



ROBERTET
GROUPE

Rosemarox™ Natural Antioxidant

Managing oxidation, naturally



Rosemary and its extracts have traditionally been used in the food industry for providing flavor. Recently, breakthroughs have been made in standardizing the compounds found within rosemary extracts. As a result companies are now able to use rosemary based extracts to manage oxidation yet still retain a clean product label.

Robertet, as a primary extractor of spices, has developed its line of Rosemarox™ antioxidants to assist manufacturers to extend the shelf life of their products by protection against oxidative rancidity.

How does Robertet Rosemarox™ work? Exposure to heat, light or even trace metals start a reaction among the molecules found in many foods. This reaction produces a breakdown in the fats or lipids, causing a deterioration in quality seen as fading color and rancidity. Rosemarox™ works to inhibit these processes, using natural phenolic compounds found in rosemary.

Robertet's Rosemarox™ antioxidant line is produced to focus on the antioxidant compounds naturally found within rosemary. Concentrated through extraction and standardized in production, these compounds, especially carnosic acid, can be used to interact with fats to slow oxidation and preserve value.

Inhibiting Lipid Oxidation in Processed Foods

Virtually any food containing fats or oils is a suitable candidate for oxidation management by Rosemarox™. Examples of appropriate processed foods are

Baked goods	Snacks	Vegetable oils
Colors	Processed meats	Processed poultry
Processed fish	Sauces - Dressings	Spice blends

Once oxidation starts in foods, rancidity follows, a process that is difficult to stop. As a result the most effective way to ensure foods receive the maximum protection is to introduce Rosemarox™ into the fats and oils of processed foods early in the production process. Incorporation may include blending in through ingredients or a premix.

Preserving the Flavor of Processed Meats and Poultry

High volume production techniques often hasten the deterioration of meat flavor by exposing muscle tissues to more oxygen. As well, processes that rupture cell structures release amino acids, which are a primary cause of what is commonly called ‘warmed over flavor.’

These negative effects can be inhibited through the application of Rosemarox™. To be most effective, Rosemarox™ needs to be added directly to the product substrate, lipid or seasoning blend, as early as possible into the production process.

