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Ingredients

EARLY LIFE NUTRITION

Product data sheet

Vivinal® GOS Syrup Organic

Vivinal GOS Syrup Organic is a liquid galacto-oligosaccharide ingredient. Scientific studies have shown positive effects of oligosaccharides, among which galacto-oligosaccharides, on growth of bifidobacteria^{1,2}, stool consistency^{3,4}, bowel function and transit time^{5,6}, support of natural defences⁷⁻¹⁰ and absorption of calcium and iron¹¹⁻¹³.

Organic nutrition

Vivinal GOS Syrup Organic contributes to growing consumer awareness of infant health and of the importance of food security, animal welfare and environmental sustainability.

Product characteristics

Vivinal GOS Syrup Organic is an organic ingredient rich in non-digestible galacto-oligosaccharides (GOS), produced from high quality organic-certified lactose using a proprietary enzymatic production technology.

Application

Vivinal GOS is an ingredient that is used around the globe. Vivinal GOS Syrup Organic is an ideal addition to organic infant and follow-on formula and growing-up milk. Scientific studies have shown positive effects of oligosaccharides, among which GOS, on growth of bifidobacteria^{1,2}, stool consistency^{3,4}, bowel function and transit time^{5,6}, support of natural defences⁷⁻¹⁰ and mineral absorption¹¹⁻¹³.

The taste of Vivinal GOS Syrup Organic can be characterized as slightly sweet. Vivinal GOS Syrup Organic is heat and acid stable and has excellent solubility properties. These properties make application possible in a wide product range such as organic infant and follow-on formula and growing-up milk.

Packaging

Vivinal GOS Syrup Organic is packed in a 1,000 l PE container and contains 1,200 kg of product.

The handling of Vivinal GOS Syrup Organic is comparable to glucose syrup, meaning that viscosity is the most important parameter to take into account when emptying.

Shelf life and storage conditions

Vivinal GOS Syrup Organic is stable during long-term storage. Both the oligosaccharide content and the product characteristics making Vivinal GOS Syrup Organic unique remain unchanged (no degradation) for at least 18 months when stored under clean, dry and dark conditions and separated from strongly odorous materials.

Certification

Vivinal GOS Syrup Organic is produced in infant formula grade facilities and has been certified in accordance with EU, USDA NOP and China GB/T19630 organic standards.



Typical analysis*

Chemical

Dry matter (dm)	75%
Galacto-oligosaccharides	59% on dm
Nitrogen	max. 0.1% on dm
Sulphated ash	max. 0.5% on dm
Lactose	21% on dm
Glucose	19% on dm
Galactose	1% on dm
Nitrite	max. 2 ppm on dm
pH	3.6

Microbiological

Total plate count 30°C	max. 500 cfu/g
Enterobacteriaceae	absent in 1 g
E.coli	absent in 5 g
Yeasts	max. 15 cfu/g
Moulds	max. 15 cfu/g
Staphylococci coagulase-positive	absent in 1 g
Salmonella	absent in 125 g

Sensoric

Appearance	yellowish to light brown syrup
Taste	slightly sweet

Minerals

	(mg/100g)
Calcium	max. 53
Sodium	max. 8
Magnesium	max. 10
Potassium	max. 35
Phosphorus	max. 25
Chloride	max. 10

References

1. Ben XM, Li J, et al. World J Gastroenterol 2008;14(42):6564-6568.
2. Fanaro S, Marten B, et al. J Pediatr Gastroenterol Nutr 2009;48(1):82-88.
3. Williams T., Choe Y. et al. J. Pediatr Gastroenterol Nutr 2014;59(5):653-8.
4. Sierra C., Bernal MJ et al. Eur J Nutr 2015;54:89-99.
5. Costalos C, Kapiki A, et al. Early Hum Dev 2008;84(1):45-49.
6. Schmelze H, Wirth S, et al. J Pediatr Gastroenterol Nutr 2003;36(3):343-351.
7. Arslanoglu S, Moro GE, et al. J Nutr 2007;137(11):2420-2424.
8. Shoaf K, Mulvey GL, et al. Infect Immun 2006;74(12):6920-6928.
9. Bakker-Zierikzee AM, Tol EA, et al. Pediatr Allergy Immunol 2006;17(2):134-40.
10. Sinclair HR, de SJ, et al. J Agric Food Chem 2009;57(8):3113-3119.
11. Whisner C.M., Martin B.R. et al. Br J Nutr 2013;110(7):1292-1303.
12. Van den Heuvel E.G., Schoterman M.H.C. et al. J Nutr 2000;130(12):2938-2942.
13. Paganini, D. et al. Am. J. Clin. Nutr. 106, 1020-1031 (2017).

Nutritional

Energy (kcal/100g)**	240
Total fat (g/100g)	0
Saturated (g/100g)	0
Trans (g/100g)	0
Cholesterol (mg/100g)	0
Total carbohydrate (g/100g)	75.2
Galacto-oligosaccharides (g/100g)	44.3
Lactose (g/100g)	15.8
Glucose (g/100g)	14.3
Galactose (g/100g)	0.8
Fibre (g/100g)**	30.6
Total Protein (g/ 100g)	0

DP composition

(on weight percentage of oligosaccharide)

DP2 (other than lactose) (%)	31
DP3 (%)	38
DP4 (%)	18
DP5 (%)	8
DP6 and higher (%)	5
Total (%)	100

* Please refer to the specifications for guaranteed limits.

** According to EU legislation (EU/1169/2011).

There may be some variation in the nutritional composition. The preceding values are being supplied to aid in development work, but should not be used solely to determine nutrient labelling. Analysis of nutrients as they occur in final products may be required by the Code of Federal Regulations, Title 21; section 101.9.



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THE INSIDE MATTERS

Potential consumer benefits are not to be considered as health claims. They should be considered as potential leads that might be developed into health claims complying with the local legal requirements. The information contained herein is, to the best of our knowledge, correct. The data outlined and the statements are intended only as a source of information. No warranties, expressed or implied, are made. On the basis of this information it is suggested that you evaluate the product on a laboratory scale prior to use in a finished product. The information contained herein should not be construed as permission for violation of patent right.

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