



Vitablend antioxidants

Range of products and services

2020-2021

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Vitablend antioxidant systems

Vitablend offers an unrivalled, comprehensive and innovative range of cost-effective, natural and synthetic systems for the prevention and delay of oxidation. Offered in either dry or liquid formats our antioxidant systems are now the main drivers and choice of protection for the food and feed industries to combat oxidation.

We also offer clear expert advice on the extension of shelf-life with our antioxidants. Our experience and in-depth know-how make Vitablend the perfect partner for the development of new or renewed solutions.

Antioxidant ingredients

Vitablend antioxidant systems, both in dry and liquid form, are formulated with three essential components:

- Active (antioxidant active or botanical extract active)
- Chelator (also known as sequestrant)
- Carrier

Active

The chemical active can delay the oxidation process ensuring a longer shelf-life and maintaining the quality of the food and feed. These are divided into 4 classes as seen in the table below.

Chelator

These prevent metal ions becoming pro-oxidative. This is achieved by addition of chelators such as citric acid and its esters.

Carrier

The right choice of carrier (according to suitability and regulations) can ensure the homogeneity of the liquid or powder system and its application compatibility. The



correct use of carriers ensures ease of dosing of liquids by pumps (for example to petmeal) and also enhances the antioxidative effect by ensuring the close contact of the chosen antioxidant to the substrate.

Typical carrier systems employed by Vitablend

- Vegetable oils (sunflower or rapeseed oil).
- Lecithin (sunflower and soy origin).
- Propylene glycol** for foods and pet foods (excluding cat foods).
- Polyethylene glycol** (cosmetics and industrial applications and pet foods).
- Other emulsifiers for example diacetyl tartaric acid, mono and diglyceride esters.
- Silica, carbonates and other carriers for feed and dry compounds.

** Please consult local feed regulations for suitability of use

Classes of actives in an antioxidant		
Active type	Antioxidant examples	Regulatory status
Traditional phenolics ¹⁾	BHA, BHT, TBHQ, propyl gallate	Restricted use in foods and feeds to 200 ppm maximum either singly or in combination ¹⁾
Vitamin based	Tocopherols (vitamin E), ascorbyl palmitate	Generally permitted in most foods and feeds q.s. ²⁾
Natural antioxidants	Rosemary extracts based on carnosic acid, natural mixed tocopherols, green tea, natural polyphenols	Certain restrictions for rosemary ²⁾ Natural mixed tocopherols permitted in most foods and feeds q.s. ²⁾
Natural botanical extracts	Rosemary extracts based on rosmarinic acid, flavors	Natural flavoring ²⁾

- 1) A class of chemical compounds consisting of a hydroxyl group (–OH) bonded directly to an aromatic hydrocarbon group. Phenolic compounds are synthesized industrially and are also produced by plants.
- 2) General statement - please consult local regulations and applications.

Synthetic antioxidant systems

The traditional use of phenolic synthetic antioxidants offers a powerful, responsive and cost-effective way to improve the shelf-life of food and feed systems.

Vitablend offers a wide range of systems either bespoke or from a selection of those widely in use. Through our application knowledge we can guide to the right product for foods and feed where the selection of the right antioxidant system can be made.

We offer blends in liquid or powder form based on well known, tried and tested traditional synthetics such as

BHA, BHT, TBHQ, propyl gallate and ascorbyl palmitate. These are either offered together and with or without sequestrants and synergists.

In liquid form the chosen carrier is typically vegetable oil, and in powder formats we offer as either spray dried or as adsorbates.

In the table you will find a brief overview of part of our extensive range of synthetic antioxidants for foods.

Vitablend synthetic antioxidants range for foods		
Name	Form	Active compounds
Vitablend 5	Liquid	BHA
Vitablend 14	Liquid	BHT
Vitablend 19	Liquid	Propyl gallate
Vitablend 20	Liquid	BHA, propyl gallate, citric acid
Vitablend 26	Liquid	BHA, propyl gallate, citric acid
Vitablend 55	Liquid	BHA, BHT
Vitablend 120 CA10	Liquid	TBHQ, citric acid
Vitablend 120 CA3	Liquid	TBHQ, citric acid
Vitablend 130	Liquid	TBHQ
Vitablend 90-FF	Dry	BHA "Free Flow"
Vitablend 166	Liquid	Ascorbyl palmitate
Vitablend 236	Liquid	Ascorbyl palmitate
Vitablend D-200	Liquid	Ascorbyl palmitate, DL alpha tocopherol
Vitablend 155	Liquid	Ascorbyl palmitate, DL alpha tocopherol
Vitablend 160	Liquid	Ascorbyl palmitate, DL alpha tocopherol



Natural antioxidant systems

Our natural antioxidant range is developed from the validated and engineered use of natural mixed tocopherols (high in delta and gamma tocopherols), rosemary extracts, green tea extracts, sunflower oil derived tocopherols and natural botanical extracts.