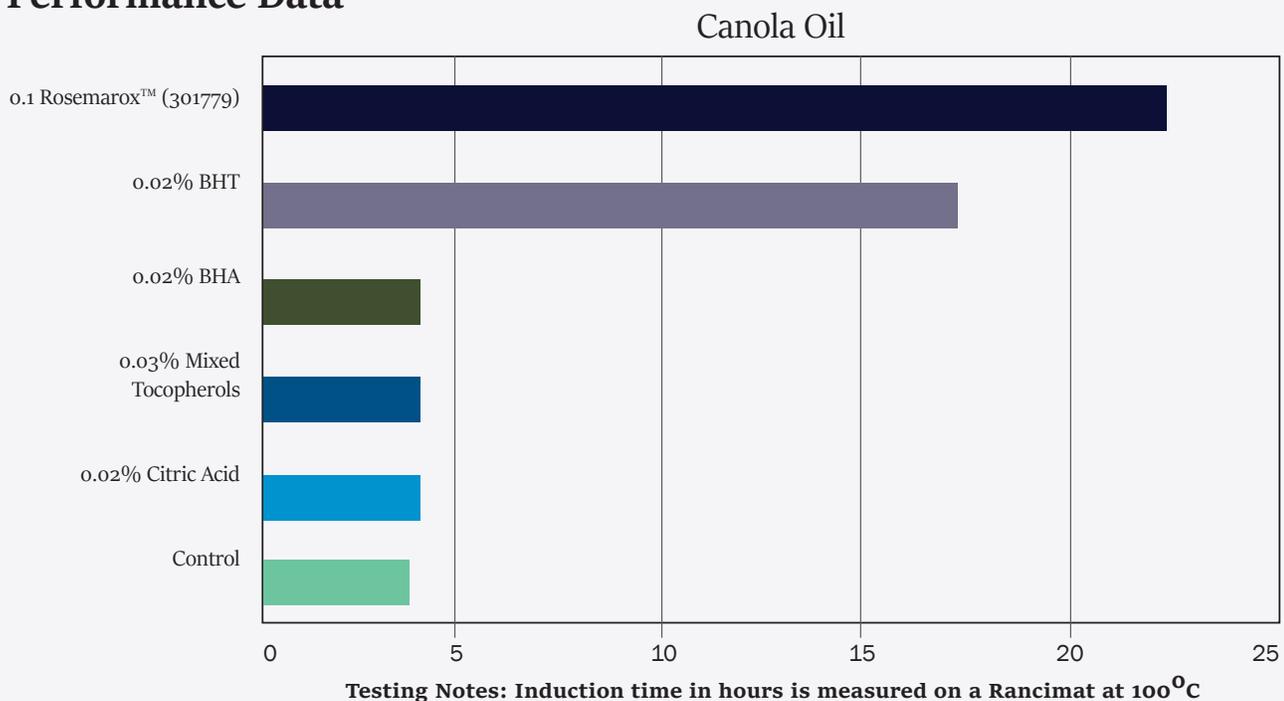
Extending Color Life

Rosemarox™ can add value to processed foods that depend on vibrant colors for their appeal through the retention of their natural color. The Rosemarox™ family of antioxidants has been successfully used on a wide range of applications to preserve the life of natural colors, such as in

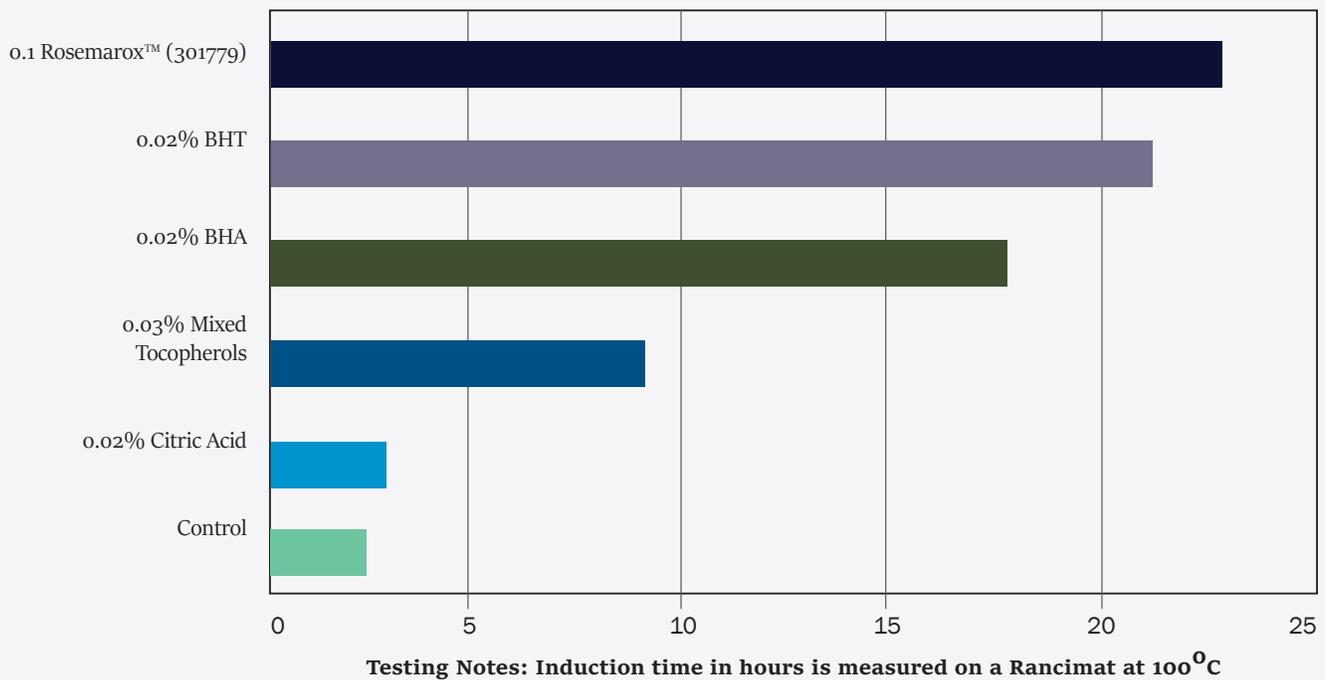
Seasoning blends	Ground poultry	Fish products
Processed and ground beef	Dry sausages	Breadings

