TriMag Supreme™ Night

*Relaxing Magnesium - Botanical Blend**

designs for health®

By David M. Brady, ND, DC, CCN, DACBN and Colleen Ambrose, ND, MAT

TriMag Supreme™ Night is a unique blend of three highly bioavailable forms of magnesium alongside relaxation-supportive botanicals.* It contains magnesium orotate, magnesium glycerophosphate, and TRAACS®, a form of magnesium bisglycinate chelate, in addition to a blend of herbs that support sleep and a healthy response to stress.* One serving provides 300 mg of elemental magnesium in an easy-to-mix powder. The bioavailable forms of magnesium within this formula have high tolerability in the gut and are unlikely to cause any undesirable gastrointestinal (GI) effects. This product is naturally sweetened with stevia and does not contain artificial sweeteners.

Magnesium is the fourth most common mineral in the body. It is a cofactor in more than 300 enzyme systems necessary for human body functions, including the regulation of muscle contractions and relaxation, energy production, nerve conduction, and gating of calcium channels.[1] Magnesium has been shown to support sleep and a healthy response to stress. Laboratory studies suggest magnesium deficiency affects circadian cycle and sleep disorders.[2]

A placebo-controlled, clinical trial randomized participants to either a magnesium group or a placebo group. In this study, both subjective and objective markers were assessed, and statistically significant improvements were indicated for sleep time, sleep efficiency, sleep latency, serum melatonin, and serum cortisol concentrations.[3]

A cross-sectional analysis of 3,604 adult medical records in a primary care setting assessed the relationship between serum magnesium levels and depressive symptoms using the Patient Health Questionnaire (PHQ)-2 and PHQ-9. Findings showed that lower magnesium levels were associated with increased depressive symptoms.[4]

Due to the critical role in many enzyme systems in the body, magnesium supplementation can support sleep and relaxation.* Certain botanicals have been used for hundreds of years to support sleep and relaxation, and recent scientific studies agree. TriMag Supreme™ Night contains lavender, California poppy, and Montmorency cherry powder, which supports relaxation and restful sleep.*

Benefits*:

- Supports sleep quality and duration
- Promotes a healthy response to stress
- Supports muscle relaxation and healthy cardiovascular function

Ingredient Highlights

Relaxing Botanicals*

Montmorency cherry powder has been shown to support production of melatonin and help support sleep quality and duration.* In a randomized, placebo-controlled, clinical trial, supplementation of cherry powder (*Prunus cerasus*) for 7 days significantly increased exogenous melatonin in participants.[5] In another placebo-controlled, crossover study, patients with insomnia who were 50 years of age and older were randomized to a group consuming cherry juice or a placebo. The results suggested that cherry juice improved sleep time and sleep efficiency.[6]

A randomized control trial used polysomnography and other objective and subjective measures to assess the efficacy of several natural compounds, including cherry juice, on sleep quality. The findings of this trial were statistically significant with improvements in sleep latency. This study also noted that this nutritional supplement had no detrimental effect on next-day performance, sleep architecture, and subjective sleep measures, unlike some treatments of pharmacologic origin.[7]

Supplement Facts

Serving Size 6 grams (approx. one scoop)
Servings Per Container 30

Amount Per Serving		% Daily Value
Magnesium (as Magnesium Orotate 100 mg, Magnesium Glycerophosphate 100 mg, TRAACS® Magnesium Bisglycinate Chelate Taste Free 100 mg)	300 mg	71%
Montmorency Tart Cherry Powder (*Prunus cerasus*)(fruit)	250 mg	*
California Poppy Extract (*Eschscholzia californica cham.*)(aerial parts)	250 mg	*
Lavender Extract (*Lavandula officinalis Chaix.*)(flower)	150 mg	*

*Daily Value not established.

Other Ingredients: Citric acid, natural flavor, organic stevia leaf extract (*Stevia rebaudiana*), partially hydrolyzed guar gum.