Tocoblend and Toco-PET series

Natural mixed tocopherols of varying strengths in combination with or without rosemary, green tea and other natural phenolics.

Rosal-OX and Rosal-PET series

A wide range of oil and water-soluble natural rosemary extracts. Offered as stand-alone liquids or as powders

or in combination with natural mixed tocopherols for enhanced synergistic capability.

Phyt-OX series

A range of E-number free natural systems for use in oils and water-based applications. Supplied in powder or liquid formats.

Aqua-PET

A cost-effective system of tocopherols approved for use in organic aquaculture.

Natural antioxidants: Tocoblend range

A range of natural mixed tocopherols, offered in oil soluble liquid format as well as water and oil dispersible powder formats, that can provide excellent oxidation protection in foods and feeds. These natural

antioxidants are rich in gamma and delta homologues of tocopherol and as natural extracts of vitamin E demonstrating a high antioxidant capacity.

Natural antioxidants for foods: Tocoblend range			
Product	Source	Features	Label
Tocoblend L70 IP	Soya IP	Non-GM Non allergen Oil soluble liquid	Antioxidant: E306
Tocoblend L70 IP EU	Soya IP	European origin of above	Antioxidant: E306
Tocoblend L70	Soya GM	GM oil soluble liquid	Antioxidant: E306
Tocoblend SD30 IP	Soya IP	Non-GM powder Water dispersible	Antioxidant: E306
Tocoblend Pd 30 IP	Soya IP	Non-GM powder	Antioxidant: E306
DL Alpha Tocopherol	Synthetic	Non-GM	Antioxidant: E307
D Alpha Tocopherol IP	Soya	Non-GM	Antioxidant: E306
NAT L900	Sunflower	Non-GM Non allergen tocopherol 100% natural	Antioxidant: E306



Natural antioxidants: Rosal-OX range

The Rosal-OX series consists of a wide range of oil and water-soluble natural rosemary extracts, offered as

stand-alone liquids or powders or in combination with natural mixed tocopherols for synergistic activity.

Natural antioxidants for foods: Rosal-OX range				
Product name	Product description	Form	Carnosic and carnosol %	Rosmarinic acid
Rosal-OX L	Rosemary extract unrefined	Liquid	2.5 - 3.5 %	
Rosal-OX LR W/D	Rosemary extract refined	Liquid	Min. 4.2 %	
Rosal-OX P	Rosemary extract unrefined	Powder	Min. 9.5%	
Rosal-OX PR W/S	Rosemary extract refined water soluble	Powder	none	Min. 6%
Rosal-OX P20	Rosemary extract, citric acid, diterpenes	Powder	Min. 21%	
Rosal-OX LRD	Rosemary extract refined deodorized	Liquid	Min. 4.2%	

Natural antioxidants: Tocoblend AT and GT range

The Tocoblend AT series demonstrates the cost-effective synergy possible between oxygen and radical scavengers, ascorbyl palmitate and natural mixed tocopherols respectively. In addition further capable

synergy can be achieved by addition of rosemary extracts. Green tea demonstrates capable synergy especially when combined with natural mixed tocopherols as proved in our Tocoblend GT-10.

Vitalblend Tocoblend AT and GT range		
Name	Form	Actives
Tocoblend AT	Liquid	Natural mixed tocopherol and ascorbyl palmitate
Tocoblend ATR	Liquid	Natural mixed tocopherol, ascorbyl palmitate and rosemary extract
Tocoblend AT-CA	Liquid	Natural mixed tocopherol, ascorbyl palmitate and citric acid
Tocoblend ATR-CA	Liquid	Natural mixed tocopherol, ascorbyl palmitate, rosemary extract and citric acid
Tocoblend GT-10	Liquid	Green tea and natural mixed tocopherol combined in a powerful synergistic combination
Tocoblend RE 1010	Liquid	Natural mixed tocopherol and rosemary extract in a powerful synergistic combination

