

**tocobiol.**

# Custom plant-based antioxidant systems for extended shelf life

[btsa.com](https://btsa.com)

Designed  
by Nature

**Btsa**

A close-up photograph of a person wearing a white lab coat and white gloves. They are holding a green pen and writing on a piece of paper. In the background, a digital scale is visible, showing a reading of 0.00. The text "Designed by Nature" is overlaid on the image.

Designed by Nature

At BTSA, we develop innovative organic & plant-based ingredients that enhance food products while making a positive impact on people's lives.

Since 1994 we have been committed to the use of natural ingredients and today we are experts in designing customized antioxidant systems and synergistic blends for any food application.

Through a relentless pursuit of excellence, we provide top-tier quality ingredients crafted to enhance product functionality and extend shelf-life. As your strategic partner, we strive to elevate your products while promoting a healthier life.

# Products

Product	TOCOBIOL®	TOCOBIOL® Organic	TOCOBIOL® Blends	TOCOBIOL® T	TOCOBIOL® E
Description	Tocopherol-based natural antioxidant	Synergistic blends based on Tocobiol	Synergistic blends based on Tocobiol	Mixed Tocopherol concentrates	Natural Vitamin E
Composition	Tocopherol, Monoglycerides, Squalene, Sterols	Organic Tocopherol, Monoglycerides, Squalene, Sterols	Tocobiol + other AOXs (Rosemary Extract, Green Tea Extract, Ascorbyl Palmitate)	Tocopherol	d-alpha Tocopherol / d-alpha Tocopheryl Acetate / d-alpha Tocopheryl Hydrogen Succinate
100% Natural	●	●	●	●	●
Organic Compliant	●	●		●	●
Soybean Base	●	●	●	●	●
Sunflower Base	●		●	●	
Non-GMO	●	●	●	●	●
Kosher	●	●	●	●	●
Halal	●	●	●	●	●
Allergen Free	●	●	●	●	●
Gluten Free	●	●	●	●	●

# Antioxidant Systems



Oxidative rancidity is the process in which fats produce unpleasant organoleptic compounds due to exposure to oxygen. Light, heat or moisture can accelerate this process.

An antioxidant is any substance or element that is capable of delaying or preventing the development of rancidity or the deterioration of fats due to oxidation.

At BTSA we have developed a complete range of antioxidant systems based on tocopherols to protect fats and oils from oxidation and extend their shelf life.

Antioxidant Systems

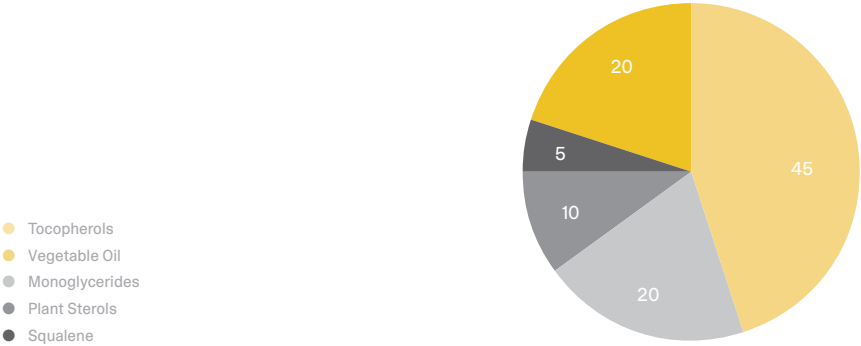
Main Antioxidant Applications

Bakery Products  
Cereals & Bars  
Coatings  
Confectionery  
Dairy Products  
Edible & Cooking Oils  
Margarines  
Mayonnaise & Dressings  
Omega-3 Fatty Acids  
Processed Meat  
Snacks & Nuts  
Spices & Seasonings  
Lard & Animal Fats

# The smart antioxidant solution

Tocobiol is a tocopherol-based natural antioxidant designed exclusively by BTSA to protect food products against oxidation, increasing their shelf-life while preserving its active ingredients.

