

# OSAples™ Formulas

Supports Overall Bone Health and Strength\*



OSAples™ and OSAples MK-7™ are 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).<sup>[1]</sup> The mechanisms of action appear to be silicon's support of collagen synthesis and stabilization, extracellular matrix mineralization, and connective tissue integrity.<sup>[2,3]</sup> In cell-line studies, orthosilicic acid has been found to stimulate type I collagen synthesis.<sup>[4]</sup> Type I collagen is a dense, heavily cross-linked protein that creates an extremely high tensile strength<sup>[5]</sup> 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.<sup>[6-8]</sup> 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.\*<sup>[9]</sup>

**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.<sup>[10]</sup> Several randomized placebo-controlled trials with vitamin D and calcium showed significant improvement in maintenance of bone integrity.<sup>[10]</sup> 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.<sup>[11]</sup> A pooled analysis

## Clinical Applications

- » Provide a Multifaceted Approach to Bone Maintenance and Strength\*
- » Provide Foundational Support with Choline-Stabilized Orthosilicic Acid (ch-OSA®)\*
- » Support Bone Collagen Formation, Bone Mineral Density, and Bone Calcium Binding Sites\*
- » Provide a Complementary Combination of Micronutrients\*

*OSAples™ formulas offer a variety of micronutrient profiles, allowing for individualized nutrition support of bone health and maintenance. The foundation of each of these distinctive formulas is choline-stabilized orthosilicic acid (ch-OSA®), a source of the mineral silicon. Silicon has been researched for its role in collagen synthesis and bone mineral density (BMD). By adding other bone-specific nutrients to the ch-OSA foundation, each OSAples formula is tailored to meet individual needs.\**

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.\*<sup>[12]</sup>

**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.<sup>[5]</sup> Decades of scientific studies suggest that Ossopan supplementation fundamentally supports BMD and bone health.<sup>[13-16]</sup> A meta-analysis of six controlled studies suggested that hydroxyapatite was significantly more effective than calcium carbonate in supporting bone structure and BMD.\*<sup>[17]</sup>

**Menaquinone-7 (MK-7)** OSAples MK-7 contains MK-7, a bioactive, bioavailable form of vitamin K.<sup>[18]</sup> 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.<sup>[19,20]</sup> 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.\*<sup>[21]</sup>

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\*These statements have not been evaluated by the Food and Drug Administration. This product is not intended to diagnose, treat, cure, or prevent any disease.

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**OSAplex™ Supplement Facts**

Serving Size: 1 Packet

	(2) Ossopan 1100™ with vitamin D3 Capsules		(1) ch-OSA® Capsule	
	Amount Per Serving	%DV	Amount Per Serving	%DV
Vitamin D3 (cholecalciferol)	2000 IU	500%		
Calcium (as MCHC <sup>†</sup> )	550 mg	55%		
Phosphorus (as MCHC <sup>†</sup> )	198 mg	20%		
MCHC <sup>†</sup>	2.2 g	**		
Microcrystalline Hydroxyapatite (as MCHC <sup>†</sup> )	1.32 g	**		
Choline (as choline-stabilized orthosilicic acid <sup>‡</sup> )			60 mg	**
Silicon (as choline-stabilized orthosilicic acid <sup>‡</sup> )			3 mg	**

\*\* Daily Value (DV) not established.

**Other Ingredients for Ossopan 1100 with vitamin D3:** HPMC (capsule), vegetable stearic acid, vegetable magnesium stearate, medium-chain triglyceride oil, and silica.

**Other Ingredients for ch-OSA:** Microcrystalline cellulose, HPMC (capsule), and purified water.

<sup>†</sup>Microcrystalline Hydroxyapatite Concentrate

<sup>‡</sup>Choline-stabilized orthosilicic acid (ch-OSA®) is a registered trademark of and manufactured by Bio Minerals n.v., Belgium.

**DIRECTIONS:** Consume the contents of one packet with a meal, one to two times daily, or as directed by your healthcare practitioner.

Consult your healthcare practitioner prior to use. Individuals taking medication should discuss potential interactions with their healthcare practitioner. Do not use if tamper seal is damaged. The labeling on this product does not comply with California's Proposition 65. Therefore, this product may not be sold in California.

**DOES NOT CONTAIN:** Wheat, gluten, yeast, soy, dairy products, fish, shellfish, peanuts, tree nuts, egg, ingredients derived from genetically modified organisms (GMOs), artificial colors, artificial sweeteners, or artificial preservatives.

**STORAGE:** Keep closed in a cool, dry place out of reach of children.



**OSAplex MK-7™ Supplement Facts**

Serving Size: 1 Packet

	Ossopan 1100™ with vitamins D3 and K2 Capsules		ch-OSA® Capsule	
	Amount Per Serving	%DV	Amount Per Serving	%DV
Vitamin D3 (cholecalciferol)	1000 IU	250%		
Vitamin K2 (as menaquinone-7)(VitaMK7™)	45 mcg	56%		
Calcium (as MCHC <sup>†</sup> )	550 mg	55%		
Phosphorus (as MCHC <sup>†</sup> )	198 mg	20%		
MCHC <sup>†</sup>	2.2 g	**		
Microcrystalline Hydroxyapatite (as MCHC <sup>†</sup> )	1.32 g	**		
Choline (as choline-stabilized orthosilicic acid <sup>‡</sup> )			60 mg	**
Silicon (as choline-stabilized orthosilicic acid <sup>‡</sup> )			3 mg	**

\*\* Daily Value (DV) not established.

**Other Ingredients for Ossopan 1100 with vitamins D3 and K2 capsule:** HPMC (capsule), vegetable stearic acid, vegetable magnesium stearate, medium-chain triglycerides, and silica.

**Other Ingredients for ch-OSA capsule:** Microcrystalline cellulose, HPMC (capsule), and purified water.

<sup>†</sup>Choline-stabilized orthosilicic acid (ch-OSA) is a registered trademark of and manufactured by Bio Minerals n.v., Belgium.

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

<sup>‡</sup>Microcrystalline Hydroxyapatite Concentrate

**DIRECTIONS:** Consume the contents of one packet with a meal, one to two times daily, or as directed by your healthcare practitioner.

Consult your healthcare practitioner prior to use. Individuals taking medication should discuss potential interactions with their healthcare practitioner. Consider total vitamin K intake (food + supplements) if you are taking blood-thinning medication. Present studies show that 45 mcg of MK-7 from VitaMK7™ daily is not likely to interfere with blood-thinning medicines. Do not use if tamper seal is damaged. The labeling on this product does not comply with California's Proposition 65. Therefore, this product may not be sold in California.

**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.

**STORAGE:** Keep closed in a cool, dry place out of reach of children.



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Additional references available upon request

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All XYMOGEN® Formulas Meet or Exceed cGMP Quality Standards.

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