dr. straetmans®

Technical Information

dermofeel® PA

The Product: dermofeel® PA

This natural chelating agent effectively inactivates metal ions by forming a complex between the chelator and the metal. Metal ions can enter a cosmetic formulation through the production equipment, as impurities from ingredients (e.g. extracts, pigments) and through process water. In cosmetic products, these ions can promote oxidation reactions, may cause discoloration, or impair the foaming properties of surfactants.

CHARACTERISTICS

- INCI: *Phytic Acid, Aqua*

- Appearance: yellow liquid
  It is likely that the color changes during storage
  - The discoloration has no consequences for the product quality
  - The discoloration occurs due to traces of organic biomaterial that cannot be avoided because of the natural origin of the starting material
  - Speed and intensity of discoloration cannot be specified due to conditions of transport and storage that are beyond our control
  - Storage at lower temperatures slows down the discoloration process, but will not reverse the discoloration
  - Based on our experience, at the recommended dosage, there will be no detectable influence on the color of the final formulation. However, a potential influence needs to be checked during formulation development

- 100% naturally derived, already ECOCERT/COSMOS approved and compliant with other standards for natural cosmetic, please contact us for further information
- Readily biodegradable, no environmental risk

- Combination with other antioxidants (tocopherol, ascorbyl palmitate) is recommended
- Supports the protection of valuable ingredients from oxidation (e.g. unsaturated oils, fragrance components)
- In rinse-off products:
  - maintains foaming properties in presence of hard water
  - prevents precipitation of insoluble salts of fatty acids in soaps
- Best performance is shown at pH 6
- pH of the raw material: 1

DOSAGE

Product Concept	Dosage
O/W-emulsions	0.05 – 0.2 %
Rinse-off products	0.1 – 0.2 %

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How to work with dermofeel® PA

MANUFACTURING PROCEDURE (LABORATORY SCALE)

dermofeel® PA can be added to the water phase during every step in the production phase.

Note the very low pH of 1 of **dermofeel® PA**. For working with acid-sensitive raw materials, it is recommended to solve **dermofeel® PA** in water first, then to add the respective substances.

For a more homogeneous color *of the raw material*, homogenization or filtration can be considered.

Easy to use and completely water soluble!

FORMULATION ADVICE

Boost performance	Combine with other antioxidants (e.g. **dermofeel® Toco 70 non GMO**, **dermofeel® AP MB**)
Please consider	Divalent ions are complexed and inactivated (therefore not recommended for W/O-emulsions)
	Pink discoloration with iron ions (e.g. in presence of Avobenzone)

APPLICATION IDEAS

Perfectly suitable for O/W-emulsions and rinse-off products.

For more formulation ideas visit us at:
https://www.dr-straetmans.de/en/products/

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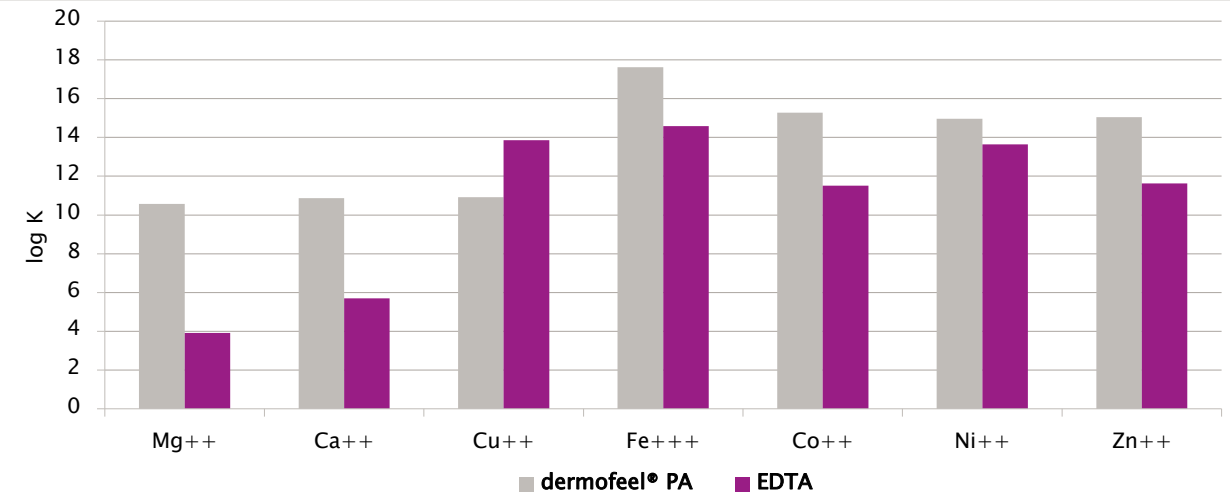
Proof of Performance

