



Available in 60 packets

Discussion

Bone health is dependent on a constant supply of micronutrients for maintenance and repair. Instead of adopting a single-nutrient, unbalanced approach to supplementation, XYMOGEN® utilizes an array of complementary, well-researched nutrients in its OSAples formulas to build and maintain bone over time.*

Silicon as Choline-Stabilized Orthosilicic Acid (ch-OSA®) OSAples formulas feature ch-OSA, a patented, stabilized, readily absorbed, bioactive form of silicon called orthosilicic acid. Decades of research suggest that there is a strong, positive association between dietary silicon and bone mineral density (BMD).^[1] The mechanisms of action appear to be silicon's support of collagen synthesis and stabilization, extracellular matrix mineralization, and connective tissue integrity.^[2,3] In cell-line studies, orthosilicic acid has been found to stimulate type I collagen synthesis.^[4] Type I collagen is a dense, heavily cross-linked protein that creates an extremely high tensile strength^[5] and contributes to bone strength and flexibility. These strong collagen strands are believed to create core-post "binding sites" for calcium and other bone minerals.^[6-8] A 12-month, randomized, double-blind, placebo-controlled (RDBPC) trial suggested that supplementing with ch-OSA conferred an additional benefit to a calcium/vitamin D regimen by improving bone formation markers and femoral neck T-scores.*^[9]

Vitamin D3 Cholecalciferol (vitamin D3) is the form of vitamin D that is endogenously synthesized in skin during exposure to sunlight. Unfortunately, several factors can limit this production including smog, sunblock, and geographic location. For many individuals, exogenous supplementation may be beneficial. Vitamin D plays a role in bone metabolism, BMD, and calcium/phosphorus status; researchers suggest that vitamin D supplementation may decrease bone turnover and increase BMD.^[10] Several randomized placebo-controlled trials with vitamin D and calcium showed significant improvement in maintenance of bone integrity.^[10] One randomized, population-based, three-year trial indicated that supplementation with vitamin D (800 IU/d) and calcium (1000 mg/d) had a positive and statistically significant impact on total body bone integrity.^[11] A pooled analysis evaluating 11 RDBPC trials concluded that vitamin D supplementation (>800 IU daily) was favorable in maintaining hip and nonvertebral bone integrity in those aged 65 and older.^[12] The vitamin D3 in OSAples Vegan is from an edible lichen source and is vegan-suitable.*

- Vitamin/mineral supplement
- A factor in the maintenance of good health
- Helps in the development and maintenance of bones and teeth
- Calcium intake, when combined with sufficient vitamin D, a healthy diet, and regular exercise, may reduce the risk of osteoporosis
- Helps in the absorption and use of calcium and phosphorus
- Helps to prevent vitamin D deficiency

Calcium as Microcrystalline Hydroxyapatite Concentrate (MCHC) OSAples and OSAples MK-7 contain Ossopan MCHC, a premium, standardized bone extract from New Zealand bovine. This hydroxyapatite matrix comprises calcium, phosphorus, magnesium, bioactive growth factors, type I collagen, amino acids, glycosaminoglycans, and a broad range of essential trace elements. Hydroxyapatite is essentially a mineralized matrix that promotes resistance to compression and can be compared to reinforced concrete.^[5] Decades of scientific studies suggest that Ossopan supplementation fundamentally supports BMD and bone health.^[13-16] A meta-analysis of six controlled studies suggested that hydroxyapatite was significantly more effective than calcium carbonate in supporting bone structure and BMD.*^[17]

Menaquinone-7 (MK-7) OSAples MK-7 contains MK-7, a bioactive, bioavailable form of vitamin K.^[18] Vitamin K plays an active role in bone metabolism, calcium utilization, and activation of osteocalcin (the protein needed to bind calcium to the mineral matrix in bone). Vitamin K supports bone integrity by moderating the synthesis of prostaglandin E2 and interleukin-6 by osteoclasts.^[19,20] A three-year study utilizing 180 µg/d of MK-7 concluded that MK-7 significantly improved vitamin K status, supported bone mineral content and BMD, and favorably supported bone strength and integrity in healthy postmenopausal women.*^[21]

Olive Leaf Extract Bonolive®, found in OSAples Vegan, is a pharmaceutical-grade olive leaf extract that features a unique polyphenol complex. Stem cell research suggested that olive polyphenols are associated with increased osteoblast differentiation, increased extracellular matrix mineralization, and bone maintenance.^[22] Research on cultured cells and animals suggested that olive polyphenols exert protective effects on the formation and maintenance of bone.^[23] A randomized, double-blind, placebo-controlled clinical study provided strong support for Bonolive supplementation. Results revealed that 250 mg/d of Bonolive, along with routine calcium supplementation, promoted a statistically significant improvement (32% increase) in levels of the bone formation marker osteocalcin over a 12-month period. Furthermore, DEXA scan results suggested that Bonolive supplementation positively supported BMD at the lumbar spine and the femur neck compared to placebo.*^[24]

OSApIex MK-7™

Medicinal Ingredients (each packet contains)

	(2) Ossopan 1100™ (1) ch-OSA® Capsule with vitamins D3 and K2 Capsules contain	contains
Vitamin D3 (cholecalciferol)	1000 IU	
Vitamin K2 (menaquinone-7)(VitaMK7™)	45 mcg	
Calcium (durapatite)	550 mg	
Phosphorus (durapatite)	198 mg	
Silicon (choline-stabilized orthosilicic acid†)		3 mg

Non-Medicinal Ingredients for Ossopan 1100 with vitamins D3 and K2 capsule:

HPMC (capsule), vegetable stearic acid, vegetable magnesium stearate, medium-chain triglycerides, and silica.

Non-Medicinal Ingredients for ch-OSA capsule:

Microcrystalline cellulose, HPMC (capsule), and purified water.

†Choline-stabilized orthosilicic acid (ch-OSA) is a registered trademark of and manufactured by Bio Minerals n.v., Belgium. Produced under US patents 5,922,360; 7,968,528; and 8,771,757.

VitaMK7 is a trademark of Gnosis S.p.A.

Recommended Dose

Adults: Take 1 packet daily with food or as directed by your healthcare practitioner. Take a few hours before or after taking other medications or natural health products.

Consult a healthcare practitioner prior to use if you are taking blood thinners.

Storage: Keep tightly closed in a cool, dry place out of reach of children.

Do not use if tamper seal is damaged.

Does Not Contain: Wheat, gluten, yeast, soy protein, dairy products, fish, shellfish, peanuts, tree nuts, egg, ingredients derived from genetically modified organisms (GMOs), artificial colors, artificial sweeteners, or artificial preservatives.

References

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Additional references available upon request