

Tri-Mag Supreme™ Night Powder



Supports muscle relaxation. Traditionally used in Western herbal medicine to induce sleep.



OVERVIEW

- > A nutritional and herbal formulation with sedative properties to promote sleep
- > Provides 313 mg of magnesium from three sources of magnesium for enhanced physiological effect – amino acid chelate, glycerophosphate and orotate
- > Includes therapeutic doses of Lavender, Passionflower and California poppy

Active Ingredients (per 4 g oral powder)	
Magnesium (from magnesium orotate dihydrate)	94.64 mg
Magnesium (from magnesium glycerophosphate)	122.52 mg
Magnesium (from magnesium amino acid chelate)	96 mg
Total magnesium	313.16 mg
<i>Lavandula angustifolia</i> (lavender) ext. dry conc.	375 mg
equiv. to dry flower	1.5 g
<i>Passiflora incarnata</i> (passionflower) ext. dry conc.	60 mg
equiv. dry flower	6000 mg (6 g)
<i>Eschscholzia californica</i> (California poppy) ext. dry conc.	66.68 mg
equiv. to dry herb	1 g

Pack Size	150 g
Servings Per Pack	37.5 serves

Excipients
Citric acid, Natural lemon flavour, Steviol glycosides, Lavender flavour, Maltodextrin.

Directions for Use
Adults: Take 1 hour before bed. Mix 4 g (1 level teaspoon) into a glass of water and consume immediately, or as directed by your healthcare professional.

Allergen Information
Contains: sulphites, phenylalanine. No added: gluten, dairy, lactose, soy or nuts.

Prescribing Considerations
<ul style="list-style-type: none"> • Caution advised with use of magnesium in individuals with renal dysfunction and contraindicated in renal failure and heart block.¹ • Excessive intake of magnesium may cause diarrhoea and gastric irritation.¹ • Excessive intake of magnesium may result in reduced calcium levels.¹ • Magnesium may potentiate the therapeutic effect of calcium-channel blockers and neuroblocker medications.¹ • Long term use of loop and thiazide diuretics increase urinary magnesium excretion. • Magnesium may decrease absorption of fluoroquinolones. Separate doses by at least 2 hours before and 4 hours after oral magnesium.¹ • Lavender may theoretically potentiate the therapeutic effects of sedative and antidepressant medications.¹

Warnings
Warnings: If symptoms persist, seek the advice of a healthcare professional.

Designed and packed in Australia from local and imported ingredients.



No Added
Gluten



No Added
Soy



No Added
Dairy



No Added
Nuts



EDUCATION

Quality sleep is an essential component for maintaining overall health.^{2,3} The sleep-wake cycle is comprised of sleep propensity, maintenance and waking, with a normal night's sleep involving a rhythm of about 5 cycles of slow wave and rapid eye movement sleep stages, however this varies both between and within individuals. Regulation of the sleep-wake cycle is complex relationship involving physical, chemical and genetic networks.^{3,4}

Inadequate sleep has been associated with a broad range of health issues including mood alterations, anxiety, impaired cognitive function, increased DNA damage and oxidative stress, impaired sperm health, elevated pain perception, reduced insulin sensitivity, altered inflammatory responses and suboptimal cardiovascular health parameters.⁴⁻¹³

Despite the recognised importance of quality sleep, (it is recommended that adults between the ages of 26-64 and >65 years of age get 7-9 and 8-hours sleep respectively), sleep problems are highly prevalent across the population.^{14,15}

Magnesium

Magnesium is an essential mineral that acts as regulating cofactor in over 300 enzymatic reactions, affecting 80% of the body's metabolic functions.^{1,16,17}

Endogenous magnesium stores are primarily (99%) located in bone, muscles and soft tissues and intracellularly (in either ionised form, bound to proteins, molecules or ATP), while 1% occurs in serum (in the biologically active free-ionised form, bound to protein or anions) and red blood cells.^{17,18}

Magnesium homeostasis is regulated by the intestines (absorption), bones (storage) and kidneys (urinary excretion). Following magnesium ingestion, intestinal absorption occurs within an hour, and following reabsorption by the kidneys, is transported to the liver and subsequently circulates systemically in the blood before renal excretion.^{1,16,18} However, the amount of magnesium that is absorbed (and renally reabsorbed) is highly variable due to the influence of many factors, significantly endogenous magnesium status - low levels result in higher absorption while high levels induce lower absorption rates (up to 80% vs 30-50%, respectively).¹⁶⁻¹⁸

