

Magnesium Citrate 150 mg Capsules



Product Summary:

Magnesium is the most plentiful cation in the body, even more than calcium. Needless to say, it is important that we ensure we have an adequate dietary supply. Magnesium is important for cellular energy since the cell's energy source ATP is inactive without a magnesium counterion.

Magnesium is necessary for growth and development, wound healing, immune system function, temperature regulation and many activities of the brain and nervous system. Shaky hands, nervousness, muscle spasms, irregular or rapid heartbeat, all respond favourably to magnesium.

Properties/Uses:

The claim as approved by the *Natural Health Products Directorate* (NHPD): A factor in the maintenance of good health. Helps the body to metabolize carbohydrates, proteins and fats, and in the development and maintenance of bones and teeth. Helps to maintain proper muscle function.



GENERAL HEALTH
& WELLNESS



Pharmacology:

Magnesium is the second most plentiful cation in the intracellular fluid and the most plentiful cation in the body. Up to 50% of the magnesium in the body is found in bone. Magnesium is important for normal bone structure, and plays an essential role in more than 300 cellular reactions. Magnesium is required for the formation of cyclic AMP (cAMP) and is involved in ion movements across cell membranes. It is involved in protein synthesis and carbohydrate metabolism. Extracellular magnesium is critical to both maintaining nerve and muscle electrical potentials and transmitting impulses across neuromuscular junctions.¹

Magnesium supplementation is useful for treating and preventing magnesium deficiency (hypomagnesemia). It is also used as a laxative for constipation or as an antacid for gastric hyperactivity or gastroesophageal reflux disease (GERD).¹ There is also support for magnesium lowering risk for type 2 diabetes.² Magnesium supplementation has also been used for premenstrual syndrome (PMS) and migraine headaches.¹

Insufficient intake of magnesium can be a problem in North America. Women, in particular, have low dietary intake of magnesium. Magnesium deficiency in the US is most prevalent among African Americans and the elderly. People with low vitamin D or parathyroid hormone levels may be at risk for magnesium deficiency, as they are both required for magnesium absorption. Individuals with hypomagnesemia should also supplement with vitamin D.¹

There is very little literature data on the comparative bioavailability and absorbability of the various magnesium salts used in magnesium supplementation. There is some support, however, that organic magnesium salts are more bioavailable and soluble than their inorganic counterparts.^{3,4} The magnesium in these caplets is available as the organic salt magnesium citrate to increase absorption.



Manufactured product information:

Manufacturer:

WN Pharmaceuticals® Ltd.

Size/UPC:

100's 7 77747 10297 6

NPN:

80005581

Expiry Date:

60 months from date of manufacture

Active Ingredient:

Each capsule contains:

Magnesium (Citrate) 150 mg

Non-Medicinal Ingredients (in descending order):

Gelatin capsule (gelatin, purified water, titanium dioxide), microcrystalline cellulose, magnesium stearate.

Appearance:

White powder in a white hard gelatin capsule

Packaging:

225 cc white round bottle with safety seal under a 45 mm white induction sealed cap with vented interior seal and a label applied to the bottle. Lot number and expiry date are printed on label applied to exterior of bottle.

Storage:

Preserve in tight, light resistant containers.





Dose:

As per the NHPD Monograph for Magnesium an Adult dose is 20 – 500 mg daily.⁵ For osteoporosis, doses of 150-750 mg/day have been used.¹ For PMS, 200-360 mg/day has been used.¹

Directions:

(Adults): 1 – 3 capsules daily or as recommended by a physician

Caution:

The caution as approved by the *Natural Health Products Directorate* (NHPD): KEEP OUT OF THE REACH OF CHILDREN. Some people may experience diarrhea. STORE AT ROOM TEMPERATURE IN A DARK, DRY PLACE. DO NOT USE IF SEAL UNDER CAP IS BROKEN OR MISSING.

