FUNGAL ALPHA AMYLASE - Enzymes

Description

This product is a food grade, high strength fungal alpha amylase derived from a non GMO selected strain of *Aspergillus oryzae*. These enzymes will breakdown starch by catalysing the endo hydrolysis of 1-4 alpha glucosidase linkages in starch chains, produce soluble sugars.

- High Strength.
- Performs well at low pH.
- Prevents haze formation.

Application and rates of use

Fungal Alpha Amylase will work at the pH of the mash and fermentation (working pH 3.0 – 6.0) and temperatures of up to 55°C (Temperature range 35 – 55°C). The dose rate of Fungal Alpha Amylase required to obtain the desired effect should be determined by trials under the conditions in which the enzyme is to be used.

As a general guide 20-100mls should be added per 1000 litres of wort, depending upon temperature, pH and reaction time.

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 Safety Data sheet prior to use
- Care should be taken to avoid unnecessary skin contact during handling

Regulations

Fungal Alpha Amylase 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 Feedingstuffs Regulations, 1988.

Allergens – Soy protein hydrolysate is used as a fermentation substrate. Its presence in the product is negligible.

Specification

<table>
<thead>
<tr>
<th>Composition</th>
<th>Alpha amylase derived from <em>Aspergillus oryzae</em> fermentation with approved stabilisers and preservatives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>A brown liquid</td>
</tr>
<tr>
<td>Odour</td>
<td>Slight odour</td>
</tr>
<tr>
<td>Analysis</td>
<td></td>
</tr>
<tr>
<td>Enzyme activity (GAU/ml)</td>
<td>25,000 units ± 500</td>
</tr>
<tr>
<td>Microbiological</td>
<td></td>
</tr>
<tr>
<td>Total Plate Count (cfu/ml)</td>
<td>Conforms to FCC/JECFA/WHO/FAO</td>
</tr>
<tr>
<td><em>E. coli</em></td>
<td>Conforms to FCC/JECFA/WHO/FAO</td>
</tr>
<tr>
<td><em>Salmonella</em></td>
<td>Conforms to FCC/JECFA/WHO/FAO</td>
</tr>
</tbody>
</table>
**Storage & Shelf Life**

- Store in cool conditions, away from direct sunlight. Refrigeration is not normally required.
- Keep containers sealed when not in use
- Maximum storage temperature: 20°C
- Recommended storage temperature: 4 to 20°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, 95% of 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

**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**

<table>
<thead>
<tr>
<th>PRODUCT</th>
<th>Fungal Alpha Amylase</th>
<th>PRODUCT CODE</th>
<th>FUNALP</th>
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<tr>
<td>ISSUE No.</td>
<td>2</td>
<td>DATE</td>
<td>20/07/2016</td>
</tr>
<tr>
<td>CREATED BY</td>
<td>F.M. Maud</td>
<td>AUTHORISED BY</td>
<td>Dr Christine Fleming</td>
</tr>
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