

Technical Information

dermosoft® Pentiol eco

The Product: dermosoft® Pentiol eco

dermosoft® Pentiol eco is derived from vegetable sources and represents a sustainable and natural cosmetics compliant alternative to the well-known petrochemical quality of Pentylene Glycol. It is identical in its multifunctional efficacy and convenience in handling.

CHARACTERISTICS

- *INCI: Pentylene Glycol*
- Appearance: Colourless, clear liquid
- Odor: odorless or faint

- 100% naturally derived, already COSMOS approved and compliant with other standards for natural cosmetics (please contact us for further information)
- Sustainable origin: Made from non-food parts of sugar cane (bagasse)

Cosmetic properties:

- Skin conditioning and solvent properties according to COSIng Database
- Improvement of pigment dispersion
- Enhancement of emulsification
- Sensory modifier (reduces tackiness)

- Low destabilization effect on emulsions
- Unlimited water solubility and soluble in polar ester oils
- Suitable for all types of cosmetic products

- Broadband antimicrobial activity, especially against gram negative bacteria
- pH independent
- Can be used alone or in combination with multifunctional additives and preservatives

DOSAGE

Product Concept	Dosage
Emulsions	1.0 – 3.0 % + co-active used alone: 5.0 %*
Surfactant and aqueous based product	3.0 – 5.0 %*

*do not exceed 4 % for eye care and sensitive skin products

ANTIMICROBIAL EFFICACY

Gram +	Gram -	Yeast	Mould
++	++	++	+

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

MANUFACTURING PROCEDURE (LABORATORY SCALE)

How to work with dermosoft® Pentiol eco

Incorporation in emulsions

- Add **dermosoft® Pentiol eco** to the water or oil phase, preferably before emulsification process
- Can be added at the end of manufacturing process, too
- Suitable for hot or cold process
- **dermosoft® Pentiol eco** has a low impact on emulsion stability

Hot or cold
process
possible

Incorporation into surfactant based products

- Dissolve **dermosoft® Pentiol eco** directly into the concentrated surfactant base
- Higher concentrations (> 4%) may have an influence on the viscosity

Ideal for
transparent
products

Incorporation into aqueous solutions

- Dissolve **dermosoft® Pentiol eco** directly into water (unlimited water solubility).

FORMULATION ADVICE

Compatibility	Surfactants
	UV-filters
	Lecithin, phospholipids
	Cosmetic oils
	Perfumes
	Active ingredients
Suitable combinations for antimicrobial efficacy	In emulsions: combination with organic acids (e.g. dermosoft® 1388 eco)

APPLICATION IDEAS

Perfectly suitable for higher pH levels, liquid and transparent products, suitable for natural cosmetics.

For more formulation ideas visit us at:

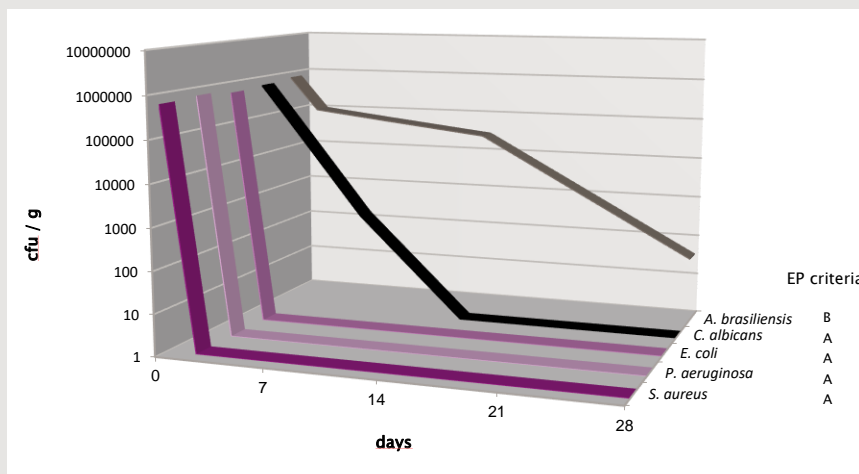
<https://www.dr-straetmans.de/en/products/>

