PRODUCT DESCRIPTION - PD 236772-4.0EN

LIPASE POWDER 500 - 16 OZ (0.45kg)

Lipase Powders

Description
A fine, free-flowing tan powder that contains salt, whey and/or whey protein concentrate and pregastric lamb lipase.

Usage levels
Application in cheese industry (cheese type Romano):
Usage rate / 1000 lb. milk 0.5 - 2 oz.
Flavor characteristic: very sharp "peccorino"

Directions for use
LIPASE POWDER 500 - 16 OZ (0.45kg) produce a specific ratio of free fatty acids as a result of milk fat lipolysis. This specific enzyme action results in a characteristic flavor. The optimum temperature range for activity of lipase powders is 82 - 98 °F (27.7 - 36.6 °C). In aqueous solutions, temperatures of 120 °F (48.8 °C) will reduce enzyme activity, and milk pasteurization temperatures will completely inactivate these enzymes. When used in Pasta Filata Cheese, mixer-molder temperatures over 133 °F (56.1 °C) will cause enzyme inactivation. The optimum pH for the reaction of lipase powders with milk fat is 5.5.

Physical/chemical specifications
Typical fatty acid profile - mole percent of fatty acid produced in milk fat - for LIPASE POWDER 500 - 16 OZ (0.45kg) (lamb):
- Butyric: 41.5 %
- Caproic: 15.0 %
- Caprylic: 5.0 %
- Capric: 7.0 %
- Lauric and higher: 31.5 %

Microbiological specifications
A typical analysis of lipase powder follows:
- Esterase Assay: 48.0 - 56.0 LFU / g
- Standard Plate Count: NMT 10000 / g
- Coliforms: LT / g
- E. coli: neg. by test (< 0.3 / g)
- Staphylococcus (coag. +): neg. by test (< 10 / g)
- Salmonella: neg. (40 g enrichment)
- Listeria: neg. (25 g enrichment)

Storage
Keep in a tightly sealed container in a cool, dry, dark place.
Store at -10°C (14°F)
Shelf Life: Six months from date of manufacture

Packaging
Standard packaging is 25 x 16 oz bags in a fibre drum.

Purity and legal status
This product meets the specifications laid down by the EU legislation as well as the Food Chemicals codex. Legislation regarding the use of the product may vary from country to country. The customer is responsible for ensuring compliance with local legislation and for obtaining all necessary certificates and authorizations.

Safety and handling
MSDS is available on request.

Kosher status
Kosher Tablet K Dairy

The information contained in this publication is based on our own research and development work and is to the best of our knowledge reliable. Users should, however, conduct their own tests to determine the suitability of our products for their own specific purposes and the legal status for their intended use of the product. Statements contained herein should not be considered as a warranty of any kind, expressed or implied, and no liability is accepted for the infringement of any patents.
Allergens

The below table indicates the presence (as added components) of the following allergens and products thereof:

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
<th>Allergens</th>
<th>Description of components</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td></td>
<td>wheat</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>other cereals containing gluten</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>crustacean shellfish</td>
<td></td>
</tr>
<tr>
<td>X</td>
<td></td>
<td>eggs</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>fish</td>
<td></td>
</tr>
<tr>
<td>X</td>
<td></td>
<td>peanuts</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>soybeans</td>
<td></td>
</tr>
<tr>
<td>X</td>
<td></td>
<td>milk (including lactose)</td>
<td></td>
</tr>
<tr>
<td>X</td>
<td></td>
<td>nuts</td>
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<tr>
<td></td>
<td>X</td>
<td>celery</td>
<td></td>
</tr>
<tr>
<td>X</td>
<td></td>
<td>mustard</td>
<td></td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>sesame seeds</td>
<td></td>
</tr>
<tr>
<td>X</td>
<td></td>
<td>sulphur dioxide and sulphits (&gt; 10 mg/kg)</td>
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<tr>
<td>X</td>
<td></td>
<td>lupin</td>
<td></td>
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<tr>
<td>X</td>
<td></td>
<td>molluscs</td>
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</tbody>
</table>

Local regulation has always to be consulted as allergen labelling requirements may vary from country to country.

Additional information

Treated by irradiation - do not irradiate again.