dr. straetmans®

Product Information

dermosoft® OM

The Product: dermosoft® OM

The combination of a known and reliable wetting agent with a water soluble booster for its antimicrobial activity makes this blend a reliable choice for protecting all kinds of products. Due to the combination of raw materials, the load of wetting agent can be reduced while still achieving an excellent activity against germs, regardless of the pH of the formulation. The handling and processing of Caprylyl Glycol is much easier, thanks to the liquid state and improved water solubility of the blend.

CHARACTERISTICS

- INCI: Methylpropanediol; Caprylyl Glycol
- Appearance: Almost colorless, clear liquid

- Methylpropanediol – the booster:
  a polar solvent, retains moisture and boosts the activity of the other ingredients
- Caprylyl Glycol – the wetting agent:
  cosmetic functions due to its amphiphilic properties
  - Wetting, hydrating
  - Co-emulsifying, emulsification efficacy improvement
  - Co-solubilizing
  - Enhances dispersibility of pigments
  - Viscosity regulating
  - Antimicrobial efficacy

  - Convenient in manufacturing process due to liquid, water miscible form
  - Low concentration of wetting agents in final formulation
  - Excellent antimicrobial protection
  - Suitable for all product concepts
  - Good performance in surfactant based products

  - Odorless
  - pH independent
  - Ideal option for higher pH

DOSAGE

Product Concept	Dosage
All product types	3.0 – 4.0 %

ANTIMICROBIAL EFFICACY

Gram +	Gram –	Yeast	Mould
++	++	++	+

Legend: + = good, but needs a co-active | ++ = very good alone

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How to work with dermosoft® OM

MANUFACTURING PROCEDURE *(LABORATORY SCALE)*

O/W-emulsions:

1. Add **dermosoft® OM** to the water or oil phase, preferably before emulsification.
2. Proceed as usual. **dermosoft® OM** is pH stable and can be heated up to 80°C.

Hot or cold process possible.

Surfactant based products:

1. Add **dermosoft® OM** to the water phase and proceed as usual.

Aqueous or hydroalcoholic products (e.g. wet wipe lotions):

1. Add **dermosoft® OM** to the water phase.
2. The addition of a low amount of solubilizer may be necessary.

Clear soluble.

In some cases, **dermosoft® OM** can have an impact on emulsion stability and viscosity of surfactant based products. Check stability issues carefully.

FORMULATION ADVICE

Improve fungicidal performance	Combine with e.g. organic acids, like **dermosoft® 688**
Reduction of performance might occur with	Polymer structures in water phase
	Hydrocolloids
	Pigments (due absorption on surfaces)
	PEG-derivatives

APPLICATION IDEAS

Perfectly suitable for wet wipe applications, surfactants, aqueous concepts and emulsions.

Ideal when low odor of formulation is the goal.

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

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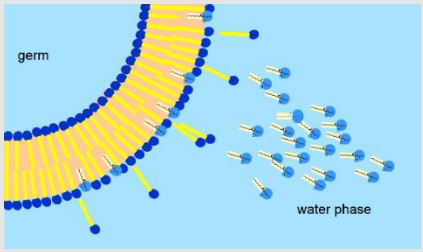
Proof of Performance

Mode of action:

The high surface activity and incompatible size of the molecules destabilize the membrane

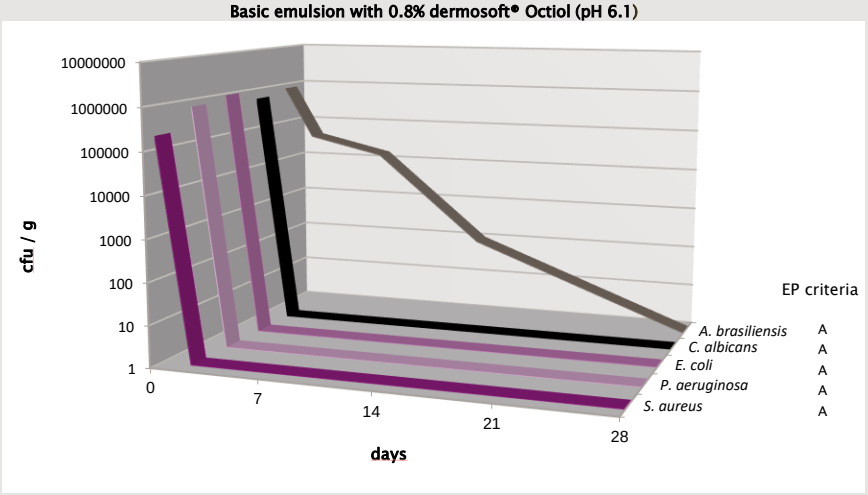


Additionally, the boosting agent Methylpropanediol influences the distribution coefficient between water and oil phase for the wetting agent Caprylyl Glycol. Less Caprylyl Glycol will migrate into the oil phase and remain active in the water phase.

