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## Product Review: *Magnesium and Calcium-Magnesium Supplements Review*

Initial Posting: 5/25/12 Updated: 7/23/14

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Photo: ConsumerLab.com

### What It Is:

Magnesium is an essential mineral for the body. It has been estimated that 15% of adults in the U.S. take a supplement containing magnesium (see [ConsumerTips™: What to Consider When Using](#) for more information about daily requirements and magnesium in foods). In addition to magnesium-only supplements, supplemental magnesium can be obtained from laxatives, antacids, multivitamin/multimineral products (see [Multivitamin/Multimineral Product Review](#)) and calcium supplements containing magnesium (some of which are included in this Review as well in as the [Calcium Product Review](#)).

Magnesium comes in a variety of chemical forms, including magnesium oxide, magnesium chloride, magnesium gluconate, magnesium citrate, magnesium orotate and many others. (See [ConsumerTips™: What to Consider When Buying](#) for more information about forms of magnesium).

### What It Does:

#### Magnesium deficiency:

Magnesium is needed for proper metabolism and nervous system functioning. While sufficient magnesium can be obtained easily from the diet, magnesium deficiency may affect a small percentage of the population, in whom it may modestly elevate blood pressure and increase the risk of osteoporosis. Conditions that may deplete magnesium include alcohol abuse, diabetes, diseases of the digestive tract (such as ulcerative colitis, Crohn's disease and celiac sprue), and use of medications such as cisplatin, certain diuretics, and certain acid blocking drugs (e.g., proton pump inhibitors). Low serum magnesium levels can result in serious adverse events including muscle spasms (tetany), irregular heartbeat (arrhythmias), and convulsions (seizures); however, patients do not always have these symptoms. Severe magnesium deficiency is rare.

The FDA in 2011 [warned](#) that proton pump inhibitor (PPI) medications (used to reduce stomach acid) may also cause low serum magnesium levels if taken for prolonged periods of time (in most cases, longer than one year). Examples of PPIs are Nexium, Dexilant, Prilosec, Prevacid, Protonix, Aciphex, Vimovo, and Zegerid. Treatment of hypomagnesemia generally requires magnesium supplements. However, in approximately one-quarter of the cases reviewed, magnesium supplementation alone did not improve low serum magnesium levels and the PPI had to be discontinued.

#### Magnesium for other conditions:

Use of magnesium supplements may help prevent a number of conditions including: **hearing loss** from excessive noise, **migraine** headaches (including menstrual migraines), **menstrual pain** and **PMS**. Magnesium is also an effective **laxative** and **antacid**.

The evidence is mixed as to whether magnesium supplements increase insulin sensitivity in people with type 2 **diabetes**, many of whom have hypomagnesemia (low blood levels of magnesium). However, increased intake of magnesium from the diet and supplements has generally been associated with a decrease in the risk of developing type 2 diabetes — particularly among people with magnesium intakes below the Recommended Daily Allowance (RDA) ([Larsson, J Intern Med 2007](#)). A recent study showed that even among obese, insulin insensitive people with normal magnesium plasma levels, daily magnesium supplementation improved insulin sensitivity. A 7% improvement in fasting plasma glucose levels was observed among those taking 365 mg of magnesium (as magnesium-aspartate-hydrochloride) daily for 6 months -- a significant improvement compared those taking placebo ([Mooren, Diab Obes Metab 2010](#)).

An analysis of several studies concluded that magnesium may help reduce the risk of **stroke**. People who consumed 100 mg of magnesium more per day than average (the average being about 300 mg) had an 8% lower risk of strokes of any kind and a 9% lower risk of ischemic stroke ([Larsson, Am J Clin Nutr 2012](#)). This finding is based on total magnesium in the diet -- it does not mean that 100 mg of magnesium from a supplement will necessarily have the same risk-lowering effect, but getting a total of at least 400 mg of magnesium from your diet per day may be beneficial.

Despite some claims to the opposite, there is some evidence suggesting that oral magnesium supplements do NOT help prevent the heart irregularity called **atrial fibrillation**, nor help prevent **kidney stones**. It may, however, reduce **anginal attacks** in people with coronary artery disease. Intravenous magnesium, rather than oral magnesium supplements, is sometimes used in hospitals to treat acute asthma, overdoses of certain drugs, osmotic coma, diabetic ketoacidosis, pancreatitis, hyperthyroidism, hepatitis, and other conditions.

Magnesium supplements, especially those containing magnesium-L-threonate, are sometimes promoted for improving **memory** or preventing memory loss; however, there are no clinical studies showing that magnesium-L-threonate or any other form of magnesium improves memory or learning, or prevents Alzheimer's disease, in humans. See the CL Answer about [Magnesium Supplements for Memory](#) for more information.

In a study of elderly men and women aged 70-79 years, magnesium intake from food and supplements was associated with a significant increase in **bone mineral density (BMD)** in white men and women, but not in black men and women. Most people in this study did not have adequate magnesium intake. In white women, getting the recommended amount of 320 mg daily of magnesium was associated with a 2% higher BMD compared to intakes 220 mg or lower. Similarly, in men, intake levels meeting the recommended amount of 420 mg daily was associated with a 1% higher BMD compared intakes of 320 mg or lower ([Ryder, J Am Geriatr](#)

Soc 2005). This does not, however, indicate that getting more than the daily requirement is beneficial, nor that a supplement is necessary if you get sufficient magnesium in your diet. Similarly, a recent study in children aged 4-8 years showed that dietary intake of magnesium was associated with significant increases in bone mineral content, but, for most children, daily intake was adequate to meet growth-related needs (Abrams, *Pediatric Academic Societies* 2013).

A study in healthy women older than 65 involved in a mild, weekly exercise program found that physical performance improved for those who were given a daily magnesium supplement (300 mg from magnesium oxide) for 12 weeks, compared to those given placebo (Veronese, *AJCN* 2014). Improvements were seen with activities such as the speed of walking and rising from a chair. Although all the women had normal blood levels of magnesium, improvements in physical performance were more evident in participants with magnesium dietary intake lower than the RDA (320 mg for women 31 years and older), which is common among older women, suggesting that some women may still be "deficient" despite normal blood levels.