As in other applications, the early and direct application of Rosemarox™ produces the best results. Results you can see: Rosemarox™ performance

Performance Data



Chicken Fat



Technical Support from Ecom for your Unique Problems

Robertet has considerable experience with antioxidants, and clients have enjoyed success in employing Rosemarox™ products in the above applications. However not all of Robertet's antioxidants can be listed. As well, some applications pose unique development challenges.

To discuss your situation in reducing oxidation, whether or not it is one of the applications listed above, you are welcome to call your Robertet Account Manager for additional information.

Benefits Summary

- Natural flavors label
- Oil soluble and water soluble versions
- Low flavor
- Heat stable up to 200°C
- Delay oxidation in oils and fats
- Low color

Rosemarox™ Applications Guide

Selecting the right approach for your oxidization challenges

Product Name	Code	Icon	Product Properties	Solubility	Usage Application Notes
Rosemarox Type O	ENR34122	■ ○ ▼	Slightly Decolorized, Deflavorized 4% CA, Non-GMO	Oil Soluble	0.04-0.10% Imparts flavor at higher levels; cost efficient
Rosemarox Type XO	NR3404	■ ○ ▼	Deflavorized, Decolorized 5% CA, Non-GMO	Oil Soluble	0.05-0.10% More Carnosic acid than Type O
Rosemarox Type 25	NR3416	●	Moderately Decolorized, Deflavorized 1% CA	Oil Soluble	0.10-0.25% Formulated for easy dispersion in ground meat and poultry
Rosemarox Type WS	ENR34124	⚓	Decolorized, Deflavorized 15% Rosmarinic acid	Water Soluble	0.10-0.25% For beverages and water based substrates
Rosemarox Type XTO	ENR34126	■ ○ ▼	Highly Decolorized, Deflavorized 4% CA, Non-GMO	Oil Soluble	0.05-0.20% Ideal for sensitive substrates, low-fat meats, maximum oxidation protection
Rosemarox Type XXO	NR3408	■ ○ ▼	Moderately Deflavorized, Decolorized 7% CA with added Natural Tocopherols	Oil Soluble	0.0300.08% Cost efficient method of incorporating high CA into substrates
Rosemarox Type XTW	NR3405	●	Highly Decolorized, Deflavorized 2.5% CA	Water Dispersible	0.05-0.15% Best for substrates sensitive to flavor, with water present
Ecomox Type 10	ENR34125	■ ○	Highly Decolourized, Deflavorized, 10% CA	Oil Soluble	0.02-0.05% High content liquid form of CA for special applications
Rosemarox Type SCB	ENR34127	■ ● ○	Decolorized, Deflavorized, 2.5% CA	Water Dispersible	0.05-0.15% Emulsified with Polysorbate 80 for HACCP required super chilled brines
Rosemarox Type 20	NR3402	▲ ▼	High Carnosic Acid Powder, 20% CA	Oil Soluble	0.02-0.05% Ideal for meat processing, specialty spice blends
Rosemarox Type X25	NR3418	●	Decolorized, Deflavorized, 2.5% CA	Oil Soluble	0.05-0.15% Formulated for easy dispersion in ground meat and poultry

- For use in brines, marinades, and injecting solutions
- For use in ground and mechanically separated beef and poultry
- ▲ For use in dry, free-flowing powder ground and mechanically-separated meat
- For use in sauces and dressings
- ⚓ For use in beverages
- ▼ For use in dry and semi-dry sausages



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