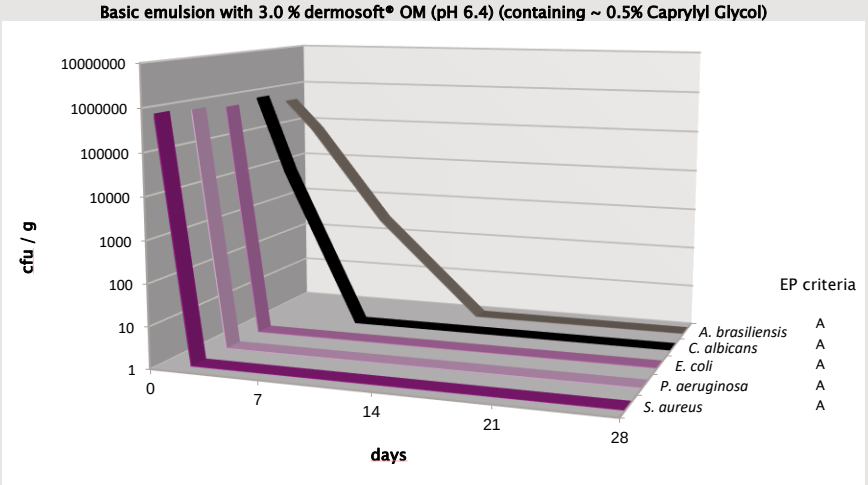
MICROBIOLOGICAL CHALLENGE TESTS

Comparison with **dermosoft® Octiol** (INCI: Caprylyl Glycol) in emulsions

Basic emulsion with 0.8% dermosoft® Octiol (pH 6.1)



Basic emulsion with 3.0 % dermosoft® OM (pH 6.4) (containing ~ 0.5% Caprylyl Glycol)



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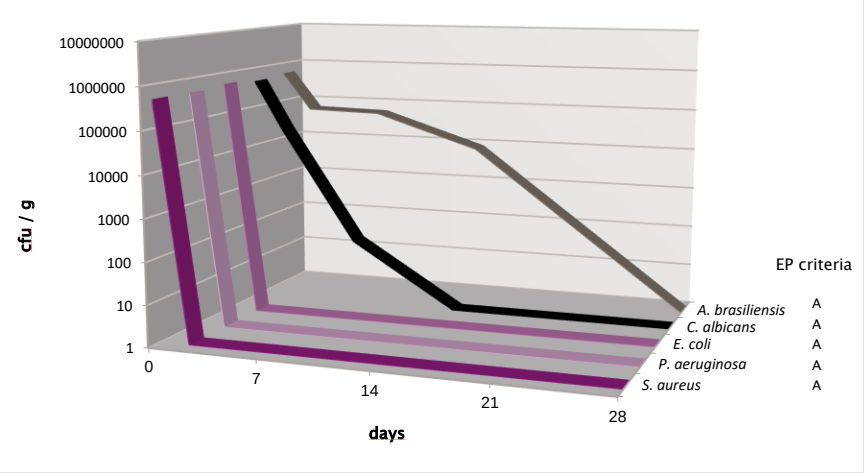
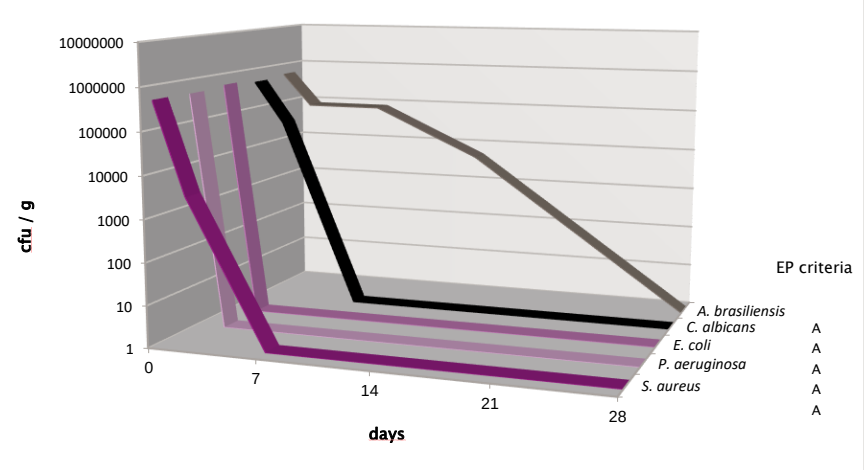
Performance at different pH levels in emulsions

