

# Magnesium Oxide (MgO)

Premium grade of MgO available in Australia, 57% magnesium

Magnesium along with calcium and phosphorus are known as the major minerals. Copper, zinc, iron, manganese, selenium and iodine are trace minerals. In a horse's nutrient intake, either magnesium can be at too low a level compared to the NRC (National Research Council) daily recommendations AND/OR the calcium to magnesium ratio can be too high. Whichever one applies, the diet won't be optimal.

The symptoms of a magnesium deficiency are the same as for excessive ionised calcium compared to magnesium.

Symptoms include muscular symptoms from twitching to spasm, irritability, hypersensitivity, with a potential for intestinal symptoms and heart irregularity when severe. Horses can also have gait disturbances, including stilted

gait, base wide gait behind, difficulty controlling the hind end when turning and reluctance or inability to canter.

Magnesium has many different jobs to do in the body and one of the most important jobs is to control the movement of calcium along calcium channels in cells. The movement of calcium through calcium channels forms the basis for all 'excitable' tissue activity, including the nervous system, heart, skeletal muscle and smooth muscle in the intestinal tract, uterus, urinary tract and blood vessels. Magnesium controls the sensitivity of the calcium channel, and is also required for the production and storage of the energy packets (ATP) that is needed by the sodium-potassium pumps to do their job of clearing the calcium from the cell and put it back into storage sites.

If your horse is simply not getting enough magnesium, it is well worth trialling some supplementary magnesium. In horses, MgO has a high absorption rate (~60-70%) and is safe to feed.

*Equine magnesium supplements: Evaluation of magnesium oxide, magnesium sulfate and magnesium carbonate in foals fed purified diets.* Equine veterinary journal 12(1): 32-33.  
<http://onlinelibrary.wiley.com/doi/10.1111/j.2042-3306.1980.tb02298.x/abstract>

Trial 10 – 20 g MgO (about 1 metric tablespoon, depending on density) mixed thoroughly into a feed, best when the feed is dampened to wet. If you find there is no difference in behaviour, there may be other issues that require attention rather than just a magnesium deficiency.

**STORAGE:** Moisture and air sensitive keep container closed and in a cool, dry area.

**SAFETY DIRECTIONS:** Avoid contact with eyes and skin. Avoid breathing dust.

**FIRST AID:** If poisoning occurs, contact a doctor or Poisons Information Centre. Phone 131 126

*From time to time, depending on where the magnesium is mined in the Causmag NSW quarry, there can be variations of colour. The MgO is premium grade and of high reactivity (bioavailability).*

Manufactured in Australia

*Animal consumption only*

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