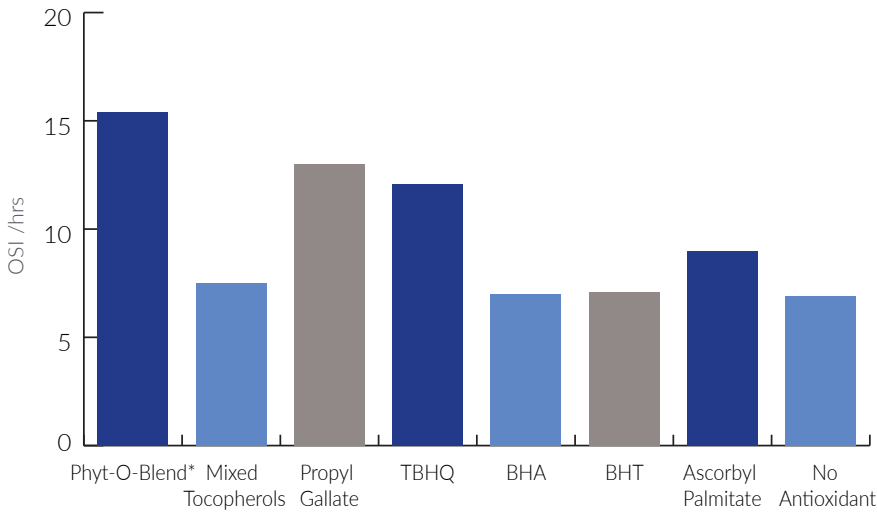


Plant botanicals Phyt-OX & Phyt-O-Blend range

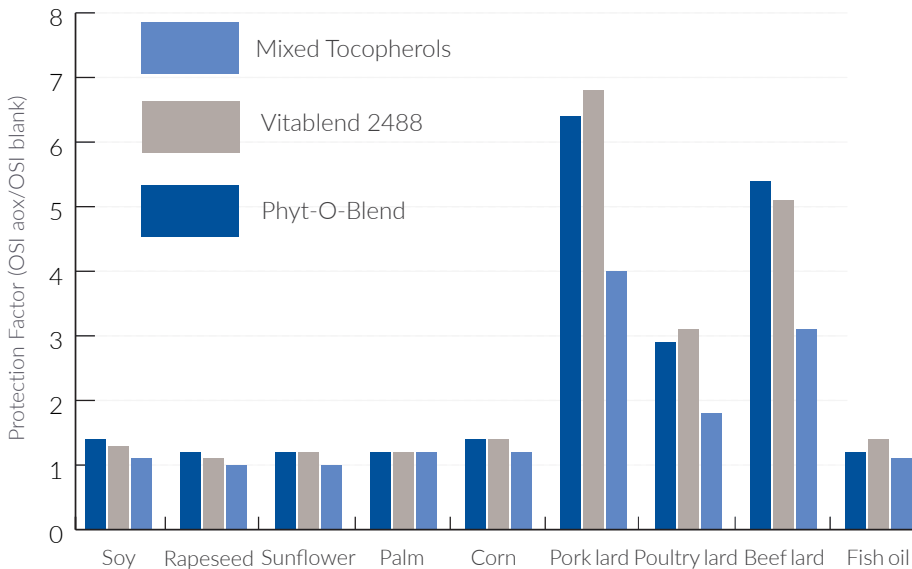
Exploring the capability of botanical extracts to answer naturalness has led to the creation of a series of products suitable for food and feed. When Phyt-O-Blend is used as a flavoring preparation it can also significantly enhance the shelf-life of food and feed.



Vitablend Phyt-OX range		
Product	Application	Description
Phyt-OX Liquid	Feed	Botanical extract, glycerol carrier
Phyt-OX Dry	Feed	Tricalciumphosphate carrier
Phyt-O-Blend Liquid	Food	Glycerol carrier as standard



OSI Time. Palm oil at 130°C treated with different antioxidants 150ppm



Phyt-O-Blend. Relative performance in various fats and oils at 500ppm

Antioxidants for petfood and rendering

Vitablend provides a wide range of natural and synthetic antioxidant systems for pet foods. We offer a dedicated analytical service alongside our antioxidants

to protect your pet food products and provide “Vit-Assurance” to the quality of your pet food. Examples of the ranges are shown below.

Vitablend antioxidants for petfood and rendering		
Product	Form	Main active compounds
Pet Safe	Liquid	A range of BHA and BHT free cost-effective antioxidants
Vital-OX 10	Liquid & dry	BHA, BHT
Vital-OX 20	Liquid & dry	BHA, BHT
Vital-OX 5	Liquid	BHA
Vital-OX 14	Liquid	BHT
Vital-OX 55	Liquid	BHA, BHT
Vital-OX BHA 90-FF	Dry	BHA
Vita-PET 24-8-8	Liquid	BHA, propyl gallate, citric acid
Vita-PET 5305	Liquid	BHT, propyl gallate, BHA
Phyt-OX	Liquid & dry	Natural phenolics
Rosal-PET	Liquid & dry	Rosemary extracts for use in pet foods and feed
Toco-PET Pd30 x- IP	Dry	Natural mixed tocopherols
Toco-PET IP	Liquid	Natural mixed tocopherols
Toco-PET IPR	Liquid	Natural mixed tocopherols, rosemary extract
Toco-PET TR 10L	Liquid	Natural mixed tocopherols, rosemary extract



Antioxidants for aquaculture

Fish meal, fish oils and dry aquaculture pellets are prone to oxidation leading to nutritional losses and poor color stability. Vitablend offers a broad range of antioxidant systems both natural and traditional phenolic based. These antioxidants are designed to

be applied by pump systems or into a dry mix. They are fully supported by internal meal stability analysis giving reassurance "Vit-Assurance" to the quality of your products.