#### Magnesium Orotate

Magnesium orotate is a complex of magnesium plus orotic acid. Although it has been promoted to improve athletic performance, there is no reliable evidence to support this. However, a preliminary clinical study in people with heart failure found that giving 6,000 mg of magnesium orotate daily for one month, followed by 3,000 mg daily for 11 months reduced the risk of dying during the study by about 25%. It also improved heart failure symptoms in about 40% of patients (Stepura, *Int J Cardiol* 2009). However, there are potential safety concerns with magnesium orotate (see [Concerns and Cautions](#)).

For more information about the clinical uses of magnesium see the excellent [article](#) in the Encyclopedia on this website.

#### Quality Concerns and What CL Tested for:

Like other supplements, neither the FDA nor any other federal or state agency routinely tests magnesium products for quality prior to sale. However, quality issues for magnesium supplements can include the following:

- **Labeled Amount** — Does the product really contain the labeled amount of magnesium? Too little magnesium in a supplement is a problem if relying on it to prevent or correct a deficiency. Excessive consumption of oral magnesium frequently causes diarrhea. While it is unlikely that an individual with healthy kidneys can take enough magnesium orally to elevate blood levels, if this does occur, potentially dangerous heart and nerve-related symptoms may develop. (Individuals with severe kidney disease should not take magnesium supplements.)
- **Purity** — Many sources of magnesium, like other minerals, may naturally contain amounts of heavy metals such as lead. In 2005 and 2009, for example, ConsumerLab.com found magnesium supplements contaminated with lead. In children, infants, and fetuses, even low levels of lead can adversely affect neurobehavioral development and cognitive function. In adults, lead at somewhat higher levels can cause elevated blood pressure, anemia, and adversely affect the nervous and reproductive systems. Lead is of particular concern during pregnancy as the mother can transfer it to the fetus.
- **Ability to Break Apart for Absorption** — Will pills break apart properly so they can release their ingredients in the body? For a tablet to be most useful, it must fully disintegrate prior to leaving the stomach, delivering its contents for absorption in the gut. Some tablets and caplets are not properly made and can pass through your body completely or partially intact, depriving you of its ingredients. Remnants of such products are sometimes found in the stool. This happens, for example, when a tablet is too tightly compressed (too "hard") or is too thickly coated.
- **Side Effects at Suggested Dosage** — ConsumerLab.com reviewed the levels of magnesium to determine if any product provided doses high enough so as to carry a risk of adverse side effects. Those that exceeded upper tolerable limits (ULs — see discussion below) are footnoted.

ConsumerLab.com, as part of its mission to independently evaluate products that affect health, wellness, and nutrition, purchased many leading magnesium supplements products sold in the U.S. and tested them to determine whether they 1) possessed the claimed amount of magnesium, 2) could disintegrate properly in order to be available for absorption, and 3) were free of unacceptable levels of lead (see [Testing Methods and Passing Score](#)).

#### What CL Found:

Among the eleven supplements that ConsumerLab.com initially selected for testing, nine met quality standards. The following products were not approved:

- *Purity Products Magnificent Magnesium* contained its claimed magnesium but violates FDA regulations by displaying a heart symbol on its label when there is no approved heart health claim for magnesium.
- *Tropical Oasis™ Liquid Calcium Magnesium Orange Flavor* contained only 45.1% of its labeled amount of magnesium. Instead of one tablespoon providing the promised 115 mg of elemental magnesium, it provided only 52 mg. CL found the same problem with this product in 2007 and 2009. Ironically, at all times the product has boasted a "GMP" seal (suggesting that it was made under Good Manufacturing Practices) around which was written "Certified by an independent laboratory." The back label on this product notes, "Tropical Oasis believes in giving the consumer the most accurate information to allow the consumer to make informed choices."

A consumer may also be confused by the label (image below) into thinking the product provides 720 mg of magnesium, but the majority of this amount is the inactive citrate portion of the compound, which should not be included in the label. Only the amount of elemental magnesium should be shown. Similarly, the label overstates the amount of calcium at 1,200 mg but actually promises only 252 mg and our testing found just 131 mg.

#### Misleading Label on Tropical Oasis Product

Vitamin D (as Cholecalciferol)	400 IU	Lists 1,200 mg of calcium, but actually promises only 252 mg and testing found only 131 mg.
Calcium (as Citrate) (252 mg elemental)	1200 mg	
Magnesium (as Citrate) (115 mg elemental)	720 mg	
Boron (as Citrate)	750 mcg	

Lists 720 mg of magnesium, but actually promises only 115 mg and testing found only 52 mg.

All of the products in tablet and caplet form were found to break apart properly in solution and none of the products exceeded strict lead contamination limits. In addition to the products which ConsumerLab.com selected for testing, eleven magnesium supplements passed testing in ConsumerLab.com's [Voluntary Certification Program](#) and are included in this report.

**UPDATE:** In February 2013, as part of reviews of calcium and vitamin D supplements, ConsumerLab.com added 15 additional products to this review which were also tested for magnesium. Nine products passed testing through the Voluntary Certification Program and six products were selected by ConsumerLab.com, of which two failed to pass testing for the following reasons.

- *Melaleuca Vitality Calcium Complete* — Pills failed the USP disintegration test, during which they should fully break apart within 30 minutes. An additional 25 minutes was required, suggesting that this supplement may not fully release its ingredients in a timely manner in the body.
- *Pure Essence Labs Ionic-Fizz Super D-K Calcium Plus* contained approximately 1 mcg of lead per scoop (1 to 2 mcg of lead per suggested daily serving of 1 to 2 scoops). Interestingly, this is about half the amount of lead found in this product when tested by ConsumerLab.com in 2011, but still exceeds the strict California Prop 65 limit of 0.5 mcg of lead per daily serving (or 1.5 mcg of lead in supplements that contain 1,000 mg or more of calcium). Lead contamination is a known potential issue with dietary supplements, particularly those containing minerals or herbal ingredients. *Pure Essence* included many minerals. Children are most sensitive to lead poisoning and may be affected by total daily exposure to as little as 6 mcg (including all food and drink, as well as supplements). Adults can tolerate higher levels of lead (25 to 75 mcg of lead per day). Lead is stored in the body and unnecessary exposure should be avoided.

**Cost**

To help you compare prices, ConsumerLab.com calculated the cost to obtain 200 mg of magnesium from each supplement. The lowest cost was 2 cents for tablets or caplets containing magnesium oxide from *CVS pharmacy*, *Finest Natural* (Walgreen), *Target Up & Up*, and *Twinlab*. Some of the highest cost products happened to be those that failed to be approved.

