



# Magnesium compounds

as ingredients for ruminant nutrition

- Wide range of natural and synthetic caustic calcined magnesia (CCM) types in various grain sizes
- Long-term partnerships with qualified producers around the globe
- Controlled feed quality standards from production to delivery with inhouse quality assurance and logistics for monitoring of all relevant steps along the entire supply chain
- Customized logistical solutions adapted to your needs
- Short-term delivery from our European warehouse network
- More than 20 years experience in the supply of animal feed products
- Highly qualified technical and commercial support

## Property profiles of magnesium compounds

	LUVOMAG® AF	Mg0 [wt%]	Mg [wt%[	Fe <sub>2</sub> O <sub>3</sub> [wt%]	CAA <sup>[1]</sup> [sec.]	Available grain sizes [mm]		
Natural MgO (CCM)	MO 50 D	84%	50%	< 2.5%	> 500	< 0.5	0.2-1.5	0.5-1.5
	MO 50 G	86%	51%	< 0.2%	> 500		0.2-1.0	0.2-1.6
	M0 54	91%	54%	< 1.3%	> 500	0.1-0.3	0.3-0.8	
	M0 F-2	92%	55%	< 0.8%	170	< 0.1		
	M0 F-4	92%	55%	< 0.7%	120	< 0.1		
	M0 S-97	98%	59%	< 0.4%	50	< 0.3		
Synthetic MgO (CCM)	M 088	98%	59%	< 0.08%	25	< 0.01	0.2-1.4	
	M 020	99%	60%	< 0.04%	< 3	0.03		
	M 060	99.5%	60%	< 0.01%	< 3	< 0.01		
Magnesium chloride	CL 101	47.3%[2]	12%	7 ppm	-/-	flakes		

CCM: caustic calcined magnesia; [1] Citric Acid Activity at pH 7; [2] MgCl2 content

Further magnesium compounds such as sulfate, hydroxide, organic salts are available upon request.

### Typical uses

Magnesium oxide is widely used as a mineral supplement in ruminant feed. Unbeatable advantages are the high magnesium content of up to 60 %. With numerous indications to enrich cattle feed with magnesium compounds (e.g. calf milk fortification, disease or preventive treatments, acid buffering in the digestive tract) bioavailability of the mineral supplement is getting more into focus. Scientific statements are a very complicated and differentiated topic where parameters like in-vivo pH conditions, interaction with other feed ingredients, mobility, passage time, animal race and housing form may have a significant influence on bioavailability. To our opinion a valuable empiric indicator for the expected bioavailability is the relative reactivity of magnesium oxide. This may be expressed by the time in seconds a given MgO products needs to neutralize a citric acid solution (standard test method: citric acid activity (CAA) at pH 7).

Applications comprise CCM or magnesium salts in compound feeds or licks; magnesium bullet for cattle; foliar dusting with magnesia, magnesium with molasses in liquid lick, magnesia boxes along with other nutrient boxes, magnesium addition in compound feeds.

## **Quality and Regulatory compliance**

- All products are in compliance with EU directive 2002/32/EC on undesirable substances in animal feed, especially concerning heavy metal and dioxin content
- Authorised for delivery to the following feed systems: QS, GMP+, Ovocom, AIC, Securefeed
- QS certification for the feed trade (QS-ID 4039935000003, location number: F00000639)
- · Compliance with the QS control plan for magnesium oxide in feed monitoring
- · Compliance with the QS HACCP concept and requirements for the trade in the feed industry

#### Packaging and Logistics

We offer a wide variety of packaging solutions. We supply from stock and work with a dedicated logistics team along with reliable forwarding partners. Please contact us for individual needs. Our numerous warehousing and logistics operators are audited and certified by the applicable standards.

Lehmann&Voss&Co. KG Alsterufer 19 20354 Hamburg Germany Tel +49 40 44 197 306 E-mail: magnesia@lehvoss.de www.lehvoss.de/magnesia



Talk to your experts.