

**TRIZYME****1 DESCRIPTION**

Trizyme is a liquid enzyme preparation specially formulated for use in the mash tun. It is a blend of  $\alpha$ -amylase and  $\beta$ -glucanase from an approved bacterial source combined with proteolytic enzymes of approved vegetable origin and permitted food grade preservatives.

Trizyme has been developed to assist with mash tun problems including:-

- ◆ Poor extract
- ◆ Slow run-off
- ◆ Inadequate production of assimilable nitrogen

In the fermenter, Trizyme will combat problems including:-

- ◆ Slow and/or incomplete fermentations
- ◆ Altered yeast cropping and yeast suspension levels

In cask slow fining, loose bottoms and a general lack of brilliance may also be apparent. These symptoms may be due to use of barley varieties that do not lend themselves so readily to balanced modification. Trizyme provides a triple attack on such problems at the earliest possible stage.

Trizyme can also be used with non malted adjuncts to provide the necessary  $\alpha$ -amylase and  $\beta$ -glucanase to achieve good quality worts with a satisfactory extract, the correct level of assimilable nitrogen and the required degree of fermentability.

**2 STORAGE AND SHELF LIFE**

- Store in cool conditions, away from direct sunlight
- Keep containers sealed when not in use
  
- Maximum storage temperature - 10°C
- Recommended storage temperature - 0 to 5°C
- Minimum storage temperature - 1°C
- Do not allow the product to freeze
  
- The shelf life at the recommended storage temperature is 6 months from date of manufacture
- Under ideal conditions, enzyme activity will be retained for a period of at least 6 months, after which time a loss may be expected of ca. 1 - 2% per month

**3 PACKAGING****5 kg  
Bottle****25 kg  
Drum**

## **4 USING THE PRODUCT**

### **(a) How much of the product to add**

Typical rates of addition are between 500 and 700 ml per tonne of malt. Barley adjuncts require considerably higher addition rates, for example between 4 and 6 litres per tonne.

### **(b) Where to add the product**

To achieve the best results, the product should be distributed evenly throughout the mash.

## **5 GUIDELINES FOR USE**

### **DO**

- Check that the product is within its shelf life before use

## **6 TECHNICAL SUPPORT**

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

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

Telephone:- + 44 (0)115 978 5494

E-Mail:- laboratory@murphyandson.co.uk

## **7 SPECIFICATION**

Composition	Natural proteolytic, amylase and glucanase enzymes in an aqueous solution containing approved stabilisers and preservatives
Appearance	A pale brown yellow liquid with a faint opalescence
Odour	Slight odour
Specific Gravity (@ 20°C)	1.0775 ± 0.0125
<u>Analysis</u>	
Proteolytic Activity (MCU/10 ml)	525 ± 25
<u>Microbiological</u>	
Total Plate Count (cfu/ml)	< 100
E. coli (/ml)	< 1
Salmonella (/25 ml)	Negative in 25 g

We can confirm that our food grade products are outside the scope of REACH legislation. Food grade enzymes are defined as food stuffs and are therefore exempt.

## **8 REFERENCE**

Product	Trizyme
Authorised by	H.J. Kane
Issue No.	1.0

Product Code	TRIZ
Formulation	CJF/96
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