Products providing magnesium citrate were generally more expensive than those with magnesium oxide. The lowest cost magnesium citrate products cost 8 cents per 200 mg of magnesium (*Life Extension* and *Vitamin Shoppe*).

Among calcium-magnesium supplements that passed testing, the least expensive for obtaining magnesium were *NOW Calcium Citrate* (13 cents for two tablets with 300 mg of magnesium) and *GNC Calcium Plus 1000 with Magnesium & Vitamin D-3* (23 cents for 3 caplets containing 500 mg of magnesium).

**The Bottom Line**

So which magnesium supplement should you take? As discussed in "[What to Consider When Buying](#)," different forms of magnesium may be better absorbed or less likely to cause diarrhea in high doses. Although often very inexpensive, magnesium from magnesium oxide supplements is not as well absorbed as other forms, and magnesium oxide supplements may be more likely to cause diarrhea. Products with citrate, aspartate, chloride, or lactate may be better absorbed, and those made with citrate tend to be the least expensive among these.

If you are taking high doses of magnesium, the chloride form may be preferable as it is less likely to cause diarrhea but is also a bit more expensive. Magnesium chloride is the form in the *NutriCology* liquid product and the *Slow-Mag* calcium-magnesium tablets. However, taking magnesium and calcium together may not be helpful, as explained in the [What to Consider When Buying](#) section. In addition, a 1991 study of *Slow-Mag* suggested that its enteric coating may hinder absorption ([Fine, J Clin Inv 1991](#)), although the enteric coating appears to have changed since that study was conducted (from cellulose acetate phthalate to hypromellose phthalate).

In short, the most economical magnesium supplements with good absorption and good quality in our tests are the magnesium citrate supplements from *Life Extension* or *Vitamin Shoppe*. If you are taking a very high dose of magnesium and experience diarrhea, consider the magnesium chloride product from *NutriCology*.

**Test Results by Product:**

Listed below are the test results for 37 magnesium supplements. Products are shown alphabetically within two main groups: magnesium-only or in combination with calcium. ConsumerLab.com selected 17 products. Twenty products (each indicated with an asterisk) were tested at the request of their manufacturers/distributors through [CL's Voluntary Certification Program](#) and are included for having passed testing. Also listed are two products similar to ones that passed but sold under different brand names.

Shown for each product is the labeled amount and form of magnesium and the serving size recommended on the label. Products listed as "Approved" met their label claim and ConsumerLab.com's quality criteria (see [Passing Score](#)). Those that did not are listed as "Not Approved" with an explanation of the problem found. The full list of ingredients is available for each product by clicking on the word "Ingredients" in the first column. A cost comparison is provided in the last column.

CONSUMERLAB.COM RESULTS FOR MAGNESIUM SUPPLEMENTS						
Click on ▲ for additional information on the product						
Click on <a href="#">\$ Price Check</a> beneath a product name to find a vendor that sells it.						
To find retailers that sell some of the listed products <a href="#">click here</a> .						
Product Name, Unit Type, and Suggested Daily Serving  (Click on "Ingredients" for Full List and Special Designations)	Amount of Magnesium (Elemental) Per Suggested Daily Serving  Form of Magnesium	-- TEST RESULTS --				
		OVERALL RESULTS:  APPROVED (Passed) or NOT APPROVED (Failed)	Met Claim for Magnesium (and Calcium, if Included in Product)	Broke Apart Properly	Free of Unacceptable Level of Lead	Cost for 200 mg of Magnesium <sup>1</sup>  Cost for Daily Suggested Serving on Label  Additional Features <sup>2</sup>  Price Paid
<b>Magnesium Only Products</b>						
CVS® pharmacy Magnesium 500 mg (1 tablet daily)*  Dist. by CVS Pharmacy, Inc. <a href="#">Ingredients</a>	500 mg <sup>3</sup>  Magnesium oxide	APPROVED	✓	✓	✓	\$0.02 <b>Lowest cost for magnesium</b>  \$0.05 <i>Gluten free</i>  \$4.99/100 tablets
Finest Natural® Magnesium 250 mg (1 tablet daily)*  Dist. by Walgreen Co <a href="#">Ingredients</a>	250 mg  Magnesium oxide	APPROVED	✓	✓	✓	\$0.02 <b>Lowest cost for magnesium</b>  \$0.03 <i>Gluten free</i>  \$8.49/300 tablets
GNC Magnesium 500 (1 capsule daily)*  Dist. by General Nutrition Corporation <a href="#">Ingredients</a> <a href="#">\$ Price Check</a>	500 mg  Magnesium oxide	APPROVED	✓	N/A	✓	\$0.03  \$0.07 <i>Gluten free</i>  \$8.99/120 capsules
Life Extension® Magnesium (Citrate) 160 mg (1 capsule one to two	160 to 320 mg  Magnesium citrate	APPROVED	✓	N/A	✓	\$0.08 <b>Lowest cost for magnesium citrate</b>

