



antimicrobial newsletter

2023 Q1

who touches your skin with grace?

sensiva™ sc 50 multifunctional

Ethylhexylglycerin, the market leading multifunctional ingredient to most, is closely associated with the brand name **sensiva™ sc 50** multifunctional.

Sensiva™ sc 50 multifunctional is not just made up of high quality ethylhexylglycerin but it contains valuable vitamin E. Why? Unstabilized ethylhexylglycerin will form unwanted impurities over time.

Even better? Besides the unique quality and its versatile functionalities **sensiva™ sc 50** multifunctional shows excellent antioxidant properties and can protect lipids in cells and membranes against oxidative stress.

antioxidant properties of sensiva™ sc 50 multifunctional free radical scavenging ability

method: free radical scavenging assay of 2,2-diphenyl-1-picryl-hydrazyl-hydrate (DPPH)

negative control: propanediol

positive control: gallic acid at 0.000125%

tested sample: 0.1, 0.3, 0.5, 1, 2, 5 and 10% **sensiva™ sc 50** multifunctional

evaluation: DO at 517nm



Results obtained vs negative control (mean +/- sem ; n=4)

results

Sensiva™ sc 50 multifunctional demonstrates free radical scavenging activity of DPPH: 0.3% scavenge around 6% DPPH, 1% around 22%. The half-maximal inhibitory concentration (IC50) is found at 2%.

antioxidant properties – comparison

method: free radical scavenging assay of DPPH

negative control: propanediol

positive control: gallic acid at 0.000125%

tested sample: 0.3 and 1% **sensiva™ sc 50** multifunctional or **ethylhexylglycerin** / corresponding content **α-tocopherol**

evaluation: DO at 517nm



Results obtained vs negative control (mean +/- sem ; n=4 for **sensiva™ sc 50** multifunctional, n=2 for ethylhexylglycerin and tocopherol) % tocopherol corresponds to tocopherol present in **sensiva™ sc 50** multifunctional and diluted as the same concentration as **sensiva™ sc 50** multifunctional

results

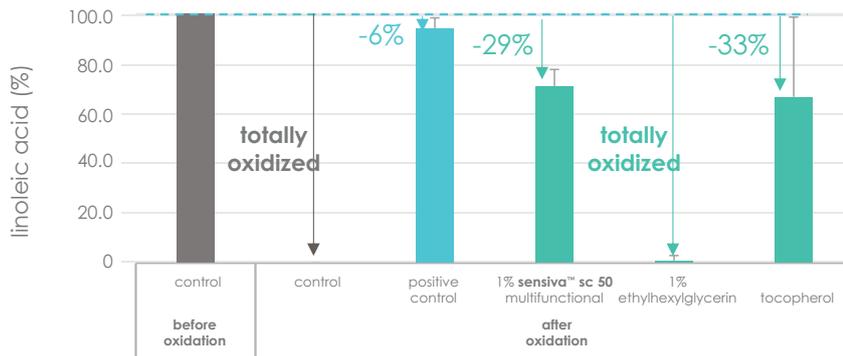
Compared to ethylhexylglycerin that has no scavenging abilities, **sensiva™ sc 50** multifunctional demonstrates an even better performance than vitamin E (tocopherol) alone indicating a synergistic effect.

lipid peroxidation protection of sensiva™ sc 50 multifunctional protection against lipid peroxidation

method: linoleic acid peroxidation followed by HPLC-MS

positive control: vitamin E at 0.1%

tested sample: 1% **sensiva™ sc 50** multifunctional, 1% **ethylhexylglycerin**, corresponding content **α-tocopherol**



Results obtained vs control (mean +/- sem ; n=3)

% tocopherol corresponds to tocopherol present in **sensiva™ sc 50** multifunctional and diluted as the same concentration as **sensiva™ sc 50** multifunctional

results

Under stress conditions (H₂O₂), linoleic acid was fully oxidized. 1% **sensiva™ sc 50** multifunctional limit the peroxidation to 29%; ethylhexylglycerin alone shows no antioxidative activity. The benchmark 0.1% vitamin E limits oxidation to 6%.

summary and conclusion

sensiva™ sc 50 multifunctional is unique in its quality and versatility. Not only does it boost the antimicrobial efficacy of preservatives but it improves the skin feel, provides moisturization, and it reduces tackiness in sun-, hair-, and lip care products. But it wouldn't be **sensiva™ sc 50** multifunctional if it wasn't an effective, yet microbiome friendly deodorant active.

On top of that, newly performed DPPH and peroxidation assays substantiate **sensiva™ sc 50** multifunctional is a powerful radical scavenger and protects lipids in cells and membranes against oxidative stress.

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