California poppy (*Eschscholzia californica*) has been shown to have sedative and anxiolytic (calming) properties. In a study analyzing California poppy on animals, short-term sedative effects were reported after oral administration.[8] The proposed biological action of California poppy suggests that the alkaloid constituents bind to $GABA_A$ receptors. In addition, a review article also reported the possibility of serotonin receptor involvement.[9] In human clinical trials, California poppy has been studied in combination with other nutritional interventions. These studies reported statistically significant improvements in sleep quality and anxiety.[7,10]

Lavender (*Lavandula angustifolia*) has been shown to improve sleep quality parameters and anxiety in several clinical studies. A randomized, placebo-controlled 5-night study assessed the effects of lavender on sleep parameters by collecting both objective sleep quantity data and sleep quality indices. Individuals in the treatment arm were reported to have better sleep quality at post-treatment and a continuation of improvement in sleep quality 2 weeks after ending treatment. A statistically significant finding for the parameter of "waking feeling refreshed" was reported in the treatment arm.[11] In addition, a systematic review and meta-analysis evaluated the efficacy of lavender on anxiety using 65 randomized control trials (RCTs) totaling 7,993 participants for qualitative analysis and 37 RCTs with 3,964 participants for quantitative analysis. The results showed a statistically significant improvement in anxiety with oral administration of lavender measured with any validated scale.[12]

3 Bioavailable Forms of Magnesium

Magnesium orotate contains two components: magnesium and orotic acid. The orotic acid (OA) behaves as a transporter in helping magnesium enter cells.[13] In addition, OA is an important intermediate in the synthetic pathway of pyrimidines. According to an animal study, OA may improve myocardial purine and pyrimidine levels through the stimulation of the release of uridine in the bloodstream.[14,15] OA has also been shown to improve the energy status of an injured myocardium through the stimulation of synthesis of glycogen and adenosine triphosphate. Magnesium orotate does not bind to gastric acid and does not exhibit laxative effects observed in other forms of magnesium.[15]

Magnesium glycerophosphate has been shown to be a highly bioavailable form of magnesium. A 2019 study compared the bioavailability of 15 different forms of magnesium both in vitro and in humans. A blend containing magnesium glycerophosphate was shown to have one of the highest bioavailability forms tested in the laboratory. In the human portion of this study, the magnesium glycerophosphate blend was among the highest in absorption efficiency in the small intestine in both fasted and fed states.[16] Additionally, traditional side effects of magnesium have been shown not to occur with magnesium glycerophosphate, as compared with other forms of magnesium.[17,18]

TRAACS® magnesium bisglycinate chelate: The magnesium amino acid chelate in this product is absorbed through dipeptide channels, which bypass the usual active transport and passive diffusion routes for intestinal ion absorption where magnesium would otherwise compete with other minerals. This method of delivery allows larger amounts of magnesium to be absorbed more quickly and to be better retained by the body, as compared with many other forms. The magnesium-glycine complex protects magnesium from binding to dietary phytates and tannins, therefore reducing absorption interference and enhancing bioavailability. Breaking the bonds between magnesium and glycine allows the body to use both the mineral and the amino acids.[19]

This form of magnesium has been shown to be effective for individuals with the greatest impairments in magnesium absorption, such as those with inflammatory bowel conditions, among whom the prevalence of overt magnesium deficiency may be as high as 86%.[20] This amino acid chelate may be especially beneficial for those who require high doses of magnesium, as relatively high doses lead to fewer unwanted gastrointestinal effects that may be present with other forms of supplementation.

Recommended Use: Mix 6 grams (approx. one scoop) in 8 ounces of water per day 30-60 minutes before bedtime, or as directed by your health-care practitioner.

For a list of references cited in this document, please visit:

http://www.designsforhealth.com/techsheet-references/trimag-supreme-night-references.pdf

Dosing recommendations are given for typical use based on an average 150 pound healthy adult. Healthcare practitioners are encouraged to use clinical judgement with case-specific dosing based on intended goals, subject body weight, medical history, and concomitant medication and supplement usage. Any product containing botanical substances has the potential for causing individual sensitivities. Individual monitoring, including liver function tests, may be appropriate.

To contact Designs for Health, please call us at (860) 623-6314, or visit us on the web at www.designsforhealth.com.