CONSUMERLAB.COM RESULTS FOR MAGNESIUM SUPPLEMENTS						
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To find retailers that sell some of the listed products <a href="#">click here</a> .						
Product Name, Unit Type, and Suggested Daily Serving  (Click on "Ingredients" for Full List and Special Designations)	Amount of Magnesium (Elemental) Per Suggested Daily Serving  Form of Magnesium	-- TEST RESULTS --				
		OVERALL RESULTS:  APPROVED (Passed) or <b>NOT APPROVED</b> (Failed)	Met Claim for Magnesium (and Calcium, if Included in Product)	Broke Apart Properly	Free of Unacceptable Level of Lead	Cost for 200 mg of Magnesium <sup>1</sup>  Cost for Daily Suggested Serving on Label  Additional Features <sup>2</sup>  Price Paid
times daily)*  Dist. by Quality Supplements and Vitamins, Inc. <a href="#">Ingredients</a> <a href="#">\$ Price Check</a>						\$0.07 - \$0.14  <i>Gluten free</i>  \$6.75/100 capsules
MagOx® 400 (2 tablets daily)  Dist. by Health Care Products <a href="#">Ingredients</a> <a href="#">\$ Price Check</a>	482.6 mg <sup>3</sup>  Magnesium oxide	APPROVED	✓	✓	✓	\$0.12  \$0.30  <i>Gluten free</i>  \$17.99/120 tablets
Mag-Tab® SR (1 or 2 time-release caplets twice daily)  Dist. by Niche Pharmaceuticals, Inc. <a href="#">Ingredients</a>	168 to 336 mg  Magnesium lactate dihydrate	APPROVED	✓	N/A	✓	\$0.83  \$0.70 to \$1.39  \$20.89/60 caplets
Natural Vitality® Natural Calm Raspberry-Lemon Flavor (powder, 4.5 grams [2 rounded teaspoons], ½ to 3 teaspoons daily) <sup>4</sup>  Dist. by Natural Vitality <a href="#">Ingredients</a> <a href="#">\$ Price Check</a>	81.3 to 487.5 mg <sup>3</sup>  Magnesium citrate	APPROVED	✓	N/A	✓	\$0.15  \$0.05 - \$0.38  <i>Gluten free</i>  \$24.57/16 oz (453 gram) container
Nature's Bounty® Magnesium 250 mg (1 coated caplet daily)*  Mfd. by Nature's Bounty, Inc. <a href="#">Ingredients</a> <a href="#">\$ Price Check</a>	250 mg  Magnesium oxide	APPROVED	✓	✓	✓	\$0.03  \$0.04  <i>Vegetarian and Gluten free</i>  \$3.56/100 coated caplets
Nature Made® High Potency Magnesium 400 mg (1 softgel daily)*  Dist. by Nature Made Nutritional Products <a href="#">Ingredients</a> <a href="#">\$ Price Check</a>	400 mg <sup>3</sup>  Magnesium oxide	APPROVED	✓	N/A	✓	\$0.09  \$0.18  <i>Gluten free</i>  \$10.99/60 softgels
NOW® Magnesium Citrate (2 tablets daily)  Mfd. by NOW FOODS <a href="#">Ingredients</a> <a href="#">\$ Price Check</a>	400 mg <sup>3</sup>  Magnesium citrate	APPROVED	✓	✓	✓	\$0.20  \$0.40  <i>Vegetarian/vegan and Gluten free</i>  \$19.80/100 tablets
NutriCology® Magnesium Chloride Liquid (liquid, 2.5 mL [1/2 teaspoon], two to three times daily) <sup>5</sup>	133 to 199.5 mg  Magnesium chloride	APPROVED	✓	N/A	✓	\$0.26  \$0.17 to \$0.26  <i>Refrigerate after opening</i>  \$8.08/8 fl oz (236 mL) bottle

<b>CONSUMERLAB.COM RESULTS FOR MAGNESIUM SUPPLEMENTS</b> Click on ▲ for additional information on the product  Click on <a href="#">\$ Price Check</a> beneath a product name to find a vendor that sells it. To find retailers that sell some of the listed products <a href="#">click here</a> .						
<b>Product Name, Unit Type, and Suggested Daily Serving</b>  (Click on "Ingredients" for Full List and Special Designations)	<b>Amount of Magnesium (Elemental) Per Suggested Daily Serving</b>  <b>Form of Magnesium</b>	-- TEST RESULTS --				
		<b>OVERALL RESULTS:</b>  <b>APPROVED (Passed) or NOT APPROVED (Failed)</b>	<b>Met Claim for Magnesium (and Calcium, if Included in Product)</b>	<b>Broke Apart Properly</b>	<b>Free of Unacceptable Level of Lead</b>	<b>Cost for 200 mg of Magnesium<sup>1</sup></b>  <b>Cost for Daily Suggested Serving on Label</b>  <b>Additional Features<sup>2</sup></b>  <b>Price Paid</b>
Dist. by NutriCology, Inc.® <a href="#">Ingredients</a> <a href="#">\$ Price Check</a>						
Purity Products® Magnificent Magnesium (3 capsules daily)  Dist. by Purity Products® <a href="#">Ingredients</a>	205 mg  Magnesium citrate	<b>NOT APPROVED</b>  Passed testing, but label violates FDA rule, displaying heart symbol when there is no approved heart health claim for magnesium	✓	N/A	✓	\$1.30  \$1.33  <i>Gluten free</i>  \$39.95/90 capsules
Solaray® Magnesium Asporotate™ (2 capsules daily)  Mfd. by Nutraceutical Corp. <a href="#">Ingredients</a> <a href="#">\$ Price Check</a>	400 mg <sup>3</sup>  Magnesium asporotate™ - aspartate, citrate, orotate, and oxide	<b>APPROVED</b>	✓	N/A	✓	\$0.06  \$0.12  \$7.15/120 capsules
Solgar® Magnesium Citrate (2 tablets daily)*  Mfd. by Solgar, Inc. <a href="#">Ingredients</a> <a href="#">\$ Price Check</a>	400 mg <sup>3</sup>  Magnesium citrate	<b>APPROVED</b>	✓	✓	✓	\$0.11  \$0.21  <i>Vegetarian, Gluten free and kosher</i>  \$12.72/120 tablets
Standard Process® Magnesium Lactate (3 capsules daily)  Dist. by Standard Process, Inc. <a href="#">Ingredients</a>	210 mg  Magnesium lactate	<b>APPROVED</b>	✓	N/A	✓	\$0.73  \$0.77  \$23.00/90 capsules
Target Up & Up magnesium 250 mg (1 caplet daily)*  Dist. by Target Corporation <a href="#">Ingredients</a>	250 mg  Magnesium oxide	<b>APPROVED</b>	✓	✓	✓	\$0.02 <b>Lowest cost for magnesium</b>  \$0.03  <i>Gluten free</i>  \$3.07/100 caplets
True Athlete™ ZMA® with Theanine (3 capsules per day for men, 2 capsules per day for women)*  Dist. by The Vitamin Shoppe® <a href="#">Ingredients</a> <a href="#">\$ Price Check</a>	450 mg for men 300 mg for women  Magnesium aspartate	<b>APPROVED (Also Approved for B Vitamins and Zinc)</b>	✓	N/A	✓	\$0.22  \$0.33-\$0.50  <i>No wheat, yeast free, gluten free</i>  \$29.99/180 capsules
Twinlab® Magnesium Caps (1 capsule daily)*  Mfd. by IdeaspHERE, Inc. <a href="#">Ingredients</a> <a href="#">\$ Price Check</a>	400 mg <sup>3</sup>  Magnesium oxide	<b>APPROVED</b>	✓	N/A	✓	\$0.02 <b>Lowest cost for magnesium</b>  \$0.04  \$3.84/100 capsules
Vitamin Shoppe Minerals Magnesium Citrate		<b>APPROVED</b>	✓	✓	✓	\$0.08 <b>Lowest cost for</b>

