

Lalmin[®] Vita D

*Vitamin D yeast, the benefits
of sunlight every day on your plate*



YEAST
A NATURAL
SOLUTION



Lalmin® Vita D for food fortification

The EU Regulation (EU) 2022/196, authorizing the use of Lallemand’s Lalmin® vitamin D yeast in 22 consolidated, new food categories, has been published, on February 11, 2022.

In May 2020, Lallemand submitted a novel food dossier to extend the range of food products in which Lalmin® vitamin D yeast is allowed. Previously it was permitted in baked products and food supplements. In April 2021, the company obtained a favourable opinion from the European Food Safety Authority (EFSA) for the use of vitamin D yeast in these additional categories, including fermented milk or cream products and meat or dairy analogues.

A detailed food intake assessment including all food categories and intended population groups was provided by Lallemand. In its recently published regulation, the EU has acknowledged that the use of vitamin D yeast in this wide range of food categories is safe for all intended populations.

The 22 new categories include:

FOOD CATEGORY	Max. Vit. D2	Max Lalmin® Vita D dosage
	(µg/100g food)	(mg) in 100 gr of food
Dishes, incl. Ready to eat meals (excluding soups and salads)	3.0	15.00
Soups and salads	5.0	25.00
Fried or extruded cereal, seed or root-based products	5.0	25.00
Infant formula and follow-on formula as defined by Regulation (EU) No 609/2013	In accordance with Regulation (EU) No 609/2013	
Processed cereal-based food as defined by Regulation (EU) No 609/2013	In accordance with Regulation (EU) No 609/2013	
Processed fruit products	1.5	7.50
Processed vegetables	2.0	10.00
Bread and similar products	5.0	25.00
Breakfast cereals	4.0	20.00
Pasta, doughs and similar products	5.0	25.00
Other cereal based products	3.0	15.00
Spices, seasonings, condiments, sauce ingredients, dessert sauces/toppings	10.0	50.00
Protein product	10.0	50.00
Cheese	2.0	10.00
Dairy dessert and similar products	2.0	10.00
Fermented milk or fermented cream	1.5	7.50
Dairy powders and concentrates	2.5 (after reconstitution)	12.50 (after reconstitution)
Milk based products, whey and cream	0.5	2.50
Meat and dairy analogues	2.5	12.50
Total diet replacement for weight control as defined by Regulation (EU) No 609/2013	5.0	25.00
Meal replacements for weight control	5.0	25.00
Foods for special medical purposes as defined in Regulation (EU) No 609/2013	In accordance with the particular nutritional requirements of the persons for whom the products are intended	

ABOUT VITAMIN D

Vitamin D refers to a group of fat-soluble vitamins, mainly two forms called vitamin D2 (ergocalciferol) and vitamin D3 (cholecalciferol). Vitamin D3 is produced when skin is exposed to sunlight, which is why it is also known as the «sunshine vitamin». Supplemental vitamin D is often found in the form of synthetic vitamin D3, which is made from sheep's wool subjected to several solvent extractions and chemical processing steps before being crystallized and irradiated. Vitamin D2 is a natural form of vitamin D produced in some plants and in yeast simply upon exposure to UV light. Dietary sources would include animal sources, such as fatty fish, beef liver, cheese and eggs.

In the body, both vitamin D2 and D3 are converted to 25-hydroxyvitamin D or 25(OH)D also known as «calcifediol». It is the 25(OH)D which is measured by doctors when taking blood samples to determine a patient's vitamin D status. A healthy vitamin D status is critical for optimal health. Vitamin D plays an essential role in the regulation of calcium and phosphorus metabolism for bone health. Vitamin D receptors (VDR) can be found on tissues of intestine, bone, kidney, and parathyroid glands, where it regulates these minerals. VDR can also be found on non-calcium-regulating cell types including fibroblasts and keratinocytes of skin, immune cells, some cardiovascular cell types, and in cellular components of other tissues. This observation has made it clear that vitamin D activity in many cellular targets is unrelated to calcium and phosphorus regulation, suggesting that it has additional hormone-type functions.

