GENESTRA BRANDS®

D-Mulsion 1000

Emulsified vitamin D for enhanced bioavailability

- Helps to build strong bones and teeth
- Supports immune system function
- Offers 25 mcg (1,000 IU) of vitamin D per convenient, once-daily drop
- Easy-to-use – drop directly into the mouth or mix in drinks
- Great-tasting natural lemon, spearmint or berry flavours

D-Mulsion 1000 provides 25 mcg (1,000 IU) of vitamin D_3 (cholecalciferol) per drop in an emulsified formula for improved bioavailability.[1] The vitamin D receptor is present in nearly all human cells, demonstrating the important role of vitamin D in supporting good health.[2] While it is best recognized for its ability to promote peak bone mass and maintain bone health in the elderly, vitamin D also contributes to healthy immune system function.[3] Despite its importance to many physiological functions, many Canadians have inadequate levels of vitamin D.[4] This may result from insufficient sun exposure, wearing covering clothes, limited consumption of vitamin D-containing foods, dark skin colour, older age, or low intake of vitamin D supplements.[5] With just one convenient drop daily, this formula helps prevent vitamin D deficiency and supports optimal bone and immune health. Available in three great-tasting flavours, D-Mulsion 1000 can be taken orally dropped on a finger or spoon, directly into the mouth, or mixed in drinks, and is ideal for those age 1 year and older who have difficulty or dislike swallowing capsules.

EACH DROP (berry – 0.036 mL, lemon – 0.027 mL, spearmint – 0.0225 mL) CONTAINS:

Vitamin D_3 (cholecalciferol). . . . . 25 mcg / 1000 IU

Berry Non-Medicinal Ingredients: Purified water, acacia gum, glycerin, natural blueberry flavour, medium-chain triglycerides, natural pomegranate flavour, citric acid, xanthan gum, potassium sorbate, organic stevia leaf extract, rosemary leaf extract, mixed tocopherols concentrate
Lemon Non-Medicinal Ingredients: Purified water, potato maltodextrin, modified tapioca starch, extra virgin olive oil, lemon oil, citric acid, potassium sorbate, rosemary leaf extract, mixed tocopherols concentrate, organic stevia leaf extract
Spearmint Non-Medicinal Ingredients: Purified water, cellulose, natural spearmint flavour, xanthan gum, extra virgin olive oil, organic stevia leaf extract, potassium sorbate, citric acid

Recommended Dose

Adults, Adolescents and Children (1 year and older): Take 1 drop daily or as recommended by your healthcare practitioner.

Size	Product Code	NPN
Berry – 30 mL Liquid	01175	80008885
Lemon – 30 mL Liquid	01154	80008885
Spearmint – 30 mL Liquid	01159	80029598

Non GMO · Gluten Free · Dairy Free · Vegetarian

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D-Mulsion 1000

Scientific Rationale:

Once known as a fat-soluble vitamin, vitamin D is now classified as a prohormone.[1] Primarily recognized for its beneficial effects on bone health, vitamin D mediates important biological pathways in more than 50 tissues.[2] It plays a critical role in gene transcription and exerts many of its effects through the vitamin D receptor (VDR), which is present in nearly all human cells, including those in the bone, immune system, vascular smooth muscle, brain, colon, prostate and breast.[3] After vitamin D binds to the VDR, a gene's activity can be up- or down-regulated.[3] It is estimated that vitamin D directly or indirectly regulates approximately 2,000 genes.[3]

As one of the major nutrients involved in bone health, vitamin D plays an essential role in building strong bones.[3] It helps in the absorption of calcium, a primary structural component of the skeleton, and regulates the differentiation of cells present in bone.[3,4] Vitamin D also helps to achieve peak bone mass, which occurs between the ages of 18 and 23 and has a major impact on bone health in later life.[5]

Furthermore, vitamin D has been shown to support bone health in the elderly, a life stage associated with a greater level of bone resorption than bone formation.[6,7] In a randomized, double-blind trial involving elderly women, daily supplementation with 400 IU of vitamin D for two years significantly increased bone mineral density at the femoral neck.[6] Maintaining bone health in elderly women is especially important as the rate of bone loss increases at a greater level after menopause, resulting from decreased estrogen production.[3,7] Similarly, a meta-analysis concluded that supplementation with 700-800 IU of vitamin D (alone or with calcium) supported bone strength in older adults.[8]

Additionally, vitamin D is closely related to the immune system. Most immune cells express the VDR, and vitamin D levels vary depending on the season in a pattern that resembles the seasonal variation in immune system health.[9,10] Research has reported that vitamin D benefits both the innate and adaptive immune systems (the first line of defence against foreign organisms and a more specified immune response involving T and B cells, respectively).[11] Preclinical research suggests that vitamin D supports the innate immune response by directly increasing the phagocytic activity of macrophages, as well as promoting the production of antimicrobial peptides in a variety of cells, including macrophages and neutrophils.[11,12] By regulating T cell activation, B cell function, cytokine balance and dendritic cell activity, vitamin D also exerts an important role in maintaining healthy adaptive immune responses.[11] In a recent controlled clinical trial involving children, daily supplementation with 1,000 IU of vitamin D for three months significantly increased plasma vitamin D levels and modulated the production of cytokines, including IL-2, IL-4, IL-6, and IFN-γ.[13]

Despite the importance of vitamin D in the human body, inadequate intakes are common worldwide.[14] Analysis of the 2012-2013 Canadian Health Measures Survey (CHMS) data revealed that 35% of Canadians had insufficient levels of vitamin D.[15] Individuals may be at an increased risk of vitamin D insufficiency due to inadequate sun exposure (related to latitude, sunscreen use or covered clothing), limited consumption of vitamin D-containing foods, low intake of vitamin D supplements, dark skin colour, or old age.[14]

D-Mulsion 1000 provides a concentrated dose of vitamin D_3 in a great-tasting and easy-to-take format ideal for anyone age 1 year and older. In just one convenient drop daily, this formula helps to prevent vitamin D deficiency and support bone and immune health. It offers an emulsified form of vitamin D, which has been clinically shown to significantly increase vitamin D levels to a greater level than a tablet form.[16]

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