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<b>Product Name, Unit Type, and Suggested Daily Serving</b>  (Click on "Ingredients" for Full List and Special Designations)	<b>Amount of Magnesium (Elemental) Per Suggested Daily Serving</b>  <b>Form of Magnesium</b>	-- TEST RESULTS --				
		<b>OVERALL RESULTS:</b>  <b>APPROVED (Passed) or NOT APPROVED (Failed)</b>	<b>Met Claim for Magnesium (and Calcium, if Included in Product)</b>	<b>Broke Apart Properly</b>	<b>Free of Unacceptable Level of Lead</b>	<b>Cost for 200 mg of Magnesium<sup>1</sup></b>  <b>Cost for Daily Suggested Serving on Label</b>  <b>Additional Features<sup>2</sup></b>  <b>Price Paid</b>
(1 to 2 tablets daily)*  Dist. by The Vitamin Shoppe® <a href="#">Ingredients</a> <a href="#">\$ Price Check</a>	200 to 400 mg <sup>3</sup>  Magnesium citrate					<b>magnesium citrate</b>  \$0.08 - \$0.16  <i>Suitable for most vegetarians</i>  \$7.99/100 tablets
<b>Similar to Approved Magnesium Product**</b>						
Puritan's Pride® Premium Magnesium 250 mg (1 coated tablet, up to twice daily) <sup>3</sup>  Mfd. by Puritan's Pride, Inc. <a href="#">Ingredients</a>		Similar to: Nature's Bounty® Magnesium 250 mg. Different usage instructions.				
Vitamin World® Magnesium 250 mg (1 coated tablet, up to twice daily) <sup>3</sup>  Mfd. by Vitamin World, Inc. <a href="#">Ingredients</a>		Similar to: Nature's Bounty® Magnesium 250 mg. Different usage instructions				
<b>Calcium and Magnesium Products:</b>						
Bluebonnet Liquid Calcium Magnesium Citrate Plus Vitamin D3 (2 tablespoons daily)  Dist. by Bluebonnet Nutrition Corporation <a href="#">Ingredients</a> <a href="#">\$ Price Check</a>	600 mg Magnesium citrate, magnesium aspartate  1200 mg Calcium citrate	<b>APPROVED</b>	✓ for magnesium and calcium	N/A	✓	\$0.23  \$0.70  Vitamin D, Natural Blueberry Flavor  <i>Contains no wheat, gluten free, yeast free</i>  \$11.16/16 fl. oz. bottle
Caltrate® 600 + D Plus Minerals (2 tablets per day)  Dist. by Pfizer <a href="#">Ingredients</a> <a href="#">\$ Price Check</a>	100 mg Magnesium oxide  1200 mg Calcium carbonate	<b>APPROVED</b>	✓ for magnesium and calcium	✓	✓	\$0.33  \$0.17  Zinc, Copper, Manganese Boron  \$9.97/120 tablets
Citracal® Calcium + D Slow Release 1200 (2 coated tablets per day)  Dist. by Bayer HealthCare LLC <a href="#">Ingredients</a> <a href="#">\$ Price Check</a>	80 mg Magnesium hydroxide, magnesium silicate  1200 mg Calcium carbonate, calcium citrate	<b>APPROVED</b>	✓ for magnesium and calcium	N/A	✓	\$0.87  \$0.35  Vitamin D, Sodium  <i>Slow release</i>  \$13.89/80 coated tablet
CVS pharmacy® Calcium + Vitamin D3 With Calcium Citrate (2 coated caplets per day)*  Dist. by CVS/pharmacy, Inc. <a href="#">Ingredients</a>	80 mg Magnesium oxide  1200 mg Calcium carbonate, calcium citrate	<b>APPROVED</b>	✓ for magnesium and calcium	N/A	✓	\$0.62  \$0.25  Vitamin D  <i>Slow release, gluten free</i>  \$9.99/80 coated caplets
Dr. Whitaker Osteo Essentials™ (4 capsules per day)*	250 mg Magnesium oxide, magnesium	<b>APPROVED</b>	✓ for magnesium and calcium	N/A	✓	\$0.80  \$1.00

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Click on <a href="#">\$ Price Check</a> beneath a product name to find a vendor that sells it. To find retailers that sell some of the listed products <a href="#">click here</a> .						
<b>Product Name, Unit Type, and Suggested Daily Serving</b>  (Click on "Ingredients" for Full List and Special Designations)	<b>Amount of Magnesium (Elemental) Per Suggested Daily Serving</b>  <b>Form of Magnesium</b>	-- TEST RESULTS --				
		<b>OVERALL RESULTS:</b>  <b>APPROVED (Passed) or NOT APPROVED (Failed)</b>	<b>Met Claim for Magnesium (and Calcium, if Included in Product)</b>	<b>Broke Apart Properly</b>	<b>Free of Unacceptable Level of Lead</b>	<b>Cost for 200 mg of Magnesium<sup>1</sup></b>  Cost for Daily Suggested Serving on Label  <b>Additional Features<sup>2</sup></b>  Price Paid
Dist. by Healthy Directions <a href="#">Ingredients</a>	aspartate, magnesium citrate  500 mg  Calcium carbonate, calcium phosphate, calcium citrate, calcium malate					Vitamins D, K, Isoflavones, Boron  \$29.99/120 capsules
GNC CalciMate Plus® 800 (4 caplets per day)*  Dist. by General Nutrition Corporation <a href="#">Ingredients</a> <a href="#">\$ Price Check</a>	100 mg  Magnesium oxide  800 mg  Calcium citrate malate	<b>APPROVED</b>	✓ for magnesium and calcium	N/A	✓	\$0.67  \$0.33  Vitamin D  <i>Contains no wheat, gluten free, yeast free</i>  \$19.99/240 caplets
GNC Calcium Plus® 1000 with Magnesium & Vitamin D-3 (3 caplets per day)*  Dist. by General Nutrition Corporation <a href="#">Ingredients</a>	500 mg  Magnesium oxide  1000 mg  Calcium carbonate	<b>APPROVED</b>	✓ for magnesium and calcium	N/A	✓	\$0.09  <b>Lowest cost for magnesium from a cal/mag product</b>  \$0.23  Vitamin D  <i>Contains no wheat, gluten free, yeast free</i>  \$13.99/180 caplets
Jarrow's Formulas® Bone-Up® (6 capsules per day)*  Dist. by Jarrow Formulas® <a href="#">Ingredients</a> <a href="#">\$ Price Check</a>	500 mg  Magnesium oxide  1000 mg  Calcium from microcrystalline hydroxyapatite	<b>APPROVED</b>	✓ for magnesium and calcium	N/A	✓	\$0.16  \$0.39  Vitamins C, D, K, Zinc, Copper, Manganese, Potassium, Boron  <i>Contains no wheat, gluten free</i>  \$15.68/240 capsules
Life Extension® Bone Restore (5 capsules per day)*  Dist. by Quality Supplements and Vitamins, Inc. <a href="#">Ingredients</a> <a href="#">\$ Price Check</a>	100 mg  Magnesium citrate  1200 mg  DimaCal® dicalcium malate, TRAACS® calcium glycinate chelate, calcium fructoborate	<b>APPROVED</b>	✓ for magnesium and calcium	N/A	✓	\$1.13  \$0.56  Vitamin D, Zinc, Manganese, Silicon, Boron  \$16.88/150 capsules
Melaleuca Vitality Calcium Complete™ (3-5 tablets daily) <sup>8</sup>  Dist. by Melaleuca, Inc. <a href="#">Ingredients</a>	150-250 mg  Magnesium oxide, magnesium amino acid oligofructose complex  750-1250 mg  Calcium Carbonate, dicalcium phosphate, calcium citrate,	<b>NOT APPROVED</b>	✓ for magnesium and calcium	Did not disintegrate in 30 minutes (required 55 minutes)	✓	\$0.97  \$0.73-\$1.21  Vitamin D  \$29.00/120 tablets

