

# Lipomod<sup>®</sup> 338MDP

## L338MDP

### Features/Benefits

- Fungal esterase
- EMC production
- Blue type notes
- Protease free
- Kosher, Halal and vegetarian status

Lipomod<sup>®</sup> 338MDP has a strong preference for hydrolysis of short chain fatty acids from triglycerides, resulting in the production of blue notes. Since it is a non-animal product Lipomod<sup>®</sup> 338MDP is suitable for vegetarian and kosher products. If protein notes are required Promod<sup>®</sup> 215MDP can be used in combination with Lipomod<sup>®</sup> 338MDP.

Lipases and esterases 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). Fatty acids have strong flavour characteristics and are responsible for the flavours associated with many products derived from both dairy and non-dairy fats. For Enzyme Modified Cheese (EMC), lipases and esterases are used to produce specific concentrated flavours.

### Specification

Activity	4,500 U/g Esterase (Tributyryn substrate)
Biological Source	<i>Penicillium sp., Candida 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> 338MDP has optimum activity at neutral to slightly acid pH, so no pH adjustments are required whether cheese, milk fat or milk is used. 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 pasteurised and cooled to 40-50°C, prior to the addition of the enzymes. The recommended dosage for L338MDP is 0.1-0.5% w/w on cheese in the EMC slurry. For butter fats a dose of 1% w/w on fat is recommended. The mixture can then be incubated for 8-36h, 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 the incubation. Please contact Biocatalysts for further technical support.

### 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.