CHELATING ABILITY OF DERMOFEEL® PA

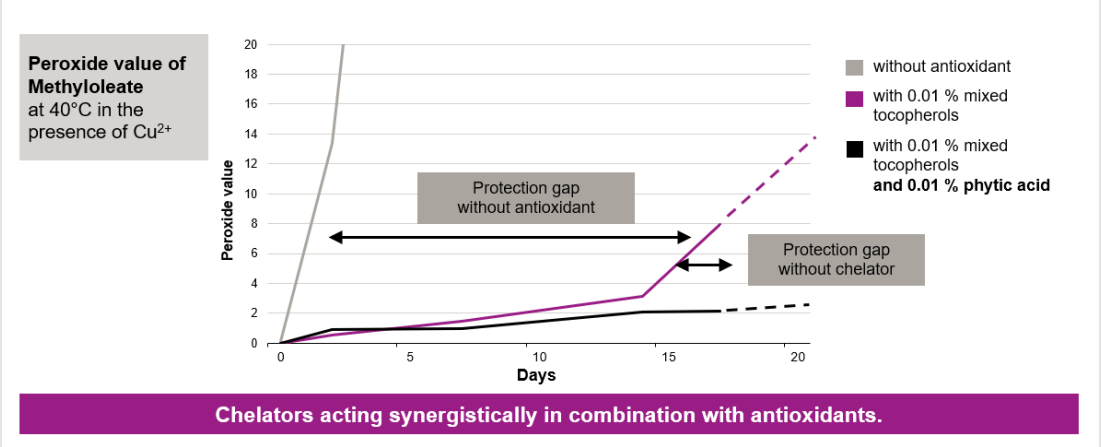
Comparison of stability constants for complexes at pH 6 between **dermofeel® PA** (INCI: Phytic Acid, Aqua) and EDTA.



The chelating efficacy of **dermofeel® PA** is mostly comparable to the chelating activity of the commonly used EDTA. However, EDTA is not suitable for natural cosmetics.

SUPPORTING THE ANTIOXIDANT SYSTEM

Peroxide value of Methyloleate at 40°C in the presence of Cu^{2+}



Source of data: Loury, M., François, R., Bloch, C., Rev. Fse Corps Gras 15 (1) (1968) 34 – 35. Own presentation of data.

The peroxide value is an indicator for the speed of oxidation of oil components, like Methyloleate. The Copper-ions serve as catalysts for the oxidation. The tocopherols have an antioxidant function, but they use up after a certain time.
The data demonstrate the function of phytic acid: It protects and elongates the lifecycle of the antioxidant material tocopherol by forming complexes and inactivating the catalyzing metal ions.

Trade Information

International Approval*	EU, USA, Australia, China, Japan
Packaging	10 kg
Shelf life (stored in original container)	1080 days [1] [2]

* Information is based on our best knowledge and reviewed for the most requested regions only. We recommend to check current regulatory requirements in individual target countries. For more information, refer to Product Data Record (PDR) document chapter 5.

[1] Corrosive to metals. Consider requirements for transportation and storage.

[2] The color of the raw material might change during storage without consequences for the product quality. The storage at lower temperatures slows down the process, but will not reverse the discoloration

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