VITAMIN D DEFICIENCY

Vitamin D deficiency has become a major public health problem at a global level. It is associated with cardiovascular disease, hypertension, stroke, diabetes, multiple sclerosis, rheumatoid arthritis, inflammatory bowel disease, osteoporosis, periodontal disease, macular degeneration, asthma, mental illness, propensity to fall, and chronic pain. Deficiency, therefore, has serious and wide-ranging implications. For over 20 years, studies have been reporting on vitamin D deficiency among various demographics, worldwide. The table below indicates several major reasons for deficiency.

INFLUENCING FACTORS	MECHANISM
Lack of sun exposure	Avoiding sun exposition via behavior/clothing
Latitude of residence	Reduced skin synthesis of vitamin D, subject to seasonality
Sunscreen	Increased use of high SPF sunscreens may prevent synthesis of vitamin D in the skin
Skin pigmentation	Melanin is a very efficient blocker of UVB light
Statins	Cholesterol is required by the body to make vitamin D
Urbanization	More time indoors and in automobiles limits sun exposure
Aging	Vitamin D production in our skin decreases significantly as we get older, and the increased rate of institutionalization can lead to reduced exposure to sunlight
Dietary deficiency	Limited access to vitamin D rich foods (allergy, dietary restriction or preference)

LALLEMAND VITAMIN D YEAST

Lallemand offers Lalmin® Vita D in powder form, suitable for food fortification, tablets and capsules. Its content of vitamin D2 is $\geq 200 \mu\text{g/g}$.

Food fortification with Lalmin® Vita D is a reliable way to ensure adequate intake of vitamin D. It is a natural, vegan source of vitamin D2, with proven bioavailability. It is made simply by exposing active baker's yeast (*Saccharomyces cerevisiae*) to UVB light, then inactivating and drying it, resulting in a product containing elevated levels of vitamin D2. Then, it is standardized to contain at least $1 \mu\text{g}$ of vitamin D2 per 5 mg. All the other vitamins, minerals and micronutrients naturally found in yeast are also preserved.

Compared to other vitamin D sources, Lalmin Vita D is a natural, free-from animal origin, allergen-free ingredient. The stability and concentration of natural vitamin D make Lalmin Vita D a suitable source of vitamin D for different applications, from vegan drinks to breakfast cereals, to plant-based meals.



VITAMIN D HEALTH CLAIMS APPROVED IN EU

Claims

Vitamin D contributes to normal absorption/utilisation of calcium and phosphorus

Vitamin D contributes to normal blood calcium levels

Vitamin D contributes to the maintenance of normal bones

Vitamin D contributes to the maintenance of normal muscle function

Vitamin D contributes to the maintenance of normal teeth

Vitamin D contributes to the normal function of the immune system

Vitamin D has a role in the process of cell division

Vitamin D contributes to the normal function of the immune system in children.

Vitamin D is needed for normal growth and development of bone in children.

The claims may be used only for food which is at least **a source of** vitamin D as referred in the Annex to Regulation (EC) No 1924/2006.

A claim that a food is high in vitamins and/or minerals, and any claim likely to have the same meaning for the consumer, may only be made where the product contains at least twice the value of 'source of vitamin D'.

A claim that a food is a source of vitamin D, may only be made where the product contains at least a **significant amount** as defined in the Annex XIII to Regulation EC 1169/2011:

- ▶ Significant amount: 15 % of the nutrient reference values (NRV) supplied by 100 g **or** 15 % of the NRV per portion if the package contains only a single portion.

The Nutrient Reference Values (NRV) set in Regulation EC 1169/2011 for vitamin D is 5 µg.

- ▶ If one serving contains 0,75 µg of vitamin D, you can say it is a "source of" vitamin D.
- ▶ If a serving contains 1,5 µg of vitamin D, you can say it is "high in" vitamin D.



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For more information, or to receive a sample of **Lalmin® Vita D**, please contact your Lallemand sales representative or distributor, or e-mail info@bio-lallemand.com