<b>CONSUMERLAB.COM RESULTS FOR MAGNESIUM SUPPLEMENTS</b> Click on ▲ for additional information on the product						
Click on <a href="#">\$ Price Check</a> beneath a product name to find a vendor that sells it. To find retailers that sell some of the listed products <a href="#">click here</a> .						
<b>Product Name, Unit Type, and Suggested Daily Serving</b>  (Click on "Ingredients" for Full List and Special Designations)	<b>Amount of Magnesium (Elemental) Per Suggested Daily Serving</b>  <b>Form of Magnesium</b>	-- TEST RESULTS --				
		<b>OVERALL RESULTS:</b>  <b>APPROVED (Passed) or NOT APPROVED (Failed)</b>	<b>Met Claim for Magnesium (and Calcium, if Included in Product)</b>	<b>Broke Apart Properly</b>	<b>Free of Unacceptable Level of Lead</b>	<b>Cost for 200 mg of Magnesium<sup>1</sup></b>  <b>Cost for Daily Suggested Serving on Label</b>  <b>Additional Features<sup>2</sup></b>  <b>Price Paid</b>
	calcium amino acid oligfructose complex					
New Chapter's® Bone Strength Take Care® (3 slim tablets per day)*  Dist. by New Chapter, Inc. <a href="#">Ingredients</a> <a href="#">\$ Price Check</a>	58 mg  Magnesium from algae  770 mg  Calcium from algae	<b>APPROVED</b>	✓ for magnesium and calcium	✓	✓	\$3.11  \$0.90  Vitamins D, K, Strontium, Silica, Vanadium  <i>Vegetarian, gluten free</i>  \$35.97/120 slim tablets
NOW® Calcium Citrate (2 tablets per day)  Mfd. by Now Foods <a href="#">Ingredients</a> <a href="#">\$ Price Check</a>	300 mg  Magnesium oxide, magnesium aspartate  600 mg  Calcium citrate	<b>APPROVED</b>	✓ for magnesium and calcium	✓	✓	\$0.09 <b>Lowest cost for magnesium from a cal/mag product</b>  \$0.13  Vitamin D, Zinc, Copper, Manganese  <i>Contains no wheat, gluten free, yeast free</i>  \$16.56/250 tablets
Pure Essence Labs Ionic-Fizz™ Super D-K Calcium Plus™ (1-2 scoops (7 g) per day)  Dist. by Pure Essence Laboratories, Inc. <a href="#">Ingredients</a>	300-600 mg  Magnesium carbonate  250-500 mg  Calcium lactate	<b>NOT APPROVED</b>	✓ for magnesium and calcium	N/A	Contains 0.97 mcg to 1.95 mcg of lead per daily serving	\$0.48  \$0.72-\$1.44  Vitamins A, C, B6, B12, D, Folate, Zinc, Copper, Manganese, Potassium, Silica, Boron, Trace Minerals  <i>Contains no wheat, gluten free, yeast free</i>  \$21.59/210 g container
Slow-Mag® Magnesium Chloride with Calcium (2 enteric coated tablets once or twice daily)  Dist. by Purdue Products L.P. <a href="#">Ingredients</a> <a href="#">\$ Price Check</a>	143 to 286 mg  Magnesium chloride  238 to 476 mg  Calcium carbonate	<b>APPROVED</b>	✓ for magnesium and calcium	N/A	✓	\$0.61  \$0.43 - \$0.87  \$12.99/60 enteric coated tablets
Tropical Oasis™ Liquid Calcium Magnesium Orange Flavor (liquid, 1 tablespoon [15 mL] daily)  Dist. by Tropical Oasis™ <a href="#">Ingredients</a>	115 mg  Magnesium citrate  252 mg  Calcium citrate	<b>NOT APPROVED</b>  Contains less magnesium and calcium than claimed. Label also violates FDA rules by including inactive salts in listings of magnesium & calcium.	Found only 45.1% (51.9 mg) of claimed magnesium and 51.8% (130.7 mg) of claimed calcium	N/A	✓	\$1.32 (based on amount found)  \$0.34  Vitamin D, Boron  <i>Gluten free</i>  <i>Refrigerate after opening</i>  \$10.97/16 fl oz (480 mL) bottle
		<b>APPROVED</b>		N/A	✓	

