



PRODUCT NAME:NDB3 100 TU (Papain Liquid)

PRODUCT CODE:NDB3100

COMMODITY CODE:35079090

COUNTRY OF ORIGIN:BELGIUM

PACKAGING: 5 KG BOTTLE 25 KG DRUM

TECHNICAL INFORMATION SHEET

NDB3 100 TU (Papain Liquid) - ENZYMES

Description

NDB3100 is a solution of proteolytic enzymes extracted from the fruit of the papaya tree. NDB3100 protects the beer against chill haze and extends its shelf life.

Benefits

- A natural plant extract
- Increases filterability
- Reduces chill haze formation
- Improves beer shelf life
- Ideal for use in packaged beers

Principle

NDB3100 is an enzyme which breaks down the proteins responsible for the formation of the protein-tannin complex molecules that cause chill haze in beer particularly packaged beers.

Application

NDB3 100 can be mixed in with the mash, be applied in the fermenter or can be used at post fermentation stage.

Adding NDB3 100 between the stages of post-fermentation and the beer being chilled gives you the advantage of improving filterability as well as reducing chill haze formation and improving beer shelf life. An addition of a reduced amount can also be added at a later stage of the process such as in the conditioning tank. The optimum pH for this product lies between 5 and 7 and the ideal temperature is between the range of 50 and 70°C.

Rates of Use

For improvement of an all-malt mash NDB3 100 can be added at rates between 0.5 to 0.7 litres per tonne of dried goods. For use with barley adjuncts the suggested dosage rates are in the range of 5 to 8 litres per tonne of dry goods.

For post fermentation between 4 and 6 ml per hectolitre of NDB3100 is recommended.

Guidelines for use

Check that the product is within its shelf life before use

Experiment with additions to determine the minimum effective rates

Read the Material Safety Data sheet prior to use

Care should be taken to avoid unnecessary skin contact during handling

Specification (overleaf)

Specification

COMPOSITION	Natural proteolytic enzymes in an aqueous solution containing approved stabilisers and preservatives
APPEARANCE	Light brown, perfectly clear, viscous liquid
pH	4.8 - 6.2
Preservative	Sodium Metabisulphate (1%-2% w/w)
Specific Gravity @ 15.5°C	1.115 ± 0.005
SO ₂ (ppm)	6500- 13000 (at the time of manufacture)
Enzyme activity (Tyrosine Units/ml)	100 ± 5

MICROBIOLOGICAL

Total Plate Count (cfu/ml)	<100
E.Coli (cfu/ml)	Absent in 25g
Salmonella	Negative in 25 g

HEAVY METALS

Arsenic	<3ppm
Lead	<5 ppm
Mercury	<0.5 ppm
Cadmium	<0.5 ppm
Total	<30 ppm

Regulations

This product complies with the current FAO/WHO and Food Chemical Codex recommended specifications for food grade enzymes and GRAS (Generally Recognised As Safe) in the United States.

This product conforms to the requirements of the Feeding Stuffs Regulations, 2005.

Sulphur dioxide and sulphites at concentration of more than 10 mg/kg or 10 mg/l expressed as SO₂ must be labelled as allergenic (European Directive (2003/89/EC))

Storage & Shelf life

- Store in cool conditions away from direct sunlight
- Keep in original container
- Keep containers sealed when not in use
- Storage temperature is 1 to 5°C
- Do not allow product to freeze
- Under ideal conditions, 95% of enzyme activity will be retained for a period of at least 3 months, after which time loss may be expected of ca. 1-2% months

Technical Support

For Health & Safety information on this product, please see the Safety Data Sheet (SDS)

For support and advice on the use of this product, please call or e-mail our Technical Support:-

Telephone:- + 44 (0)115 978 5494

techsupport@murphyandson.co.uk

For up to date information regarding, Kosher, Halal, Vegetarian, GMO status, or anything not mentioned on this tech sheet please email:-

compliance@murphyandson.co.uk or call +44 (0)115 978 5494

Reference

PRODUCT	NDB3 100 TU (Papain Liquid)	PRODUCT CODE	NDB3100
ISSUE No.	5.0	DATE	09/07/2015
WRITTEN BY	F.M.Maud	AUTHORISED BY	Dr Christine Fleming