Deficiency Symptoms:

Inadequate magnesium most severely affects cardiovascular, neuromuscular and renal tissues. The incidence of heart attack is reduced in regions of the country having high magnesium levels in the water supply. Heart failure from defibrillation has been linked to insufficient magnesium.⁶

Low magnesium diet consumed for 3 months will lower serum magnesium, calcium and potassium. These normalize with magnesium therapy. Magnesium might also be lost by vomiting, diarrhea, long-term use of diuretics or ammonium chloride, excessive sugar intake and protein malnutrition. Magnesium deficiency may also occur in certain disease states such as alcoholism and cirrhosis of the liver, congestive heart failure, kidney dysfunction, inflammatory bowel disease and pancreatitis.¹ Magnesium deficiency has also been linked to insulin sensitivity and as a risk factor for type 2 diabetes.² Symptoms of magnesium deficiency include: weakness, confusion, personality changes, mood changes, muscle tremor, anorexia, nausea, lack of coordination, gastrointestinal disorders.⁶



Drug Interactions/Contraindications:

Note: No contraindications are required as per the NPN.

Many drugs may appear to adversely affect magnesium status. Most notably many antacids, diuretics, ulcer medications, insulin and digitalis.⁷ High doses of zinc and calcium appear to decrease magnesium absorption.¹

However, magnesium may also interfere with the absorption of bone-building drugs alendronate (Fosamax), etidronate (Didronell) and risedronate (Actonel) as well as tetracycline and quinolone antibiotics. Magnesium supplements should not be taken within two hours of these drugs.^{1,7}

Toxicity/Adverse Reactions:

In general, magnesium is very well tolerated. Magnesium supplementation can sometimes cause a looser stool, particularly magnesium sulfate (Epsom salts), magnesium hydroxide or magnesium chloride.⁷ Doses greater than the tolerable upper intake level (UL) of 350 mg frequently cause loose stools and diarrhea.^{1,5}

Toxicity symptoms have been reported in elderly populations consuming magnesium-containing laxatives and antacids. This population is more vulnerable because of its generally reduced renal function. Symptoms of toxicity include drowsiness, weakness and lethargy. Diarrhea is the most common symptom if magnesium intake exceeds 600 mg daily. If plasma concentrations rise above 15mEq/l, skeletal paralysis, respiratory depression, coma and death may result. Intravenous injections of calcium can counteract magnesium toxicity.⁶



Allergen Content/Ingredient Sensitivity:

NO	YES
Artificial Colors	
Artificial Flavors	
Artificial Sweeteners	
Corn Products	
Egg Products	
Fish	
Gluten	
Hydrolyzed Plant Protein	
Lecithin	
Milk Products	
Peanuts	
Preservatives	
Sesame Products	
Shellfish	
Soy Products	
Starch/Modified Starch	
Sulphites	
Tartrazine	
Tree Nuts	
Wheat Products	
Yeast	

NOT ACCEPTABLE FOR THE FOLLOWING DIETARY RESTRICTIONS:

Free of Animal Products

Kosher





References:

1. Natural Medicine Comprehensive Database (NMCD), Magnesium Monograph, Accessed October 25, 2010 [Available from: <http://www.naturaldatabase.com/>]
2. Lopez-Ridaura R, Willett WC et al. Magnesium intake and risk of type 2 diabetes in men and women. *Diabetes Care* 2004; 27(1):134-140.
3. Coudray C, Rambeau M, et al. Study of magnesium bioavailability from ten organic and inorganic Mg salts in Mg-depleted rats using a stable isotope approach. *Magnes Res* 2005; 18(4):215-223.
4. Ranade VV, Somberg JC. Bioavailability and pharmacokinetics of magnesium after administration of magnesium salts to humans. *Am J Ther* 2001; 8:345-347.
5. Health Canada, Magnesium Monograph, Accessed November 27, 2009 [Available from: <http://www.hc-sc.gc.ca>]
6. Garrison, Robert Jr and Elizabeth Somer, *The Nutrition Desk Reference*. 1995. Keats.
7. Murray, Michael, *The Pill Book Guide to Natural Medicines*. 2002. Bantam.

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