- 100% natural antioxidant
- Effective in saturated & unsaturated fats
- No organoleptic effects
- Organic Compliant
- Non-GMO Project Verified



## How does Tocobiol® work?

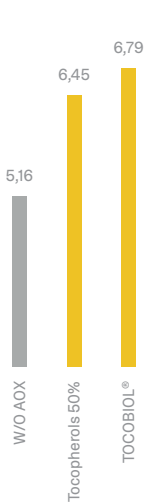
The high antioxidant power of Tocobiol® is the result of the synergy between its main components such as tocopherols, monoglycerides, squalene and plant sterols, which are naturally present in the product.

## Why Tocobiol® over other Mixed Tocopherols Concentrates?

- Better performance
- Less cost-in-use
- Higher emulsifying capacity
- Better dispersion

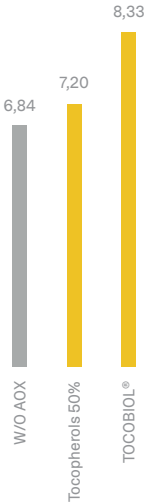
Rancimat Test at 110°C  
Sunflower Oil + AOX  
(1000ppm)

Rancimat Hours



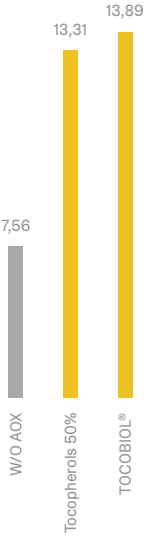
Rancimat Test at 120°C  
Soybean Oil + AOX  
(1000ppm)

Rancimat Hours



Rancimat Test at 120°C  
Lard + AOX (1000ppm)

Rancimat Hours



# Unique, effective, 100% organic

Tocobiol® Organic is the first 100% organic tocopherol-based antioxidant on the market. It is organic certified according to EU Regulation 834/2007 and the National Organic Program (NOP) of the United States Department of Agriculture (USDA). It is an exceptional product for preserving food, increasing its shelf life 100% naturally.

- Unique 100% tocopherol-based organic antioxidant
- Unlimited use in organic products
- Protects food against oxidative rancidity
- Guarantees longer food shelf life
- Has no effect on the final product's color or smell

## How does Tocobiol® Organic work?

The high antioxidant power of Tocobiol® Organic is the result of its mixed tocopherol composition. It has a low impact on the environment since no synthetic solvents have been used for its extraction, nor have aggressive chemicals of any kind been used throughout the production process.

## Why Tocobiol® Organic ?

- European Origin
- No Organoleptic Effects
- Contributes to Sustainability Objectives

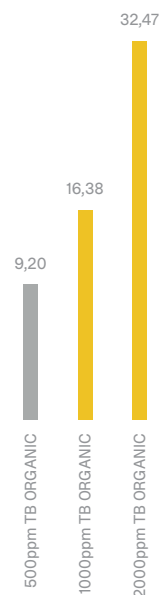
Tocobiol® Organic is the first tocopherol based antioxidant certified organic under the EU Regulation 834/2007 and the National Organic Program (NOP) of the United States Department of Agriculture (USDA).

The **NOP** distinguishes three categories of products:

1. Organic
2. Made with Organic
3. Specific Organic Ingredients



Sunflower Oil at 120°C  
Oxidative Stability %



# Customized high-performance solutions

Tocobiol® Blends are a range of antioxidants that combines Tocobiol® with other antioxidants to create a synergistic effect that increases the antioxidant activity of the product.

- Maximum Antioxidant Activity
- Customized Solutions
- Increases product shelf life
- Effective at low doses
- Has no organoleptic effects
- Protects food against oxidative rancidity
- Guarantees longer food shelf life

## Solve your oxidation problems with Tocobiol® Blends!

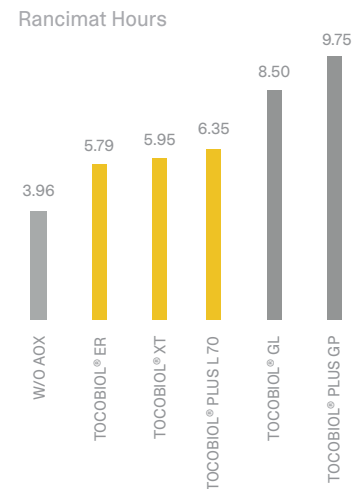
No matter what the application, at BTSA we have the most suitable antioxidant for your product. Available combinations include references with Ascorbyl Palmitate (Vitamin C), Propyl Gallate, Lecithin or Rosemary Extract. Our experienced team of professionals will advise you on how to develop the best antioxidant for your product.

