



## Vitamin D3-K2 Emulsion

Serving Size 5 drops (.25 ml)  
Servings Per Container 120

Amount Per Serving

Vitamin D <sub>3</sub> (cholecalciferol)	2,000 IU
Vitamin K <sub>2</sub> (menaquinone-7)	5 mcg

**OTHER INGREDIENTS:** Purified water, olive oil, d-alpha tocopheryl acetate, stevia, xanthan gum, natural flavors, citric acid, potassium sorbate, and sodium hexametaphosphate. Contains soy (from vitamin K<sub>2</sub>).

**SUGGESTED USE:** As a dietary supplement, take 1 serving one time per day or as directed by your healthcare professional.

# VITAMIN D3-K2 EMULSION

PROVIDES LIQUID VITAMIN D<sub>3</sub> AND VITAMIN K<sub>2</sub> IN A WELL-ABSORBED, BERRY-FLAVORED EMULSION

- Supports bone health and proper calcium metabolism\*
- Provides immune and anti-inflammatory support\*
- Provides cardiovascular support\*
- Emulsified for increased absorption and bioavailability\*

**CONTRAINDICATIONS:** Vitamin D is contraindicated in those with hypercalcemia and in those with evidence of vitamin D toxicity.

**PRECAUTIONS:** Pregnant women and nursing mothers should use caution with vitamin D supplemental intakes greater than U.S. RDA amounts of the vitamin unless higher amounts are prescribed by their physicians. The current U.S. RDA for vitamin D is 400 IU or 10 mcg daily.

**INTERACTIONS:** Supplemental levels of vitamin D above the U.S. RDA should be used with caution in those on digoxin or any cardiac glycoside. Hypercalcemia in those on digoxin may precipitate cardiac arrhythmias. Use of thiazide and pharmacologic doses of vitamin D may cause hypercalcemia in some.

**TOXICITY:** Dosage of vitamin D up to 60 mcg (2,400 IU)/day in healthy individuals rarely causes adverse reactions. Chronic doses of 95 mcg (3,800 IU)/day or greater in healthy individuals may cause hypercalcemia.

**SYMPTOMS OF HYPERCALCEMIA INCLUDE:** Nausea, vomiting, weakness, headache, somnolence, dry mouth, constipation, metallic taste, muscle pain, and bone pain. Late symptoms include polyuria, polydipsia, anorexia, weight loss, nocturia, conjunctivitis, pancreatitis, photophobia, rhinorrhea, pruritus, hyperthermia, decreased libido, elevated BUN, albuminuria, hypercholesterolemia, elevated ALT (SGPT), and AST (SGOT), ectopic calcification, nephrocalcinosis, hypertension, and cardiac arrhythmias.

**VITAMIN D<sub>3</sub>-K<sub>2</sub> EMULSION** is designed to support individuals whose diets and lifestyles may not provide adequate amounts of vitamins D<sub>3</sub> and K<sub>2</sub>. Cholecalciferol, also known as vitamin D<sub>3</sub>, is produced when the skin is exposed to sunlight. Vitamin D is essential for bone health, anti-inflammatory support, cardiovascular health, and immune system support. Vitamin K<sub>2</sub> further supports bone health due to its role in proper calcium metabolism. Unfortunately, many individuals produce insufficient vitamin D due to limited sun exposure and liberal use of sun protective factors (SPF) in sun screen lotions. Patients facing severe vitamin D deficiency may be disheartened by the need to take multiple capsules in order to reestablish optimum vitamin D status. Vitamin D<sub>3</sub>-K<sub>2</sub> Emulsion provides healthy doses of vitamins D<sub>3</sub> and K<sub>2</sub> in a tasty, emulsified liquid that is both convenient and well-absorbed.\*

**EMULSIFICATION** is the process of dispersing one liquid in a second immiscible liquid, such as oil in water. Emulsification of dietary fat is a naturally occurring process in the intestinal tract as part of the digestion and absorption process. Since vitamins D and K are both fat-soluble vitamins, they are best absorbed when consumed with a fat source to facilitate their emulsification and uptake.\*

**VITAMIN D (CHOLECALCIFEROL)**, according to various studies, has been linked to joint disorders and decreased bone density when serum levels are low. In addition, risk for disorder progression increases substantially with both low vitamin D intake and decreased serum levels.\*

Studies also reveal that vitamin D provides immune and anti-inflammatory support. One researcher described vitamin D as a flexible bidirectional immunomodulator. The cytokines interleukin 1 (IL-1) and interleukin 2 (IL-2) appear favorably regulated under the influence of vitamin D.\*

\*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.

# VITAMIN D3-K2 EMULSION

## REFERENCES:

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Also, epidemiological data indicates that low vitamin D status is associated with vascular disorders. Clinical studies have demonstrated an inverse relationship between circulating vitamin D levels and plasma rennin activity. It should also be noted that vitamin D has been shown to inhibit lipid peroxidation.\*

**VITAMIN K2 (MENAQUINONE-7)** supports bone health with its essential role in modulation of aberrant calcium metabolism. A major role of vitamin D is to support calcium absorption and utilization. However, if serum calcium becomes too elevated, abnormal deposition of calcium in arteries and heart valves may result. Arterial calcification is a major risk factor for both cardiovascular disease and osteoporosis. Vitamin K2 has a unique role as a dependent cofactor for carboxylation of the human matrix GLA protein (MGP), a major inhibitor of arterial calcification. Vitamin K2 as menaquinone-7 has been shown effective for maintaining calcium balance by helping keep calcium in the bones and out of the vascular media. Among Japanese populations with high dietary intakes of vitamin K2, reduced incidences of bone fractures and bone density issues have been observed. It is important to note that the clinical benefits on bone density and arterial health were seen in the presence of vitamin K2 in the menaquinone-7 form and were not observed to be significant with other forms of vitamin K2 or with K1.\*