eurofins

Infant Formula

Eurofins Vitamin Competence Centre

The Branch of Infant Formula and follow-on formula

The essential composition of infant formulas and follow on formulas must be consistent with healthy infant nutritional needs, as these are determined on the basis of generally accepted scientific data.

The Vitamin Competence Centre has its expertise in vitamin- and amino acid- analysis and is able to provide you with high quality services. The Vitamin Competence Centre is a team of high experienced laboratory technicians and expert chemists and we are always there to help our customers. The laboratory is accredited according to ISO 17025.

Offers from the Vitamin Competence Centre

The methods for analysing foods for fat-soluble vitamins consist of saponification and extraction with ether or hexane followed by HPLC analysis and detection by DAD or FLD. This concerns the following vitamins:

- A, E, E-profile are analysed in the same run
- Beta-carotene
- K1
- D2 and D3 (If D3 is to be analysed D2 are used as an internal standard and vice versa.)

The methods for analysing food and feed for water-soluble vitamins consists of:

- Enzymatic treatment followed by HPLC
  - B1 (thiamine), B2 (riboflavin) are analysed in the same run
  - B3 (niacin)
  - B6 (pyridoxine)
  - C (ascorbic acid)

- Microbiological analysis
  - B3 (niacin)
  - B5 (pantothenic acid)
  - B8 (biotin)
  - B9 (folate)
  - B12 (cyanocobalamin)

Vitamin B8, B9 and B12 can also be analysed using the Biacore-method. The principal of the biacore method is that the samples are mixed with a specific binding protein that forms a complex with the vitamin. Surplus of the binding protein binds to a chip and the instrument measures the amount of bounded protein on the chip. The content of vitamin in the sample is calculated on behalf of that measurement.

Offers from the Amino Acid Competence Centre

There are different methods for analysing amino acids. For determination of total amino acid content we use respectively acid- or oxidative hydrolysis. For determination of free amino acids we do not use hydrolysis. After pre-treatment of the samples (hydrolysis/no hydrolysis) it is analysed on a Biochrome Amino Acid Analyzer, which is an ionchromatography with post-column deri-

vitamins@eurofins.dk

vatization using ninhydrine and visible detection. Tryptophane is however an exception. Samples containing tryptophane is treated with an alkaline hydrolysis and followed by analysis on a rp-HPLC with flouroscence detection.

The amino acids that we offer is as follows:

The eight essential amino acids:

- Lysine, Isoleusine, Leucine, Methionine, Phenylalanine, Threonine, Tryptophane, Valine

The four amino acids which are especially essential for infants and children:

- Histidine, Tyrosine, Arginine, Cysteine/Cystine

The non-essential amino acids:

- Alanine, Asparagine, Glutamine, Glycine, Proline

Other important analysis within the infant formula branch

We do also analyse other parameters than vitamins and amino acids. The ones that can be of interest for the analysis of infant formulas and follow-on formulas is

Taurine

Taurine is analysed on one of our Biochrome Amino Acid Analyzer using oxidative hydrolysis as pre-treatment. It can also be analysed as free taurine using an extraction with HCl.

Facts

Our quality system is based on DS EN ISO IEC 17025. We use daily control including use of reference materials. We participate in proficiency tests being FAPAS, BIPEA, NIST, company specific trials etc. We are always open to customer visits and audits. We have up-to-date equipment and very good facilities and we use semi-automatic and separate production lines.

We provide high quality for you.

Choline/Choline chloride

Choline is analysed on our LC-MSMS using extraction and saponification as pre-treatment. It can also be analysed as free choline analyzing directly on the extracts after dilution. When reporting results as choline chloride a calculation factor of 1,34 is used (choline x 1,34 = choline chloride).

Myo inositol

Myo-inositol is determined as free myo-inositol using isotope dilution gas chromatography with mass spectrometric detector (GC-MS).

Carnitine

Carnitine is analysed on our LC-MSMS using extraction and saponification as pre-treatment. It can also be analysed as free carnitine analysing directly on the extracts after dilution.

Lutein and Zeaxanthin

Lutein and zeaxanthin is analysed on one of our HPLC systems using an enzymatic treatment and extraction as pre-treatment.

Consider using the Eurofins Vitamin and Amino Acid Competence Centre

The Eurofins Vitamin and Amino Acid Competence Centre are dedicated to analyse vitamins and amino acids. This narrow and highly specialized focus enables us to provide a "State of the art" service for our customers helping them to:

- Ensure a safe product
- Improve quality
- Reduce costs
- Enhance branding

Several reasons why you should use the Vitamin and Amino Acid Competence Centre are listed below.

We are number one in Europe

We have the greatest number of vitamin and amino acid analysis and they are all performed on one location in Europe. We have huge experience with pet food concerning pre-treatment methods, analytical methods and matrices. Furthermore we are serving some of the biggest pet food manufactures in the world and have done for years.

We have highly competitive pricing

Our prices are very much competitive and not upward. For specific offers we recommend you to contact your local Eurofins Laboratory.

We offer low Turn-Around Time

We can offer a low turn-around time and we can also negotiate customer specific turn-around times if needed, but it also depends on how many samples and parameters it concerns. For a specific turn-around time we recommend you to contact your local Eurofins Laboratory.

We provide high quality

Our quality system is based on DS EN ISO IEC 17025. We use daily control including use of reference materials. We participate in proficiency tests being FAPAS, BIPEA, NIST, company specific trials etc. We are always open to customer visits and audits. We have up-to-date equipment and very good facilities and we use semi-automatic and separate production lines.

We have highly qualified staff

Our Business Manager and Quality Manager are highly experienced and we have 5 experienced chemists designated to ensure that the highest quality standards are being met. We have 5 persons in customer support to take care of customer contact and approximately 35 highly skilled laboratory technicians.

We use a LIMS-system

We are fully integrated on eLIMS, a LIMS-system made for Eurofins. The eLIMS corporate with Eurofins OnLine (EOL), which you can get the access to. With this access you are able to follow the samples you send for analysis.

We are always willing to make customer specific package to be able to provide you with the things you need for analysing. For any queries or questions please contact the customer centre at the Vitamin Competence Centre at vitamins@eurofins.dk.

vitamins@eurofins.dk

Eurofins Steins Laboratorium A/S • Vitamin Competence Centre
Ladelundvej 85 • DK-6600 Vejen
Tel. +45 70 22 42 35 • www.eurofins.dk/vitamins