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Zinc Glycinate Liquid

MINERAL SUPPLEMENT

Great-tasting, bioavailable liquid zinc formula

- Provides 30 mg of zinc bisglycinate per teaspoon
- Helps to maintain immune function, as well as healthy bones, hair, nails and skin
- Aids in the maintenance of normal DNA synthesis and acid-base metabolism
- Delicious natural peach-tangerine flavour

Zinc Glycinate Liquid is a great-tasting mineral formula that provides zinc in the bioavailable form of zinc bisglycinate. Zinc is an important trace element in the body.¹ It plays a key role in maintaining immune health by stimulating the production of immune cells, regulating natural killer cell activity and mediating cytokine production.^{1,2} Clinical research has demonstrated that daily supplementation with zinc helps to maintain immune function in adults and adolescents, as well as in the airways of children.^{3,4} Zinc also has a long history of use in dermatological health.⁵ It helps to maintain immune function in the skin, while promoting collagen synthesis to help maintain skin structure.⁶ Additionally, zinc has a role in maintaining hair and nail health, and maintains bone health by regulating bone formation and resorption.^{5,7-9} This mineral is also involved in a key buffer system that helps to maintain normal acid-base balance.⁹ Zinc Glycinate Liquid provides a bioavailable source of zinc to help meet daily zinc requirements. In one randomized crossover trial, zinc bisglycinate was demonstrated to have 43% higher bioavailability than zinc gluconate.¹⁰



EACH TEASPOON (5 ml) CONTAINS:

Zinc (zinc bisglycinate).....30 mg

Non-Medicinal Ingredients: Purified water, glycerin, concentrated apple juice, xylitol, citric acid, natural flavours, potassium sorbate

Recommended Dose: Adults and Adolescents (14 years and older):

Take one teaspoon daily. **Adolescents (9 - 13 years):** Take ¾ teaspoon daily. **Children (4 - 8 years):** Take ¼ teaspoon daily. Take with a meal, a few hours before or after taking other medications or natural health products, or as recommended by your healthcare practitioner. If preferred, Zinc Glycinate Liquid can be mixed with juice or water. Shake well before use.

Product Size: 450 ml Liquid

Product Code: 04226

NPN 80070496



REFERENCES

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Zinc Glycinate Liquid

MINERAL SUPPLEMENT

Scientific Rationale:

Zinc is an important trace element in the body.¹ It acts as a cofactor for more than 300 enzymes involved in various biological processes, such as DNA replication, bone formation and skin health.^{1,2} This mineral also has key roles in the immune system.^{1,2}

Zinc is critical to the immune system as a mitogen, which stimulates the production of immune cells.¹ It is especially crucial to T cell function as a cofactor of thymulin, a hormone involved in T cell maturation and differentiation.^{1,2} Zinc is also required for immunocompetence, the ability of the body to produce an immune response after exposure to an antigen.¹ In addition, adequate levels of zinc are required for proper macrophage development, natural killer cell activity and cytokine production.^{1,3} One randomized, placebo-controlled trial reported that daily supplementation with zinc bisglycinate for up to four days significantly helped to maintain immune function in the airways of children.⁴ Similarly, daily supplementation with zinc for seven days significantly helped to maintain immune health in adults and adolescents.⁵ As the availability of free intracellular zinc can be decreased with aging, zinc supplementation may also be particularly helpful for maintaining immune health in the elderly.¹

Zinc has been used to support dermatological health for centuries.⁶ It is present in high levels in the skin, where it promotes cell division by regulating the activity of enzymes, such as DNA and RNA polymerases.^{6,7} Zinc is involved in connective tissue production through its role in collagen synthesis, which helps to maintain skin structure and regulate the level of oils in the skin.⁷ Additionally, zinc helps to maintain immune function in the skin by mediating cytokine production, maintaining macrophage function and activating natural killer cell activity.⁶ Zinc may also help limit the release of histamine from mast cells to decrease feelings of itch and maintain smooth skin.⁶ As zinc has roles in supporting the barrier of the skin and the production of melanin pigments, low levels of zinc may result in rough and pale skin.^{6,7} In addition to helping maintain skin health, zinc also has a role in maintaining hair health.^{6,8} Furthermore, zinc is an important component of the nail plate and low zinc levels may lead to brittle, misshapen or discoloured nails.^{8,9}

Zinc helps to maintain bone health by regulating bone formation and resorption.¹⁰ It is required to activate bone-forming osteoblast cells.¹⁰ It is also an essential cofactor for enzymes that synthesize components of the bone matrix, helping to stimulate bone

mineralization.¹⁰ In addition, zinc has a structural role in the bone matrix as a component of the hydroxyapatite crystals that make up bone mineral.¹⁰

Zinc is also involved in acid-base metabolism, which helps regulate the pH of blood and extracellular fluid.¹⁰ In the blood, a zinc metalloenzyme called carbonic anhydrase catalyzes the metabolism of carbon dioxide and water to form protons and bicarbonate.¹⁰ This is the primary buffer system that controls the change in acid load resulting from cellular metabolism and dietary acid intake.¹⁰ Therefore, adequate zinc levels are required to maintain normal acid-base balance.

Research has confirmed that zinc bisglycinate is a bioavailable source of zinc.¹¹ In one randomized crossover trial, adults received a single dose of 15 mg of zinc in the form of zinc bisglycinate or gluconate.¹¹ Blood samples were collected periodically for eight hours after administration to determine the difference in zinc bioavailability.¹¹ As per the crossover design, the procedure was repeated after a seven-day washout period, with participants receiving the alternate supplement.¹¹ Results demonstrated that the oral bioavailability of zinc bisglycinate was significantly higher than zinc gluconate.¹¹ Specifically, the bisglycinate form had a 43% higher bioavailability than the gluconate salt.¹¹ Therefore, zinc bisglycinate is a well-tolerated and bioavailable form of zinc that can be used to help individuals achieve daily recommendations for zinc intake.¹¹

As zinc requirements increase during growth, young children are at risk of zinc deficiency.¹² Similarly, due to the pubertal growth spurt, zinc requirements are highest during adolescence.¹² Once the growth spurt has ended, adolescents may still need additional zinc in order to replenish depleted zinc levels.¹² Furthermore, as nutritional requirements increase during pregnancy and lactation, women may be predisposed to zinc deficiency.¹² Individuals who consume diets high in cereals and legumes may not have adequate serum levels of zinc as high phytate contents in these foods decrease zinc bioavailability.¹² Diets low in animal products may also result in inadequate zinc levels, as animal proteins increase the bioavailability of plant-derived zinc.¹² It is also common for the elderly to have low zinc levels, in part due to decreased consumption of red meat, a zinc-rich food.¹² Zinc Glycinate Liquid is a great-tasting formula that provides a bioavailable source of zinc to help meet daily zinc requirements.

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