# Magnesium Products

## Macromineral Health Support*

MINERAL PRODUCTS

Magnesium is the primary element in three of our formulas. **Solution of Magnesium**, magnesium chloride in liquid form, is a highly absorbable form of magnesium, formulated for gastrointestinal ease.* **Magnesium Citrate** is a capsule form of magnesium that is well tolerated and highly bioavailable.* **Magnesium Malate Forte** combines malic acid, magnesium and vitamin B2 (riboflavin), nutrients involved in the Krebs cycle and important for energy generation.* Magnesium malate (the salt of magnesium and malic acid) is highly absorbed.* All three products are tested to ensure the absence of heavy metals and other contaminants.


#70320
Solution of Magnesium
236 mL (8 fl. oz.)

### Key Features

- Three well absorbed forms of magnesium*
- Magnesium is a macromineral considered essential for human health*
- Found in the skeleton, muscles, soft tissues, and extracellular fluid
- Surveys suggest that magnesium deficiency may be common

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NSF GMP Registered

# Magnesium Products

**Magnesium** (Mg) is one of seven macrominerals considered essential for human health; the others are sodium, potassium, calcium, phosphorus, chlorine and sulfur. The adult human body contains 20-28 grams of magnesium. Of this total amount, about 40% is found in the muscle and soft tissues, about 1% in the extracellular fluid, and the remainder in the skeleton. Surveys over recent years suggest that as much as 40% of the U.S. population may be deficient in magnesium.

In solution, magnesium ions have two positive charges (Mg++), and magnesium as an electrolyte is critical in the electrical activity of nerve, muscle, and other tissues.* More than 300 enzymes are known to be activated by magnesium, and as a consequence numerous biochemical pathways require magnesium.* Calcium is also required for a variety of pathways and processes, and these two macrominerals are normally maintained in a "yin-yang" balance, in which either can synergize or antagonize the action of the other. Magnesium is also important for the homeostatic regulation of the two other major electrolytes in the body, potassium and sodium.*

## Solution of Magnesium 236 mL (8 fl. oz.) • 70320


| Supplement Facts | |
|---|---|
| Serving Size | 1/2 Teaspoon (2.5 mL) |
| Servings Per Container | 94 |
| **Amount Per Serving** | **% Daily Value*** |
| Magnesium (as Magnesium Chloride) 66.5 mg | 16% |

* Percent Daily Value are based on a 2,000 calorie diet

Other ingredients: Deionized water, lactic acid.

**Suggested Use:** Dilute prior to ingestion. As a dietary supplement, 1/2 teaspoon diluted in eight ounces of your favorite beverage, two or three times daily, or as directed by a healthcare practitioner. Refrigerate after opening.

Magnesium plays roles in the cardiovascular and GI systems, peripheral vascular function, energy production, and the heart, brain, kidney and liver.*

For instance, magnesium is involved in the body's homeostatic maintenance of blood pressure and heart rhythm.* Magnesium contributes to bone formation and mineralization, and it plays a role in the regulation of muscle and nerve activity through influencing cell membrane permeability.* Frank magnesium deficiency can result in nausea, loss of muscle tonicity and strength, electromyographic abnormalities, irritability, and mental derangement.*

Athletes and laborers may be low in magnesium, because perspiring and the use of large muscles tend to deplete it. Lactating women require higher magnesium intake, as do adolescents. In a healthy person, half of the ingested magnesium is typically absorbed. But many lifestyle, environmental, and dietary factors can lower the availability of magnesium, including missed meals, the use of diuretics, fast and high-fat foods, alcohol, and soft drinks, which are high in phosphates that leach magnesium from the body. Additionally, acid rain washes magnesium from the soil, fluoridation depletes it from drinking water, and the processing of grains and other foods lowers their magnesium content. A 1988 U.S. Government study concluded that the Standard American Diet only provided 40% of the daily requirement of magnesium.

*Testing for magnesium Deficiency* - Serum magnesium may not be an accurate measure of body magnesium status, since such a small percentage of the body's magnesium is found in the serum. In response, Dr. Sherry Rogers and her colleagues developed a loading test. Its rationale is as follows: if people with enough magnesium are given more, they will pass it out with the urine, whereas if they are deficient in magnesium, the loading dose will be partially retained. A baseline magnesium excretion is determined from a 24-hour urine, then a load of magnesium chloride is given, and the 24-hour urine repeated. If urine magnesium excretion is high, deficiency is unlikely; if excretion is low, deficiency is possible.

## Magnesium Citrate 90 vegetarian capsules • 70240
## Magnesium Citrate 180 vegetarian capsules • 76660


| Supplement Facts | |
|---|---|
| Serving Size | 1 Capsule |
| Servings Per Container | 90 or 180 |
| **Amount Per Serving** | **% Daily Value*** |
| Magnesium (as Magnesium Citrate) 170 mg | 40% |

* Percent Daily Value are based on a 2,000 calorie diet

Other ingredients: Hydroxypropyl methylcellulose, microcrystalline cellulose, magnesium stearate, silicon dioxide.

**Suggested Use:** As a dietary supplement, 1 capsule one to three times daily between meals, or as directed by a healthcare practitioner. High doses of magnesium may have a laxative effect.

Contraindicated with use of aluminum containing drugs.
Citric acid may increase mineral absorption, including aluminum.

## Magnesium Malate Forte 120 tablets • 70740


| Supplement Facts | | |
|---|---|---|
| Serving Size | | 2 Tablets |
| Servings Per Container | | 60 |
| **Amount Per Serving** | | **% Daily Value*** |
| Riboflavin (Vitamin B2) | 10 mg | 769% |
| Magnesium (60% as Magnesium Citrate and 40% as Magnesium Hydroxide) | 124 mg | 30% |
| Malic Acid | 500 mg | † |

† Daily Value not established * Percent Daily Value are based on a 2,000 calorie diet

Other ingredients: Microcrystalline cellulose, stearic acid, croscarmellose sodium, silicon dioxide, magnesium stearate.

**Suggested Use:** As a dietary supplement, 1 or 2 tablets two or three times daily with meals, or as directed by a healthcare practitioner.

For added benefit, this product may be used with L-Citrulline, item #74760.