

PETER GREVEN Your partner for pharmaceutical excipients



P E T E R 
GREVEN
Your partner for oleochemicals



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Sustainability and the demand for renewable raw materials are becoming more and more important in many areas. As a middle-sized family owned company, we have always produced additives based on renewable raw materials and can look back to a long experience with these raw materials and associated production technologies.

Oleochemical additives are among the most important excipients in the pharmaceutical industry. We began addressing these requirements many years ago and dedicated our production facility in Venlo (NL) to the manufacture of high-quality, vegetable stearates for pharmaceutical applications.

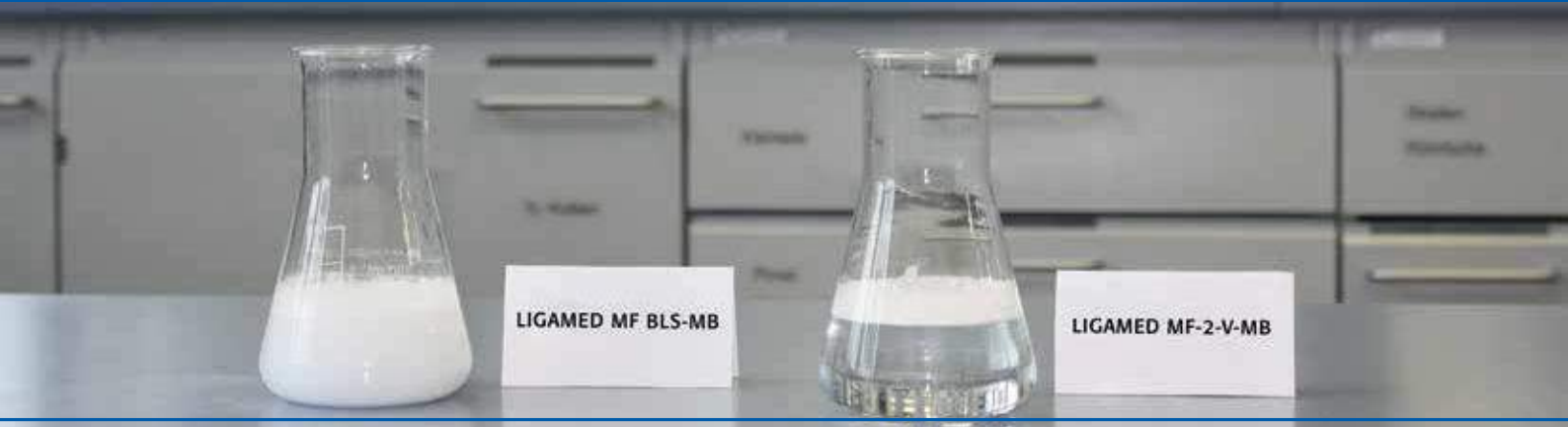
The complexity of operations requires a continuous process of improvement and customisation. For decades we have embraced this challenge and became the market leader for pharmaceutical stearates in Europe.

Our **LIGAMED** product portfolio offers a variety of high-quality additives which are dedicated to the needs and requirements of the pharmaceutical industry. In addition to the special physical and chemical characteristics of our products we focus on the strict adherence to regulatory requirements as well as strong technical service.

Our **LIGAMED** grades cover an extensive range of applications in the pharmaceutical industry:

- Tableting agent
- Lubricant
- Flowability agent
- Separating agent
- Water repellent
- Stability improvement agent
- Emulsifying agent
- Gelling agent

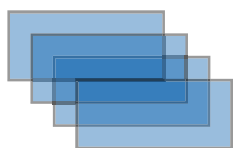




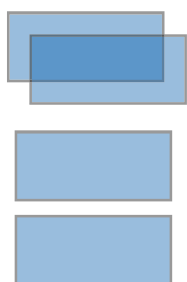
MAGNESIUM STEARATE

Magnesium Stearate is the most widely used excipient within the pharmaceutical industry: It ranks first on the list of the Top Ten excipients used in solid oral dosage forms.

How does **LIGAMED** Magnesium Stearate work?



↓
Blending process

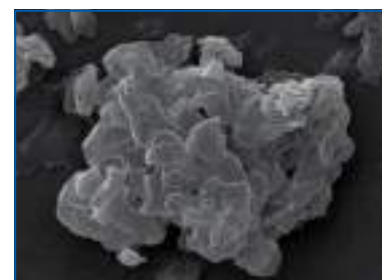


The crystal structure of high quality Magnesium Stearate is often pictured as a deck of cards. Due to the lamella structure Magnesium Stearate offers a very high specific surface area.

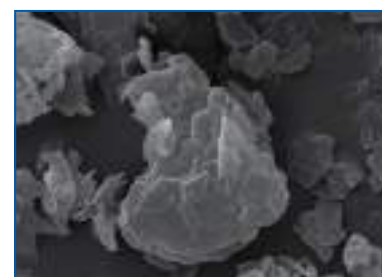
During the blending process with active ingredients, carriers or fillers, the "plates" of Magnesium Stearate dismantle from the decks, piece by piece, to coat other particles.



LIGAMED MF-2-V-MB
15kV, 12mm



LIGAMED MF-3-V-MB
15kV, 12mm



LIGAMED MF-2-V-BI-MB
20kV, 12mm



LIGAMED MF-2-V-MB

specific surface area: 6–10 m²/g,
median particle size (D50): ~11 μm

This is our most widely used excipient for the production of tablets and capsules. Its high specific surface area and fine particles offer a high releasing speed during tablet pressing and consistent physical performance of the tablets such as hardness and dissolution profiles. Due to the exceptional high specific surface area, typical quantity used during formulation is low: 0,2 % to 1 % by tablet weight. In addition to the application as a tableting agent, this product is also used as a flowability agent for powder preblends, offering an efficient and low dosage in capsules.

LIGAMED MF-3-V-MB

specific surface area: 8–12m²/g,
median particle size (D50): 5–9 μm

This grade is characterised by the same unique properties as LIGAMED MF-2-V-MB but in addition MF-3-V-MB offers an even higher specific surface area and a smaller median particle size. This product is preferred in applications where processing conditions are more critical and very fine excipients or herbal formulations are used.

LIGAMED MF-2-V-BI-MB

specific surface area: 6–8m²/g,
median particle size (D50): ~11 μm

This variation of our LIGAMED MF-2-V-MB offers a tighter specific surface area range in combination with the favourable crystalline structure of LIGAMED MF-2-V-MB. This grade supports a lower dissolution profile and is used in special formulations as tablet coatings, where a low and stable viscosity is required.

LIGAMED MF-2-V PREMIUM-MB

For highly complex pharmaceutical applications (e.g. inhalation medicine) we have developed our LIGAMED MF-2-V PREMIUM-MB. This specialty grade has a high quality specification with additional tests for the fatty acid profile, particle size characterization and microbial count.

LIGAMED MF BLS-MB

LIGAMED MF BLS-MB extends our existing product portfolio of Magnesium Stearates and is produced according to a special production process. Offering the specific characteristic of being water dispersible, this product is very suitable for the use within water-soluble drugs.



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