CONSUMERLAB.COM RESULTS FOR MAGNESIUM SUPPLEMENTS						
Click on ▲ for additional information on the product						
Click on <a href="#">\$ Price Check</a> beneath a product name to find a vendor that sells it.						
To find retailers that sell some of the listed products <a href="#">click here</a> .						
Product Name, Unit Type, and Suggested Daily Serving  (Click on "Ingredients" for Full List and Special Designations)	Amount of Magnesium (Elemental) Per Suggested Daily Serving  Form of Magnesium	-- TEST RESULTS --				
		OVERALL RESULTS:  APPROVED (Passed) or <b>NOT APPROVED</b> (Failed)	Met Claim for Magnesium (and Calcium, if Included in Product)	Broke Apart Properly	Free of Unacceptable Level of Lead	Cost for 200 mg of Magnesium <sup>1</sup>  Cost for Daily Suggested Serving on Label  Additional Features <sup>2</sup>  Price Paid
Vitacost® Calcium Magnesium & Vitamin D (3 capsules per day)*  Dist. by Vitacost® <a href="#">Ingredients</a>	250 mg  Magnesium oxide  500 mg  Calcium citrate, calcium malate		✓  for magnesium and calcium			\$0.15  \$0.15  Vitamin D  <i>Gluten free</i>  \$15.49/300 capsules
The Vitamin Shoppe® Calcium Citrate plus Magnesium & Vitamin D (6 capsules per day)*  Dist. by The Vitamin Shoppe® <a href="#">Ingredients</a>	567 mg  Magnesium oxide, magnesium aspartate, magnesium citrate  999 mg  Calcium citrate	APPROVED	✓  for magnesium and calcium	N/A	✓	\$0.11  \$0.31  Vitamin D  <i>Contains no wheat, yeast free</i>  \$15.49/300 capsules
<b>Children's Calcium and Magnesium Product:</b>						
ChildLife® Essentials Liquid Calcium with Magnesium (liquid, 1 tablespoon [15 mL], one teaspoon [3 teaspoons per tablespoon] to two tablespoons daily) <sup>6</sup>  Dist. by ChildLife <a href="#">Ingredients</a> <a href="#">\$ Price Check</a>	38 to 230 mg <sup>7</sup>  Magnesium citrate  83.2 to 504 mg  Calcium citrate	APPROVED	✓  for magnesium and calcium	N/A	✓	\$0.59  \$0.11 - \$0.68  <i>Gluten free</i>  \$10.79/16 fl oz (474 mL) bottle
<p>Not applicable: Only non-chewable, non-capsule, non-enteric coated, and non-time release formulations are tested for disintegration.</p> <p>* Tested through CL's <a href="#">Voluntary Certification Program</a> prior to, at time of, or after initial posting of this Product Review. (<i>True Athlete ZMA with Theanine</i> added 11/8/12.)</p> <p>** Product identical in formulation and manufacture to a product that has passed testing but sold under a different brand. For more information see CL's <a href="#">Multi-Label Testing Program</a>.</p> <p><sup>1</sup> Amounts shown are for general comparison purposes and are calculated from the price paid by ConsumerLab.com (without tax or shipping) and amounts of magnesium shown on labels. Unit amounts of some products do not provide exactly 200 mg of magnesium. Prices may vary by retailer and number of pills per package.</p> <p><sup>2</sup> Not tested but claimed on label.</p> <p><sup>3</sup> Suggested maximum daily dose exceeds tolerable upper intake level (UL) for magnesium, but may be appropriate for treating magnesium deficiency and other therapeutic uses.</p> <p><sup>4</sup> Label reads: Place powder in a glass or mug; add approx. 2-3 oz of hot water. Let it fizz, then stir until dissolved. Fill with warm water or cold water and enjoy. You can also simply add Natural Calm to a glass or bottle of cold water. Serving Size: Individual needs may vary. Start with one half-teaspoon (1 g) daily and gradually increase to 2 slightly rounded teaspoons (4.5 grams) as needed. For Best Results, divide your daily amount of Natural Calm into two servings. Natural Calm can be taken with or without food. When bowels are comfortably loose, this is the optimal amount. Advanced Use: 3 rounded teaspoons (7 g), which provides 500 mg or 125% of daily value.</p> <p><sup>5</sup> Label reads: Dilute prior to ingestion. As a dietary supplement, 1/2 teaspoon diluted in eight ounces of your favorite beverage, two to three times daily, or as directed by a healthcare practitioner.</p> <p><sup>6</sup> Label reads: For infants 6 months - 1 year: 1 teaspoon daily; For children 1 - 3 years: 2 teaspoons daily; For children 4 - 8 years: 1 tablespoon daily; For children 9 - 12 years: 2 tablespoons daily.</p> <p><sup>7</sup> Exceeds the Upper Tolerable Intake Level (UL) of magnesium for specific age groups of children. The ULs for magnesium are as follows: 65 mg for children ages 1 to 3, and 110 mg for those ages 4 to 8.</p> <p>Unless otherwise noted, information about the products listed above is based on the samples purchased by ConsumerLab.com (CL) for this Product Review. Manufacturers may change ingredients and label information at any time, so be sure to check labels carefully when evaluating the products you use or buy. If a product's ingredients differ from what is listed above, it may not necessarily be of the same quality as what was tested.</p> <p>The information contained in this report is based on the compilation and review of information from product labeling and analytic testing. CL applies what it believes to be the most appropriate testing methods and standards. The information in this report does not reflect the opinion or recommendation of CL, its officers or employees. CL cannot assure the accuracy of information.</p> <p>Copyright ConsumerLab.com, LLC, 2012. All rights reserved. Not to be reproduced, excerpted, or cited in any fashion without the express written permission of ConsumerLab.com LLC.</p>						

**ConsumerTips™:**

**What to Consider When Buying:**

In the products evaluated, the labeled amounts of magnesium ranged from 38 milligrams to 500 milligrams per recommended daily serving. This large range should be considered when comparing the cost of products and choosing the right dose. Product labels should indicate the amount of actual magnesium (or "elemental" magnesium) per dosage unit. This is important because magnesium often makes up less than half of the weight of magnesium compounds. For example, the amount of magnesium in magnesium gluconate is only 5.8%, and it is 12% in magnesium chloride hexahydrate, 16.2% in magnesium citrate, 50% in magnesium glycinate, and 60.3% in magnesium oxide. An example of an incorrectly labeled product is the *Tropical Oasis* product, shown above (see What CL Found), which showed 720 mg of magnesium, but only a small portion of which was actually magnesium.

Nearly all of forms of magnesium can act as laxatives. Magnesium hydroxide (milk of magnesia) is widely marketed for this purpose and is particularly fast acting. Magnesium citrate is also found in laxatives and magnesium sulfate is the most potent laxative. (The sulfate form may also be used intravenously under medical supervision for seizures, uterine tetany and other acute conditions.)

Magnesium gluconate and chloride are less likely to cause diarrhea than magnesium oxide, so they are generally preferred when high oral doses are given to treat magnesium deficiency.

Magnesium hydroxide, oxide, carbonate and trisilicate are used in antacid products.

