

# MarineMgO

Highly soluble magnesium derived from sea water

## Highly soluble supplementary magnesium for cattle



## The importance of supplementary magnesium

Magnesium is a major intracellular cation involved in metabolic pathways and is also vital to nerve and muscle function, as well as bone formation.

Most magnesium is found in the bone, but this is not a readily available source of the mineral as bone turnover is controlled by calcium rather than magnesium homeostasis.

In the adult ruminant, magnesium is absorbed from the rumen and reticulum rather than the small intestine, as is the case with monogastrics. Magnesium absorption is therefore dependent on the concentration of soluble magnesium in the rumen fluid. Consequently, magnesium sources must be soluble at physiological rumen pH if they are to be available to the adult animal.

## What is Marine MgO

**MarineMgO** is a 90% technical grade calcined magnesium oxide powder – a highly bio-available source of magnesium derived from sea water.

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## The importance of magnesium bio-availability

MgO sources vary tremendously in their ability to deliver soluble magnesium to the ruminant animal.

Recent studies (Schonewille *et al.* J. Dairy Sci. 2008 91:271-278) suggest the average absorption of magnesium (% of intake) in dairy cows is 26.2% - ranging from 9.9% to 73.7% depending on the MgO source.

### Reactivity of Marine MgO to acid over time in simulated rumen conditions

	0-2 hours	2-4 hours	4-6 hours	6-8 hours)
Magnesium release:	86.17%	87.16%	96.96%	98.66%

## Bio-availability of Marine MgO

The magnesium from **MarineMgO** is virtually all solubilised and made bio-available at a rumen simulated pH of 5.5.





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## Why use Marine MgO?

- Highly soluble magnesium source at rumen pH
- 100% bio-available
- Delivers 56% magnesium in its soluble form
- Low feed inclusion rate
- Natural source of magnesium derived from sea water
- Helps regulate rumen pH for optimum performance



## Recommendations for use:

In beef and dairy cows as an aid to preventing grass staggers.

**MarineMgO** can also be used alongside **AcidBuf** for improved rumen conditioning and to provide additional supplementary magnesium.

**AcidBuf** conditions the rumen to maximise efficiency by:

- Holding rumen pH between 5.5 and 6.2
- Increasing total VFA production
- Providing bio-available calcium and magnesium



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