Basic emulsion with 3.0 % dermosoft® OM (pH 5.3)

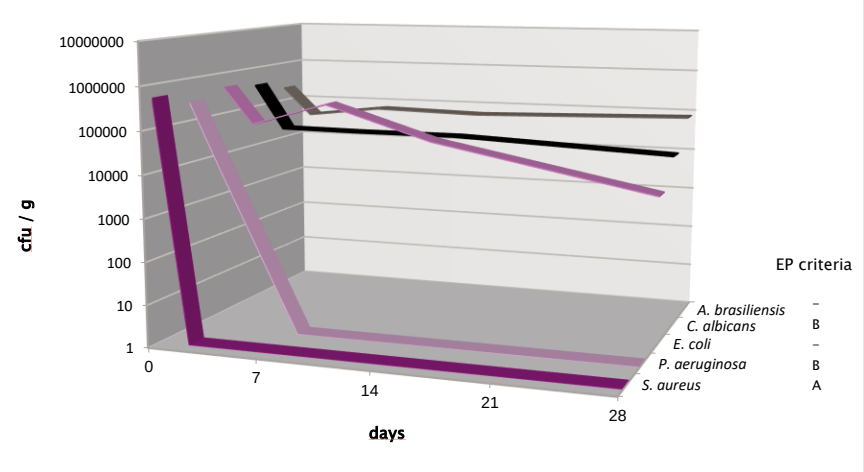


Basic emulsion with 3.0 % dermosoft® OM (pH 6.5)

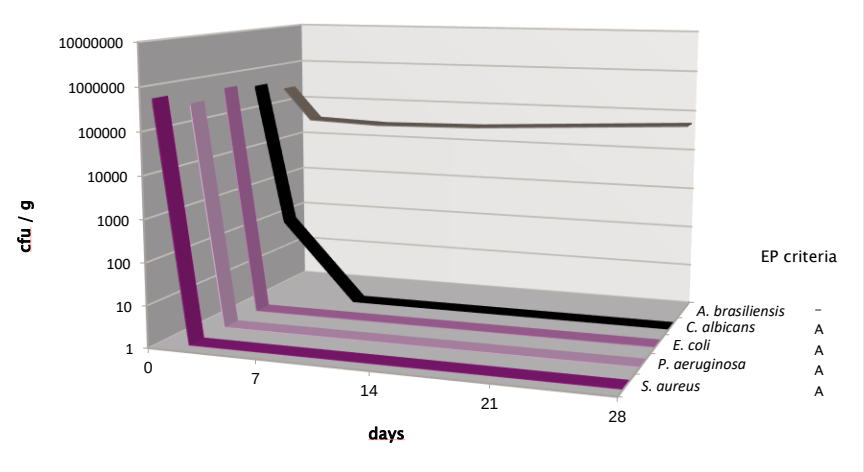


Performance in surfactant based products, comparison of **dermosoft® Octiol** and **dermosoft® OM**:

Surfactant base with 0.45 % dermosoft® Octiol (pH 5.3)



Surfactant base with 3 % dermosoft® OM (pH 5.3)



For this pH level we recommend the addition of fungicidal actives, e.g. **dermosoft® anisate**. Alternatively, the increase of the pH may allow to work without further additives.

Trade Information

International Approval*	EU, USA, Canada, China, Japan, South Korea, New Zealand
Packaging	25 kg
Shelf life (stored in original container)	36 months

* 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.

Literature

Thiemann, A.; Scholze, J.; Salmina-Petersen, M.; Jänichen, J. Wetting Agents: Friends or Enemies of Solubilizers. *SOFW*, **2014**, Nov, 46-53.
Thiemann, A.; Grandke, N.; Gröne, S.; Salmina-Petersen, M; Jänichen, J. Wetting Agents - Their Concentration-Dependent Effects on the Energy Demand in the Formation of Stable Emulsions. *SOFW*, **2015,** Mar, 10-16.
Thiemann, A.; Gröne, S.; Salmina-Petersen, M; Jänichen, J. Wetting Agents - Multifunctional Ingredients in Color Cosmetics. *SOFW*, **2015**, Sept, 34-40.

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