## Why Tocobiol® Blends?

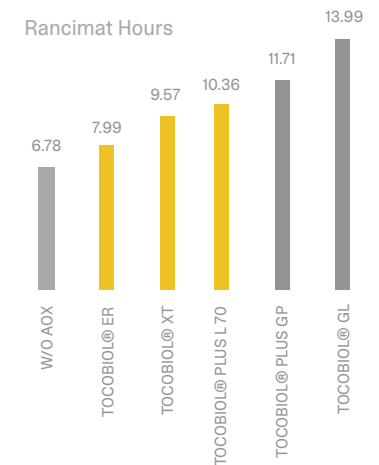
BTSA develops customized antioxidants and tailor-made blends for each type of food application, according to the specific needs of each client.

Blends are available with Ascorbyl Palmitate (Vitamin C), Rosemary Extract, Green Tea Extract, Propyl Gallate, etc

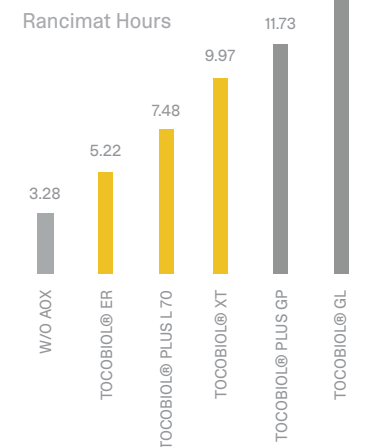
Rancimat Test at 110°C  
Sunflower Oil + AOX (1000ppm)



Rancimat Test at 110°C  
Soybean Oil with + AOX (1000ppm)



Rancimat Test at 80°C  
Fish Oil with AOX (1000) ppm



■ Natural-Synthetic  
■ Natural



# Maximum natural protection

Tocobiol® T is a product range of mixed tocopherol concentrates, a powerful natural antioxidant used to protect food against oxidation, increasing their shelf-life

- 100% Natural Antioxidant
- Effective at low concentrations
- No organoleptic effects
- Organic Compliant
- Non-GMO Project Verified

## How does Tocobiol® T work?

Tocobiol® T is a powerful natural antioxidant that protects the product against oxidative rancidity. It is available in both soy and sunflower bases in concentrations up to 90% and 70%, respectively. It is a European Quality product that is very effective in increasing food shelf life.

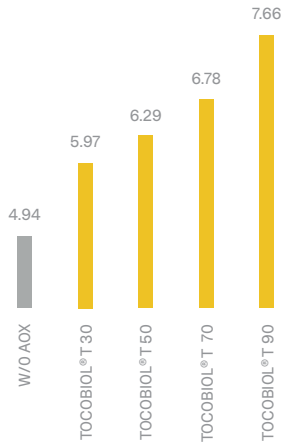
## Why Tocobiol® T?

Tocobiol® T is a natural antioxidant, ideal for stabilizing oils, margarines, meat products, and snacks. It is a very effective product at low concentrations and has no effect on the color or smell of the final product.

Tocobiol® T is available in concentrations up to 90% in soy and 70% in sunflower.

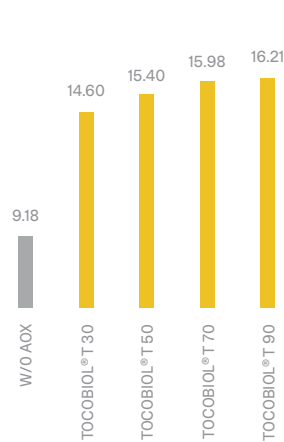
Rancimat Test at 110°C  
Sunflower Oil with AOX (1000 ppm)

Rancimat Hours



Rancimat Test at 120°C  
Lard with AOX (1000 ppm)

Rancimat Hours



Active Ingredients



BTSA has been a leading supplier of high quality natural active ingredients for the food industry since 1994, making us the ideal partner for the enrichment and fortification of products.

