



# Biopein®

US Patent #7,214,392

## All Natural Preservative for Multiple Personal Care & Cosmetic Applications, Crèmes, Shampoos, Soaps, Lotions, Etc.

A proprietary synergistic combination of botanical extracts. Biopein® has potent anti-microbial properties, making it an ideal ingredient for natural personal care and cosmetic applications.

**Appearance:** *liquid*

**Color:** *amber yellow*

**Aroma:** *characteristic, aromatic*

**Efficacy:** *anti-bacterial and anti-fungal*

**Recommended use level:** 0.20%

**Recommended temperature range:** 20° - 30°C (68° - 80°F)

**Method of Manufacturing:** *extraction of the proprietary mixture of herbs by \*Bio-Chelation® & blending*

**Solvent for Extraction:** *alcohol*

**Additives:** *none*

**Solubility:** *soluble in oils, fats and non-polar solvents*

**Recommended storage:** *store in a cool dry place, away from excessive heat or freezing temperatures*

**Shelf Life:** *6 months unopened*

### INCI Name:

Origanum Vulgare (Oregano) Leaf Extract	CAS No: 84012-24-8
Thymus Vulgaris (Thyme) Extract	CAS No: 84929-51-1
Cinnamomum Zeylancum (Cinnamon) Bark Extract	CAS No: 84649-98-9
Rosmarinus Officinalis (Rosemary) Leaf Extract	CAS No: 84604-14-8
Lavandula Angustifolia (Lavender) Flower Extract	CAS No: 90063-37-9
Hydrastis Canadensis (Goldenseal) Root Extract	CAS No: 84603-60-1

### Specifications:

**RESIDUE:** <10.0% (16 hrs.@ 105°C)

**REFRACTIVE INDEX:** 1.4200-1.6100 (USPXXIV <841> @ 25°C)

**SPECIFIC GRAVITY:** 0.9100-0.9990 (USPXXIV <841> @ 25°C)

### Analysis:

**RESIDUE:** N/A

**REFRACTIVE INDEX:** N/A

**SPECIFIC GRAVITY:** N/A

\*Bio-Chelation® is a registered trademark of Bio-Botanica®, Inc.  
Bio-Chelation® is a proprietary cold extraction process



BIO-BOTANICA® INC.

# Biopein®



## Safety Study

Test Sample: Biopein® 1.00% in MCT Oil  
(Five times the Recommended Effective Concentration)

1. Evaluation for irritancy potential utilizing the HET-CAM test, as modified by Kemper and Luepke\*. The Chorioallantoic Membrane (CAM) of the hen's egg is more sensitive to liquid irritants than is the rabbit's eye.

Controls: Johnson's Baby Shampoo (Moderately irritating) and Head & Shoulders Shampoo (Severely irritating)

Results: The sponsor-submitted samples of Biopein® would have practically no ocular irritation potential in vivo.

2. 48 Hour Patch Test to determine by epidermal contact the primary irritation potential of a test material.

Results: The Number of healthy subjects used in the study = 53.  
Ages 16 - 79 years. Human males and females.  
Mean score after 48 hours = 0  
Mean score after 72 hours = 0

Evaluation Key:  
0 = No visible reaction.  
+ = Barely perceptible or Spotty Erythema.  
1 = Mild Erythema covering most of the site.  
2 = Moderate Erythema, possible presence of mild Edema.  
3 = Marked Erythema, possible Edema.  
4 = Severe Erythema, possible Edema, Vesiculation, Bullae and/or Ulceration.

Conclusion: Under the conditions of this study, the sponsor-submitted samples of Biopein®, did not show any potential of dermal irritation. It is concluded that Biopein® had no eye irritation potential at 5 times the effective concentration.

\*Kemper, F.H. & Luepke, N.P. (1986). The HET-CAM test : An Alternative to the Draize test, FD Chem. Toxic. 24, pp495-496.