Proof of Performance

MICROBIOLOGICAL CHALLENGE TESTS

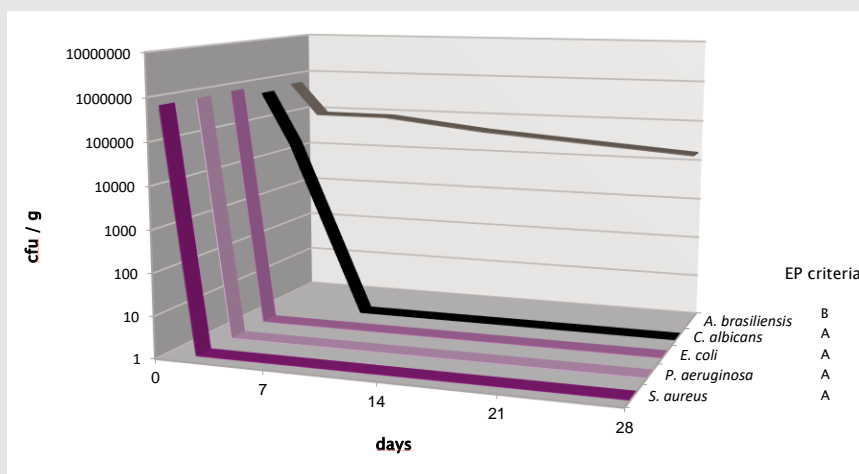
Used alone in emulsions at higher pH

Eye cream O/W emulsion containing 4.0% dermosoft® Pentiol eco (pH 6.5)



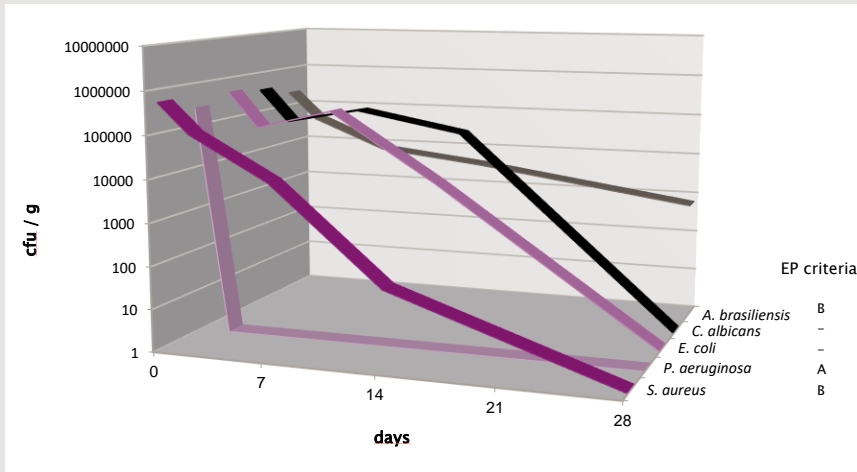
Used alone in aqueous product

Micellar water containing 3.5% dermosoft® Pentiol eco (pH 5.3)

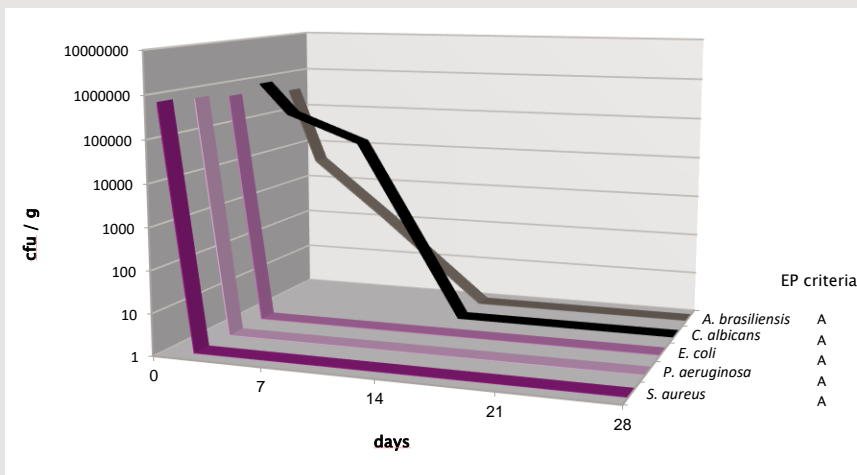


Boosting activity with organic acids

Basic emulsion containing 3.5% dermosoft® 1388 eco (pH 5.3)



Basic emulsion containing 3.5% dermosoft® 1388 eco + dermosoft® Pentiol eco (pH 5.4)



TRADE INFORMATION

International Approval*	EU, USA, Canada, Australia, China, Japan, Korea
Packaging	5 kg / 25 kg
Shelf life (stored in original container)	24 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.

LITERATURE

Pillai R. et al., (2008). "1,2-Alkanediols for Cosmetic Preservation". Cosmetics & Toiletries Magazine 123 (10), 53-61.

For further information, please contact:
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