

# Antioxidants for marine oils



Fish oil and its derivatives supply essential Omega 3 fatty acids and the most important of these, EPA (eicosapentaenoic acid) and DHA (docosahexaenoic acid), are associated with many health benefits. These poly-unsaturated long chain fatty acids can easily become oxidised leading to the formation of off-flavours and result in the poor taste of foods in which they are used, such as infant nutrition and health capsules.

## Safe and natural antioxidants

As the main use of marine oils is for health benefits or for the enrichment of infant foods, Vitablend antioxidants are chosen to offer the highest regards to quality, safety and naturalness.

Only antioxidants permitted for infant nutrition are utilised in our systems. Furthermore, our antioxidant systems provide maximum cost-efficiency.

## Natural extracts of vitamin E

Vitablend has a range of natural mixed tocopherols, "Tocoblend", offered in oil soluble and water soluble formats as well as water dispersible powders that provide excellent protection in foods prepared with marine oils. These natural antioxidants are rich in gamma and delta homologues of tocopherol and as natural extracts of vitamin E exhibit the highest antioxidant capacity to stabilise marine oils.

## Vitamin E for biological declaration

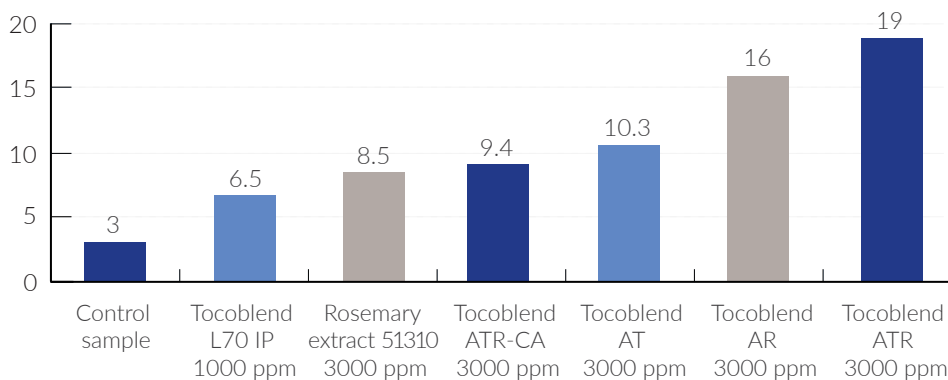
Vitamin E is one of nature's antioxidant and there are many natural compounds that exhibit vitamin E activity with alpha tocopherols providing the maximum level of international units of vitamin E. As such, alpha tocopherols, when used as an antioxidant, can positively contribute towards a biological vitamin E declaration in the foods as well as stabilising against oxidation of the oil.

## Fat soluble vitamin C

Ascorbic acid is used by Vitablend in a fat-soluble format, ascorbyl palmitate. The vitamin C is often used in conjunction with vitamin E, "Tocoblend AT", providing a cost-effective synergistic antioxidant system that reduces cost whilst maintaining antioxidant efficacy.

## Rosemary extracts

Natural rosemary extracts offer good oxidative stability in marine oils and care is taken towards the odour that can be associated with rosemary by careful removal. Rosemary works very well in conjunction with tocopherols and ascorbates as shown in the grades Tocoblend ATR and AR.



Days to reach anisidine 15 under accelerated conditions