

# Lipomod<sup>®</sup> 957MDP

## L957MDP

### Features/Benefits

- Microbial alternative to pancreatin
- Microbial lipase with protease activity
- Strong free fatty acid flavours with sulphur and sweet notes
- Kosher, Halal and vegetarian status

Lipomod<sup>®</sup> 957MDP is a microbial alternative to porcine pancreatin. It is a mixed lipase with protease activity, which has been specifically designed for dairy flavour applications hence it does not contain any amylase activity. Since Lipomod<sup>®</sup> 957MDP is a non-animal product, it is suitable for vegetarian, Kosher and Halal products in EMC applications. The flavour profile generated is similar to the one created by porcine pancreatin. Lipomod<sup>®</sup> 957MDP produces a flavour profile dominated by strong free fatty acid notes with sulphur and sweet undertones.

Lipases hydrolyse triglycerides to liberate free fatty acids (FFA). These enzymes are widespread throughout nature, and they possess different activities and specificities towards triacylglycerol substrates (fat). The free fatty acid profile (amount and type of FFA) contributes to the difference in flavour from one cheese to another. For Enzyme Modified Cheese (EMC), lipases are used to produce specific concentrated flavours. Lipomod<sup>®</sup> 957MDP can be suitable for use in other flavour applications.

### Specification

Activity	3,600 U/g Esterase (Tributyryn substrate) 90 U/g Casein Protease
Biological Source	<i>Rhizopus sp.</i> , <i>Aspergillus sp.</i>
Form	Off white to brown powder
Optimum pH Range	5.0 - 7.0
Optimum Temperature Range	40 - 50°C

### Application & Dose

Lipomod<sup>®</sup> 957MDP has optimum activity at neutral to slightly acidic pH (5-7); so, no pH adjustments are required whether milk, milk fat or cheese is used as a substrate. In EMC production, the shredded cheese is mixed with water and emulsifying agents to obtain an EMC slurry of 55-85% of cheese (40-55% of dry solids). The slurry is pasteurized and cooled to 40-50°C, prior addition of enzymes. The recommended dosage for L957MDP is 0.1-0.5% w/w on cheese in the EMC slurry. The mixture can then be incubated for 8-48h, depending on the enzyme dose, incubation temperature and substrate. Trials will be required to determine the exact conditions in order to achieve the desired strength of flavour. The enzyme is deactivated above 80°C at the end of incubation.

### Health & Safety

Always read the Material Safety Datasheet (MSDS) before use and retain. If you are in any doubt about recommended product handling and safety, please contact Biocatalysts before use. Generally, when using enzymes avoid contact with the skin and eyes and do not breathe dusts or aerosols containing them. MSDSs are available in other languages. Please contact Customer Services.

### Storage

Powders: Activity will remain within specification for at least 12 months from the date of manufacture when stored at 0 - 20°C.

### Allergens

Refer to allergen statement.

### Food Status

Material complies with the JECFA/FAO/WHO and FCC recommended specifications for enzymes used in food processing.

### GM Status

This product has been manufactured using a fermentation process of a microbial organism that has not been altered using modern biotechnology. This product does therefore not require labelling as GMO on food labels.

### Quality & Food Safety

Biocatalysts operates a preventative risk-based Food Safety System that ensures the environment and processes are designed to produce safe products every time. FSSC22000 and FSMA compliant.

Compliance - The Company's integrated management system encompasses Quality, Food Safety, Health and Safety and GMP.

Certificates are available on request from the Customer Services Department.

### Availability

Powders: standard 25kg net poly-lined, 100% recyclable cardboard box. Non-standard quantities are also available for some products, please enquire.