



MgUlti

PRODUCT TECHNICAL EDUCATION SHEET

MgUlti is a superior multi-magnesium formulated with five of the highest quality and most clinically studied forms of magnesium to support deep restorative sleep whilst targeting stress, cellular energy, heart health and relaxing muscles. MgUlti combines magnesium critical for total body wellbeing with two digestive “activators” Ginger and Acacia to support optimal digestive function for the rapid absorption and utilisation of these important forms of magnesium.

INDICATIONS

- Sleeping challenges: light sleeping, waking in the night
- Easily woken by noise, unrefreshing sleep
- Snoring
- Muscle twitching – day and night
- Restless legs
- Muscle aches and tension
- Support for mood, worries and anxiety
- Low energy/ fatigue
- Stress management
- Headaches and migraines
- Ringing in ears
- Cardiovascular health
- Nervous system support
- Premenstrual cramps
- Hypertension
- Magnesium deficiency

INGREDIENTS

Ingredient	Per capsule	Per dose
Magnesium Amino Acid Chelate	200mg	800mg
Magnesium Aspartate	100mg	400mg
Magnesium Citrate	225mg	900mg
Magnesium Phosphate	72.5mg	290mg
Magnesium Orotate	37.5mg	150mg
Total Magnesium	635mg	2,540mg
Total Elemental Magnesium	100mg	400mg
Acacia Gum (Gum Arabic)	25mg	100mg
Ginger	7.5mg	30mg

COMPANION PRODUCTS

SleepDrops Practitioner Only Products: SleepDrops MAX and Liquid Magnesium
SleepDrops Premium Range: SleepDrops for Adults, SleepDrops Menopauzzz, SleepDrops Menzzz, SleepDrops for Kids, Daytime Revive.

FEATURES & BENEFITS

Feature	Benefit
Multi-magnesium	Five clinically proven magnesium forms supporting deep “slow brain wave” and restorative sleep, target stress, relax muscles, cellular energy and heart health.
Magnesium oxide free formula	Gentle on the digestive system.
Therapeutic doses of magnesium	Supports overall health and wellbeing with the required amount of elemental magnesium to correct nutritional deficiency.
Ginger and Acacia Gum for digestive support	Research shows that 76% of magnesium is absorbed in the gut. To support maximum magnesium absorption MgUlti also combines two digestive activators in the form of Ginger and Acacia (a prebiotic) to enhance digestive function.



DOSAGE INSTRUCTIONS

For best results, use for a minimum of one month or as directed by a healthcare professional.

Adult
4 capsules with water before bed

Children
Aged 9 – 13 year 2 capsules
Aged 4 – 8 year 1 capsule

Dosage for under 4 years of age should be at the discretion of health practitioner.

Capsules can be opened and mixed with food or drink.

Note: 1 capsule = 100mg elemental magnesium



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MAGNESIUM RECOMMENDED DAILY INTAKE

Infants and Children	Elemental RDI
0-6 months	30mg/ day
7-12 months	75mg/ day
1-3 years	80mg/ day
4-8 years	130mg/ day
9-13 years	240mg/ day

Adults	Elemental RDI
14 – 18 years old Male	410mg/day
14 – 18 years old Female	360mg/day
19 – 30 years old Male	400mg/day
19 – 30 years old Female	310mg/day
30 + Male	420mg/day
30 + Female	320mg/day
Pregnancy: 14 – 18 years old	400mg/day
Lactation: 14 – 18 years old	360mg/day
Pregnancy: 19 – 30 years old	350mg/day
Lactation: 19 – 30 years old	310mg/day
Pregnancy: 30 +	360mg/day
Lactation: 30 +	320mg/day

In 1968 magnesium was estimated to be required as a cofactor for over 300 enzymes systems[i], it is now more reliably estimated at 700 or 800 enzymatic functions[ii] [iii] [iv] Magnesium is essential in ATP production. ATP is required universally for muscle contraction, energy production for every function, glucose utilization, synthesis of fat, protein, nucleic acids and coenzymes[v]. Therefore it is important to highlight that ATP metabolism, muscle contraction and relaxation, normal neurological function and release of neurotransmitters are all magnesium-dependent.

