



vitamin
D3V[®]

Vegan & Vegetarian

Vitamin D3 Ingredients



VITAMIN D3V® is Cholecalciferol of 100% plant origin, produced from Algae, and is available in a selection of formats and strengths, perfect for use across a wide range of applications including Foods, Drinks and Nutraceuticals.

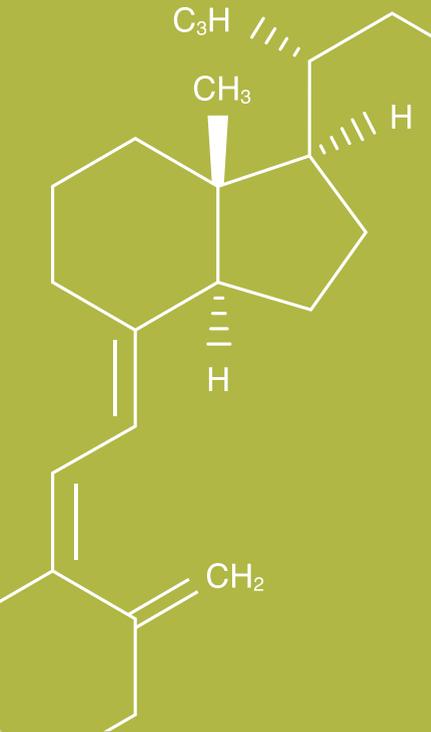
ORIGIN

Vitamin D3V® is Cholecalciferol of 100% plant origin, produced from Algae.

Conventional Vitamin D3 is obtained from animal-origins including lanolin (sheep woolgrease) or animal skins. Vitamin D3V® is chemically identical to animal-origin Vitamin D3. As well as being natural rather than animal-origin, it also overcomes concerns about quality and purity. Our process ensures zero residual pesticides or other contaminants.

*“Conventional Vitamin D3 is obtained from animal-origins
Vitamin D3V® is 100% plant-source yet chemically-identical.
It is of the highest quality and purity.”*

As well as being suitable for Vegans and Vegetarians, Vitamin D3V® offers a 100% sustainable and traceable end-to-end supply chain process with complete control on quality and purity. Unlike Sheep’s Wool, our process uses zero pesticides and therefore the chance of residual pesticides is non-existent in Vitamin D3V®.



INGREDIENTS

Vitamin D3V® 1miu/g Oil	Cholecalciferol, Fractionated Coconut Oil (MCT)
Vitamin D3V® 100,000iu/g Powder	Microencapsulated powder

SUPERIOR TO VITAMIN D2

Traditionally, Vitamin D2 was the only non-animal source of Vitamin D and therefore the only source suitable for a range of demographics including individuals with a Vegan or Vegetarian diet.

Vitamin D2 (Ergocalciferol) has been widely reported to be an inadequate dietary source of Vitamin D.

A 2011 study published in the Clinical Journal of Endocrinology Metabolism compared Vitamin D2 to Vitamin D3 and concluded that **“D3 is approximately 87% more potent in raising and maintaining serum 25(OH)**

D concentrations and produces 2- to 3-fold greater storage of Vitamin D than does equimolar D2.”

“D3 is approximately 87% more potent than D2”

a per mole basis, at increasing 25(OH)D”, that **“Vitamin D2 should no longer be regarded as a nutrient appropriate for supplementation or fortification of foods.”**

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A 2006 article published in the American Journal of Clinical Nutrition compared Vitamin D2 to Vitamin D3 and made a stark conclusion that due to “the inefficiency of Vitamin D2 compared with Vitamin D3, on



WHAT IS VITAMIN D3?

- ✓ Vitamin D3 is a fat Soluble vitamin, discovered over 100 years ago.
- ✓ Vitamin D is essential for good health and has been associated with many health benefits.
- ✓ Vitamin D is absorbed from the diet or can be produced in the skin as vitamin D3 when exposed to sufficient sunlight.