Other factors that influence magnesium absorption include chronic insufficient intake of magnesium or absorption cofactors (selenium, B6 and D), excessive phytate, saturated fat, fibre, alcohol, calcium, phosphorus, sodium, caffeine, alcohol, excessive or insufficient protein intake, age, stress, hormones (elevated thyroid hormones, oestrogen), medications, gastrointestinal dysfunction, diabetes, excessive lactation, heat and prolonged exercise.^{1,16,17,19}

Symptoms associated with magnesium deficiency includes impaired appetite, nausea, vomiting, fatigue, weakness, numbness, tingling, muscle contractions, cramps, seizures, sudden behaviour or personality changes and irregular heartbeat.^{18,20}

Taken together, maximising the therapeutic potential of magnesium requires these many factors to be considered, and when supplementation is indicated, the use of magnesium sources with enhanced efficacy and biological activity.

Magnesium chelates

Along with the many factors discussed, the bioavailability and efficacy of magnesium supplementation is determined by dose frequency and load. It is also significantly influenced by the certain chemical properties of the chelated ligand, including its solubility and capacity to bind to magnesium's active sites (the latter being associated with reduced magnesium hydration and laxative potential). The higher solubility and active-site binding capacity of organic and amino acid-based ligands contribute significantly to their optimal bioavailability.²¹⁻²³ The chelates used in TriMag Supreme Night Powder™, amino acid chelate, orotate and glycerophosphate, have each been demonstrated to have optimal bioavailability and capacity to support endogenous magnesium levels/concentrations.^{19,22-26}

Lavender

Lavender (*Lavandula angustifolia*) has a long history of medicinal use extending back to ancient Greek and Roman times.¹ Used traditionally in western herbal medicine for its carminative and relaxant properties, lavender flower constituents include essential oil, coumarins, flavonoids, sterols, triterpenes, tannins and phenylcarboxylic acids.^{1,27} These indications are underpinned by a broad range of mechanisms demonstrated by lavender including modulation of the main neurotransmitter systems (cholinergic (acetylcholine/ionic channel function), dopaminergic, glutamate, opioidergic, and gamma-aminobutyric acid (GABA) and inhibition of smooth muscle contraction processes.²⁷⁻³²

California poppy

California poppy (*Eschscholzia californica*) has been traditionally used by western herbal medicine to promote sleep.³³⁻³⁵ With the primary active constituents being alkaloids, California poppy is considered to have mild sedative and hypnotic properties.^{33,35} Known mechanisms underlying these properties include inhibiting catecholamine breakdown and epinephrine synthesis, promoting GABA binding to membrane receptors.^{33,35,36}

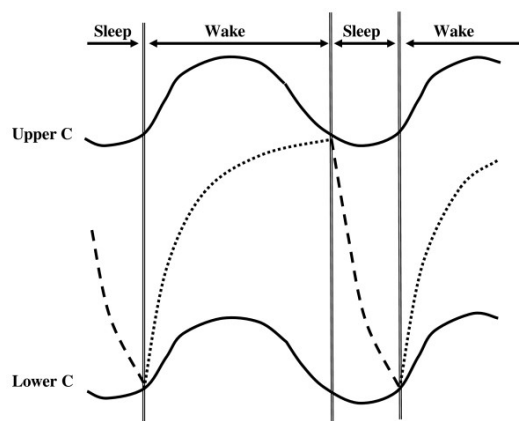


Figure 1: Times of sleep and wake (top, separated by the double vertical lines). The C component is represented by two curves (Upper C and Lower C). Sleep pressure increases exponentially in the wake phase (Process S, dotted line) and decreases at a faster exponential rate in the sleep phase (S', dashed line).

Passionflower

Passionflower (or the Maypop flower) was a commonly used sedative medicine in the early 20th century. Native to North America and used Traditionally in Western Herbal medicine for its effects on the nervous system, Passionflower was the treatment of choice for the relief of excessive nervous energy, and symptoms of stress, in addition to helping to provide carminative effects and helping to relieve sleeplessness.^{37, 38, 39}

Modern research has backed up traditional usage and found that the indole alkaloid, flavonoid and pyrone derivative constituents bear influence over both Monoamine oxidase (MAO) and Gamma-aminobutyric acid (GABA) metabolism. Most of the research has been focussed on the latter.

Passionflower has been shown to interfere with GABA uptake by binding to specific receptor sites on neuronal synapses.^{37, 40} It has also been found to reduce involuntary muscular movements, reducing restlessness and providing calming bedtime support, inducing sleep and supporting optimal sleep quality.³⁷

References supplied on request.