Magnesium is a key ingredient to support:

- Sleep, stress and insomnia
- Increase slow-wave sleep (the most restorative sleep phase)[vi]
- Mediates stress response of the sympathetic nervous system[vii]
- Reduces cortisol (stress hormone) over production[viii]
- Helps reduce restless leg syndrome[ix]
- During health and wellbeing the body needs approximately 4.5mg of magnesium per kilogram of body weight[x]
- Extra magnesium is needed in times of stress, sleeping challenges, pregnancy and breastfeeding[xi]

MAGNESIUM DISTRIBUTION

Approximately 99% of the body's total magnesium is in bones, muscles, and soft tissue[i] [ii]. With about 50-60% residing in the surface mineral of bones[iii]. Intracellular magnesium concentration ranges from 5 to 20 mmol/L and extracellular magnesium accounts for ~1% of total magnesium levels and is primarily found in serum and red blood cells [iv].

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MAGNESIUM ABSORPTION AND ELIMINATION

Magnesium is absorbed in the small intestine, specifically in the duodenum and ileum by both active and passive processes[i]. Up to 76% of magnesium is absorbed in the gut and the rest is eliminated[ii]. Absorption is not always related to the intake, but mainly the current magnesium status. Lower levels of magnesium relate to a higher rate of absorption in the gut. Excess magnesium is excreted by the kidneys and the faeces. Magnesium excretion follows a circadian rhythm with maximum elimination occurring at night[iii].

SIGNS AND SYMPTOMS OF MAGNESIUM DEFICIENCY

- Muscular weakness
- Muscle twitching
- Abdominal cramps
- Ataxia
- Vertigo
- Depression or apathy
- Irritability
- Anxiety
- Agitation
- Confusion
- Forgetfulness
- Sleeping issues
- Poor attention and concentration
- Heart beat irregularities
- Cardiovascular disease
- Hypertension
- Asthma
- Migraines or tension headaches
- Premenstrual tension
- Sensitivity to loud or sudden noise
- Low circulating levels of parathyroid hormone
- Tingling or numbness
- Low calcium levels
- Heart failure
- Retention of sodium
- Low blood potassium levels
- Rapid or irregular heart beat

Diets of the industrialized world are gradually containing less magnesium than is required for health. Given the widespread of refined sugar, refined grains, highly processed foods and use of calcium in fortified food and supplements, daily magnesium levels are inhibited. Magnesium levels are consistently being blocked and depleted without being replaced[xii].

AT RISK GROUPS OF MAGNESIUM DEFICIENCY

- People with gastrointestinal diseases – chronic diarrhea, fat malabsorption resulting from irritable bowel diseases, gluten sensitivity enteropathy, resection or bypass of small intestine (especially ileum) may cause malabsorption and magnesium loss.
- People with type 2 diabetes and insulin resistance due to increased urinary excretion.
- Alcohol dependence may result in depleted magnesium status, as it decreases the secretion of pancreatic enzymes, thus interfering with the breakdown of nutrients into absorbable molecules the body can use. Alcohol damages the stomach and intestinal lining which limits/prevent optimal absorption of magnesium[i].



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INGREDIENT RESEARCH

MAGNESIUM CITRATE

- Evidence shows superior absorption and significant increased plasma Mg concentrations both after acute (3 day) and chronic (60 day) supplementation of 300mg Mg citrate compared to Mg Oxide[i].
- A number of studies show greater bioavailability from a single dose of magnesium citrate compared to Magnesium oxide[ii] [iii]
- Magnesium citrate is the most bioavailable magnesium form.
- Well absorbed by the digestive system[iv].

MAGNESIUM PHOSPHATE

- Magnesium phosphate is specific to the nervous system.
- Indicated for energy production, normal nerve function, normal muscle function, cramp, spasm, twitch[i]
- 2017 a case of migraine headache successfully treated with low-dose magnesium phosphate in a pregnant woman [ii]

MAGNESIUM AMINO ACID CHELATE

- Highly absorbable
- Magnesium in bound to multiple amino acids and used to restore magnesium levels[i].