Vitablend antioxidants for aquaculture		
Product	Form	Active compounds
Vital-OX 14	Liquid	BHT
Vital-OX 20	Liquid & dry	BHA and BHT synergistic combination
Vita-PET BT	Liquid & dry	Optimised BHA and BHT ratio for cost-effective replacement of ethoxyquin
Aqua-PET UF	Liquid	Natural mixed tocopherols (suitable for organic feed)
Vita-PET 24-8-8	Liquid	BHA, propyl gallate, citric acid
Toco-PET IP	Liquid & dry	Natural mixed tocopherols (suitable for organic feed)
Toco-PET IPR	Liquid	Natural mixed tocopherols, rosemary extract (suitable for organic feed)



Antioxidants for meat applications

Oxidation in meat products can lead to poor taste, off flavors development and color loss. Vitablend antioxidant systems for meat products offer a dedicated range of both natural and traditional phenolic based antioxidants to protect meat products from the effects of oxidation. All our antioxidant products for meat applications are designed to prevent oxidation, retain the pink color of the meat, and improve the flavor stability.



Vitablend antioxidants for meat applications			
Product name	Form	Actives	Specific use
Phyt-O-Blend range	Liquid & dry	Phytochemical blend declared as flavors. No E-numbers.	Antioxidant for sausages, meat products and other foods. Powder mixture will disperse in water at room temperature.
Tocoblend range	Liquid	Versatile range of NMT Non-GM and IP.	Antioxidant for sausages, meat products and other foods. Add to oils and fats.
Tocoblend SD30 IP	Dry	NMT. Non-GM and IP offered in a spray dried powder format.	Antioxidant for sausages, meat products and other foods. Mixture will disperse in water at room temperature.
Rosal-OX range	Liquid & dry	Various RE based on carnosic acid or flavors based on rosmarinic acid (water dispersible).	Antioxidant for sausages, meat products and other foods. Excellent choice for burgers etc.
Vitablend D-200	Dry	A homogenous food grade dry powder antioxidant blend containing the synergistic antioxidants AP and DL-alpha tocopherol E307. Citric acid is included as a sequestrant and monoglycerides of fatty acids E471 as an emulsifier.	Antioxidant for sausages, meat products and other foods. Mixture will disperse in water at room temperature.
Vitablend range	Liquid & dry	Various synthetic antioxidant combinations, BHA, BHT and PG	Antioxidant for sausages, meat products and other foods.
Tocoblend AT range	Liquid & dry	Synergistic cost-effective antioxidants based on NMT and AP.	Antioxidant for sausages, meat products and other foods. Add to oils or fats.

Vitablend antioxidant analytical services

In support of our customers we are pleased to offer a range of analytical services to either enable the right selection of antioxidant or to challenge antioxidant efficacies in your chosen application.

For pet foods we offer a comprehensive service to ensure your pet foods are of the highest quality.

We understand that analytical techniques, specific for antioxidant capability, are not readily available and this is why Vitablend is offering such a service to our customers in addition to our range of antioxidant products.

All analytical tests are performed to the highest standards with the latest up to date methods employed. Special unique techniques can be considered on request. All techniques are routinely employed using internal standards and/or duplicate samples to ensure accuracy, validity and precision.

The laboratory is equipped to cover analysis on all types of feeds, oils, fats and solid food, feed or personal care matrixes.



Our history

Vitablend was created in 2001 with an established specific technical expertise in the food and feed industries. Today our team consists of experts in the fields of antioxidants, infant nutrition and premixes as well as their applications fully supported by our production facilities in the Netherlands, the USA and Singapore. Since 2008 Vitablend is a part of Barentz. This broadens our entrance to worldwide suppliers of food ingredients and a distribution system for support of sales. Established in 1953 Barentz is a leading global distributor in the food, feed, personal care and pharmaceutical industries. Barentz has a leading position within applications in key global regions. Together Vitablend and Barentz have a flexible and fast approach to business with a strong focus on quality. Read about Barentz on www.barentz.com.

Additional information

Kosher and Halal

Information concerning Kosher and Halal certification is available on request.

Product support sheets

Product data sheets and Safety data sheets are available for all products listed in this catalogue. These contain information on specification, composition, stability and storage conditions.

Local regulations

There are local regulations, according to which the use of food and feed additives is restricted. It is therefore advisable to consult the corresponding local food or feed regulations prior to use.

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