue No:	Summary of changes made from previous version:	Actioned by:	Authorised by:
5	Addition of GMO Status	Maree Edleston	Michael Watson