biochem s.r.l.

Lipasi Vivi-Tek ®

Description:

Lipasi powders are natural extract from kids glands which undergo the process of purification, disinfection and lyophilization.

Amorphous-crystalline powder as sodium chloride, are free of preservatives, dyes, bleaches, or other flavoring additives.

The enzyme, secreted in the mouth region, is ingested during feeding, in order to hydrolyze milk fat and thus improve the digestibility. Lipase enzyme preparations are white, dry, free-flowing and dispersible in water. Lipase Powders produce a specific ratio of free fatty acids as a result of milk fat lipolysis.

Lipasi is employed in dairy industry for the production of long and middle ripening cheese where is required more aroma and "piccante" flavor.

Lipasi is a pre-gastric, oral lipase enzyme powder manufactured from edible glands

and standardized with salt, non fat dry milk and lactose.

Dosage :

Lipasi standard packaging is 500 gr polyethylen drums. Custom packaging in polyethylene bags to specific vat or batch size is also available. Following it's showed recommended dosage of the product:

| Dairy use | Gr/1.000 lt of milk | Flavour characteristic |
|------------------------------|---------------------|----------------------------------|
| Provolone Piccante Cheese | 50-80 | Sharp "piccante" |
| Sour cream | 10 - 25 | Acid – Sharp |
| Kaymak | 50gr /100 Kg | Fast cheese flavour formation |

Modality of use:

This specific enzyme action results in a characteristic flavor for each dairy product and usage.

The optimum temperature range for activity of Kid Lipase Powders is 28-37°C.

In aqueous solutions, temperatures of 50 °C will reduce enzyme activity, and milk pasteurization temperatures will completely inactivate these enzymes.

When used in Pasta Filata Cheese, mixer-molder temperatures over 56 $^{\circ}$ C will cause enzyme inactivation. The optimum pH for the reaction of Kid Lipase Powders with milk fat is 6.0-5.50.

Declaration NO GMO and Allerges:

The product Lipasi does not contain any genetically modified microorganisms and is produced in compliance with Regulation (EC) No. 1829-1830/2003 and 1169/2011 as further amendments.

| Allerges | Yes | No |
|---------------------------|-----|----|
| Cereals containing gluten | | Х |
| Crustaceans | | Х |
| Eggs | | Х |
| Fish | | Х |
| Peanuts | | Х |
| Soy (GMO-free) | | Х |
| Milk | Х | |
| Nuts | | Х |
| Celery | | Х |
| Mustard | | Х |
| Sesame seeds | | Х |
| Sulphur dioxide and | | Х |
| Sulphits (>10mg/kg) | | |
| Lupins | | Х |
| Shellfish | | Х |

Microbiological controls:

| Microorganism | Method | Results |
|---------------------------|----------------------|-------------------------|
| Total cell count | ISO 4833:2003 | <10 ² CFU/gr |
| Coliforms | ISO 4832:2006 | <10 CFU/gr |
| Yeast and moulds | ISO 21527-1:2008 | <10 ² CFU/gr |
| Staphylococcus aureus | UNI ISO 6888-1:2004 | <10 ² CFU/gr |
| Salmonella | UNI ISO 6579:2004 | Absent/25g |
| Listeria | UNI ISO 11290-1:2005 | Absent/25g |
| Escherichia coli (E.coli) | UNI ISO9308-3:1998 | Absent/25 g |
| Enterobacteriaceae | FIL-IDF 73 | Absent/25g |

Physical characteristics:

Typical fatty acid profiles produced by Kid Lipase Powder are shown in the following table:

| Mole percent of fatty acids produced in milk fat | | |
|--|------|--|
| Fatty Acid | % | |
| Butyric | 45.9 | |
| Caproic | 18.2 | |
| Caprylic | 5.0 | |
| Capric | 7.8 | |
| Lauric | 23.1 | |

Storage and Expiry:

If is stored in the original closed package and in fresh and dry place $(+5^{\circ}C)$ the characteristics of enzyme remain unaltered for 24 months.

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