MAGNESIUM ASPARTATE

- Increased bioavailability
- Magnesium with aspartic acid are critical components of protein biosynthesis
- Magnesium and aspartic acid synthesis amino acids as part of the citric acid cycle[i].
- Beneficial for cellular energy production, metabolism, balance neurochemistry, support of exercise recovery and performance [ii]
- 1960 study found a combination of magnesium aspartate with potassium aspartate had positive effects on fatigue and reduce muscle hyperexcitability[iii]

MAGNESIUM OROTATE

- Magnesium bound to orotic acid
- Studies show Magnesium orotate support heart health
- 2009 study evaluated magnesium orotate on mortality and clinical symptoms with severe heart failure, finding a 38.5% improvement whereas they deteriorated in 56.3% of patients on placebo[i].
- 1998 pilot study found that magnesium orotate supplementation improved exercise tolerance in patients with coronary heart disease[ii].
- Orotate found to penetrate the cell membrane, enabling the effective delivery of magnesium ions into the innermost layers of the cellular mitochondria and nucleus[iii] [iv].
- Studies have shown magnesium orotate improve heart failure, angina symptoms and exercise performance[v] [vi].



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INGREDIENT RESEARCH

ZINGIBER OFFICINALE (GINGER)

- Actions: digestive stimulant carminative, peripheral circulatory stimulant, spasmolytic, anti-inflammatory,[i]
- Ginger is commonly used for gastrointestinal disturbances such as diarrhoea, irritable bowel syndrome, nausea and loss of appetite[ii].
- Research shows taking ginger during the first 3-4 days of the menstrual cycle, modestly decreases pain in women and teens with painful menstrual periods[iii].
- Ginger is also beneficial for motion sickness, morning sickness, colic[iv].

ACACIA GUM (ARABIC GUM)

- Gum Arabic or acacia gum is a soluble dietary fibre, composed mainly of complex polysaccharides.
- Traditionally used in African and Indian cultures to improve digestive comfort and intestinal transit[i].
- Acacia gum is a prebiotic fibre shown to increase Bifidobacterium and lactobacilli than an equal dose of inulin and resulted in fewer gastrointestinal side effects such as bloating and gas[ii]

CAUTIONS & CONTRAINDICATIONS

Not recommended for use with heart block without a pacemaker. Magnesium supplementation may decrease the absorption of some medications. Liquid Magnesium should be used 2 hours away from medications, such as tetracycline and quinolone antibiotics. Magnesium supplementation can cause loose bowel movements. The threshold at which this may occur varies between people. If you feel uncomfortable please, lower the amount until bowel movements stabilise.

Drug, nutrient, diet or dietary interactions [i]:

- Kidney problems, such as kidney failure. Kidneys that don't work well have trouble clearing magnesium from the body. Taking extra magnesium can cause magnesium to build up to dangerous levels. Don't take high magnesium doses if you have kidney problems
- Diuretics such as Furosemide and Hydrochlorothiazide used to reduce hypertension by moving fluid out of the body by acting on the kidney may deplete magnesium levels.
- Lactulose, Miralax, Senna which are laxative medications may reduce magnesium absorption.
- OCPs may decrease magnesium absorption.
- Osteoporosis medications such as Fosamax or Actonel, these medications act to push calcium into bones. Magnesium is needed for calcium balance.
- Magnesium in higher doses has been shown to prolong clotting time and potential interaction with anticoagulant medicines and in bleeding disorders[ii].
- Antibiotics such as Quinolones and Tetracycline's, as well as other medicines such as
- Digoxin and Gabapentin's absorption rates may be affected by Magnesium and need to be taken 2 hours before or after.
- Medication for diabetes specifically Sulfonylureas absorption rates are increased, thus take 2-4 hours away from the Magnesium to avoid blood sugar levels dropping too low[iii].
- Medication for hypertension specifically Calcium channel blockers, the Magnesium also blocks calcium from entering the cells and therefore taking Magnesium may cause the blood pressure to go too low [iv].



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