USES & APPLICATIONS

Vitamin D3V® is available in oil and Microencapsulated powder formats.
This makes it perfect for:

- ✓ Vitamin tablets and capsules
- ✓ Liquid supplements including sprays & droppers
- ✓ Infant formula
- ✓ Children's fortified confectionery
- ✓ Fortified foods & drinks

CERTIFICATION & ACCREDITATION

Vitamin D3V® is registered and certified by a variety of different bodies and organisations:



The Vegan Society



Indian Vegetarian Mark



Kosher



Suitable for use in Europe

GROUPS AT RISK OF VITAMIN D DEFICIENCY

Infants that are breast-fed without supplementation with baby formula are at high risk of vitamin D deficiency, because human milk is a poor source of Vitamin D.

Premature, low birth-weight infants

may be prone to Vitamin D deficiency through their lives as liver and kidney function for Vitamin D metabolism may be inadequate

Elderly people have a reduced ability to produce Vitamin D in the skin by UVB exposure.

Vegans & Vegetarians have limited meaningful dietary sources of Vitamin D3, and supplementation is highly recommended.

People with diseases that affect the thyroid gland, kidneys or liver are at greater risk of deficiency.

Housebound individuals are at great risk of Vitamin D deficiency.

Dark-skinned people produce less Vitamin D3 in the skin by UVB exposure, as the darker melanin provides a natural UV filter.

Individuals located at latitudes of 40 degrees north or south are exposed to insufficient levels of UVB sunlight to produce adequate levels of Vitamin D, especially during the winter months.

Individuals that cover-up for religious or climatic regions are at risk, as clothing restricts the skin's ability to produce adequate levels of Vitamin D through UVB exposure. This is one reason populations in hot and sunny countries such as India are prone to Vitamin D deficiency.

Individuals regularly applying high SPF sunblocks may be at risk of Vitamin D deficiency. Sun protection is of course of absolute paramount importance in sunny, high UV regions, however regular/consistent use of sunblock has been linked to Vitamin D deficiency by restricting the skin's ability to produce adequate levels of Vitamin D through UVB exposure.



ABSORPTION AND BODY STORES

Vitamin D3 absorption takes place in the upper region of the small intestine, aided by bile salts. It is incorporated into the chylomicron fraction and absorbed through the lymphatic system. Vitamin D is stored by the body in adipose tissue and must be metabolised to become active.

VITAMIN D DEFICIENCY: A GLOBAL CRISIS

Vitamin D deficiency affects a vast proportion of the population, and is increasing at a worrying rate.

Vitamin D is essential for strong bones and among the first symptoms of minor Vitamin D deficiency are reduced serum calcium levels and an increase in parathyroid hormone (PTH) production. Serum alkaline phosphatase is also elevated with Vitamin D deficiency. The result can be muscle weakness as well as an increased risk of infection through to bone brittleness. A lesser known impact of Vitamin D deficiency is potential hearing loss.

Among the more severe results of Vitamin D deficiency are rickets in children and osteomalacia in adults. Both are characterised by loss of mineral from the bones and result in skeletal deformities such as bowed legs, retarded growth and inadequate mineralisation of tooth enamel and dentin. The link between Vitamin D deficiency and the onset of Osteoporosis in the elderly has been widely studied.



RECOMMENDED DAILY ALLOWANCE

The official RDAs for Vitamin D differ regionally, as does specific age-related advice from local Government / Regulatory bodies.

For adults, the general recommended daily intake ranges from 2.5µg (100iu) to 10 µg (400iu) regionally, however there is significant variation in 'at risk' groups. For example, many vegans and vegetarians are advised to take 25µg (1000iu) or higher. Individuals with acute Vitamin D deficiency are often placed on an initial course of much higher levels, even in excess of 125µg (500iu).

For babies from birth to one year, current recommendations are typically 8.5-10µg (300-400iu). Children from one year old are advised to take 5-10µg (200-400iu).

Vitamin D supplementation is vital during pregnancy and widely recommended for adults in later life.

The average figures above are taken from current European, USA and local Governmental (UK) advisory levels correct to 2017. Please consult the latest guidelines in your region for up to date advice on RDAs. All individuals should consult their Doctor or Health Practitioner before taking any supplements.



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