Magnesium orotate probably isn't the best choice for magnesium replacement because it doesn't appear to offer an advantage over others and it can cost up to 9 times more than other magnesium products. To get, for example, 200 mg of magnesium from magnesium orotate supplements you might spend 10 to 18 cents. In contrast, you can get the same amount of magnesium for as little as 2 cents. There are also potential safety concerns (see [Concerns and Cautions](#))

Absorption of magnesium may vary based on the form magnesium. Magnesium carbonate is not recommended for magnesium replacement, as it is less soluble than other forms. Magnesium oxide has been found to be less well absorbed than magnesium chloride, magnesium citrate, magnesium aspartate, and magnesium lactate (Firoz, *Magnes Res* 2001; Walker, *Magnes Res* 2003). Some websites claim that magnesium orotate is better absorbed than other forms, however, research does not support this (Andermann, *Eur J Drug Metab Pharmacokin* 1982). A small, preliminary study found that magnesium diglycinate, a chelate of magnesium and glycine, was better absorbed than magnesium oxide in surgical patients who had impaired magnesium absorption due to intestinal resection (Schuette, *JPEN J Parenter Enteral Nutr* 1994).

Products that contain calcium in addition to magnesium are sometimes touted as improving the absorption of these minerals or to make up for decreased absorption of one due to the other. However, in a healthy individual, the two minerals (at moderate doses) do not appear to interact or interfere with one another and it is not necessary to take extra calcium when supplementing with magnesium, nor vice versa. Nor is a specific ratio of the two minerals known to produce superior absorption. However, people at high risk for magnesium deficiency should consider taking calcium at bedtime to avoid inhibiting dietary magnesium absorption.

#### What to Consider When Using:

One's daily requirement for magnesium can be obtained through food sources without much difficulty and it is thought that the great majority of individuals in developed countries have an adequate intake. Especially rich sources of magnesium include whole grains, nuts, beans, avocado, shellfish, green leafy vegetables, coffee, tea and chocolate. A cup of whole grain flour has nearly 200 mg of magnesium. A cupful of spinach or most beans, nuts, seeds or trail mix offers anywhere from 50 mg to 150 mg of magnesium. A cup of milk, orange juice, or grapefruit juice provides about 80 mg.

The recommended daily allowance (RDA) of magnesium is 80 mg for children 1 to 3, 130 mg for those 4 to 8, and 240 mg for those 9 to 13. For males 14 to 18 it is 410 mg, for those 19 to 30 it falls to 400 mg, and for those 31 years and older it is 420 mg. For females 14 to 18 it is 360 mg, for those 19 to 30 it falls to 310 mg, and for those 31 years and older it is 320 mg. However, for pregnant women it is 400 mg if 18 years or younger, 350 mg if 19 to 30, and 360 mg if 31 or older. For lactating women it is 360 mg if 18 years or younger, 310 mg if 19 to 30, and 320 mg if 31 or older.

Bear in mind that the recommended amounts noted above are for total daily magnesium intake. The average daily intake of magnesium from food sources in the United States is approximately 320 mg; thus supplementation is likely to increase magnesium intake above nutritional needs.

When used as a treatment, magnesium is often recommended at doses of 250 to 600 mg daily.

Magnesium specifically from supplements can often cause diarrhea — which is why it is an ingredient in many laxatives. Diarrhea is particularly common in products also containing aluminum. Taking magnesium with food can reduce the occurrence of diarrhea.

Excessive magnesium levels in the blood can cause dangerous side effects, but oral supplements taken as directed seldom dangerously raise blood levels in individuals with healthy kidneys — which regulate magnesium status. Tolerable Upper Intake Levels (ULs) have been established for magnesium supplement intake. The UL is defined as "a level of chronic daily intake judged to be likely to pose no risk of adverse health effects to the most sensitive members of the healthy population." The UL recommendations (which apply specifically to magnesium consumed from supplements or other medications) are 65 mg for children 1 to 3 and 110 mg for those 4 to 8. For individuals 9 years and older the UL is 350 mg. Note that the ULs for supplements sometimes are actually lower than the respective RDAs, because side effects are not likely to occur from magnesium obtained from solely from foods.

Magnesium and calcium are "macrominerals:" meaning that their RDAs are relatively high compared to "microminerals," such as zinc, for which only a few milligrams or microgram amounts are needed. Both magnesium and calcium supplements can interfere with the absorption of "microminerals." As a result, it is probably best to take microminerals at a different time of day from a magnesium or calcium supplement. Because of the bulk of both magnesium and calcium, they are generally not found in multivitamin/multimineral products in doses equivalent to their RDAs and are often sold separately or combined.

#### Concerns and Cautions:

Magnesium supplements may cause stomach upset, nausea, vomiting and diarrhea. Although rare, excessive intake of magnesium (above the ULs) may result in too much magnesium in the blood causing thirst, low blood pressure, drowsiness, muscle weakness, slowed breathing, and even death.

Individuals with kidney disease cannot properly control levels of electrolytes in the body; for this reason, the use of magnesium (or any other mineral) can be very dangerous. There may be risks for people with severe heart disease or diseases of the intestines as well.

Magnesium interferes with the absorption of medications in the tetracycline family, and can also interfere with the effectiveness of cellulose sodium phosphate, and sodium polystyrene sulfonate.

Some concerns have been raised about the safety of magnesium orotate due to its orotic acid content. Research in animals shows that doses of 100 mg/kg/day or more of orotic acid have tumor promoting effects in experimental tumors. Lower doses of 50 mg/kg/day did not have this effect (Laconi, *Carcinogenesis* 1993, Laconi, *Carcinogenesis* 1993, Laconi, *Carcinogenesis* 1988). Based on these data, a panel of the European Food Safety Authority (EFSA) concluded that orotic acid-containing products, such as magnesium orotate, represent a safety concern when used in amounts of 100 mg/kg or more daily (e.g., 7,000 mg for a 70 kg [154 lb] adult) (EFSA Journal 2009). Until more is known about these potential risks, it may be best not to use magnesium orotate.

See the Encyclopedia for more information about clinical studies on [Magnesium](#).

To further assist consumers, ConsumerLab.com licenses its flask-shaped CL Seal of Approved Quality (see [The CL Seal](#)) to manufacturers for use on labels of products that have passed its testing. ConsumerLab.com will periodically re-evaluate these products to ensure their compliance with ConsumerLab.com's standards.

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