We specialize in the manufacture of natural vitamin E derived from non-genetically modified vegetable oil (Non-GMO), offering a superior alternative to synthetic vitamin E thanks to its double bioavailability.

Active Ingredients

Main Active Ingredients Applications

Cereals & Snacks  
Dairy Products  
Flours & Bakery  
Margarines  
Oils & Fats  
Sports Nutrition

# Fortify and enrich

Tocobiol® E is Natural Vitamin E (D-Alpha Tocopherol), derived from Non-GMO vegetable oil.

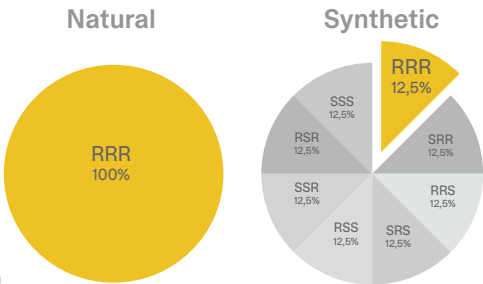
- Protects cell membranes
- Strengthens the immune system
- Reduces the risk of heart and brain diseases
- Possibility for the product to bear the “Source of Vitamin E” claim
- Improves vision
- European quality
- Non-GMO Project Verified

Natural Vitamin E (d-alpha tocopherol) is the best alternative to synthetic Vitamin E due to its higher bio-availability and healthier-for-you marketing opportunities: “NATURAL VITAMIN E”

## Natural vs Synthetic

Natural Vitamin E is a single stereoisomer (called “RRR”) while synthetic Vitamin E is a mixture of 8 different stereoisomers, where only one of them is the same as the natural one.

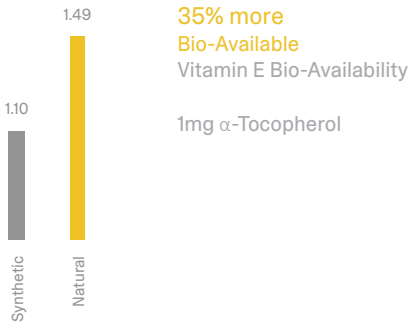
After the absorption of Vitamin E, the transport protein α-TTP, which is present in the liver, prioritizes the recognition of the natural form over synthetic. Due to this, natural Vitamin E is retained better and for a longer time in the body than synthetic Vitamin E.



## Why Tocobiol® E?

Tocobiol® E is BTSA’s Natural Vitamin E (d-alpha tocopherol), which is available in different concentrations, from 500 to 1.300 International Units, as well as in ester form for products that require greater stability (Acetate).

Rancimat Test at 120°C  
Sunflower Oil with AOX  
(1000) ppm



## European Quality Natural Vitamin E

Tocobiol® E is used to fortify and enrich food, adding value and following the growing trend of functional foods.

## FDA Claims

Claim	Quantity
“High” / “Rich In” / “Excellent Source Of”. Contains 20% or more of the Recommended Daily Intake (15 mg)	3.0mg/RACC*
“Good Source” / “Contains” / “Provides”. Contains 10-19% of the Recommended Daily Intake (15 mg)	1.5mg/RACC*

\* Reference Amounts Customarily Consumed

## EU Claims

Claim	Quantity
“High content of Vitamin E”	≥ 3.6 mg / 100 g
“Source of Vitamin E”	≥ 1.8 mg / 100 g

\* Indicated values correspond to non-liquid products



# Quality Commitment

BTSA's commitment to the highest quality standards is supported by the most trusted international certificate bodies.



CARAFE

- 1 kg
- 2.5 kg
- 5 kg
- 10 kg



BUCKET

- 2.5 kg
- 5 kg



DRUM

- 190 kg



IBC

- 950 kg



BAG

- 1 kg
- 2.5 kg
- 5 kg

Packaging

PRODUCT	COMPANY
USDA Organic	B-Corp
EU Organic	Ecovadis
Non-GMO Project	ISO 9001
Halal	ISO 22000
RSPO	FSSC 22000

