SEPILIFT™ DPHP

Triple firming action for rejuvenation, moisturisation and anti-age wrinkle prevention
1 - Structure
**SEPILIFT™ DPHP**

**Anti-age ingredient: its structure**

**Structure**

- **Hydroxyproline**
  - Collagen-specific amino acid
  - *(biotechnological derived)*

- **Palmitic acid**
  - *(plant-derived)*

**Grafting**

**SEPILIFT™ DPHP**

**Hydroxyproline biovector**

"wakes up" and rejuvenates the skin.

*INCI name: Dipalmitoyl Hydroxyproline*
2 – *In vivo* anti-age efficacy
1. *In vivo* anti-aging "curative" efficacy *on crow’s feet*

**First study:** 15 volunteers – 28 days of treatment - 1% Sepilift DPHP (6767) – Study performed versus a placebo

- **Improvement of cutaneous micro-relief**

- **Wrinkles corrector (deep and small)** (image analyser)

- **Moisture improvement:** +18% in comparison to placebo (corneometer)
SEPILIFT™ DPHP, Anti-ageing ingredient

2nd test: anti-aging efficacy versus a reference on the market (*in vivo*)

D42: anti-age at high performance – Formula 7071

<p>| | | |</p>
<table>
<thead>
<tr>
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<tbody>
<tr>
<td>A</td>
<td>• LANOL™ P (glycol palmitate – SEPPIC)</td>
<td>1.50 %</td>
</tr>
<tr>
<td></td>
<td>• MONTANOV™ 202 (Arachidyl alcohol &amp; behenyl alcohol &amp; arachidyl glucoside - SEPPIC)</td>
<td>2.00 %</td>
</tr>
<tr>
<td></td>
<td>• MONTANOV™ 82 (Cetearyl alcohol &amp; Coco-glucoside - SEPPIC)</td>
<td>1.00 %</td>
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<tr>
<td></td>
<td>• Squalane</td>
<td>7.00 %</td>
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<td></td>
<td>• Polysobutene</td>
<td>13.00 %</td>
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<tr>
<td></td>
<td>• MONTANOX™ 60 DF (Polysorbate 60 - SEPPIC))</td>
<td>0.50 %</td>
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<tr>
<td></td>
<td>• Keltrol T</td>
<td>0.15 %</td>
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<tr>
<td></td>
<td>• SEPILIFT DPHP (Dipalmitoyl Hydroxyproline – SEPPIC)</td>
<td>1.00 %</td>
</tr>
<tr>
<td>B</td>
<td>• Water</td>
<td>Up to 100 %</td>
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<tr>
<td></td>
<td>• Chlorophenesin</td>
<td>0.30 %</td>
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<tr>
<td></td>
<td>• Glycerin</td>
<td>5.00 %</td>
</tr>
<tr>
<td>C</td>
<td>• SEPIPLUS™ 400 (Polyacrylate-13 &amp; polyisobutene &amp; polysorbate 20 – SEPPIC)</td>
<td>1.00 %</td>
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<tr>
<td>D</td>
<td>• SEPICIDE™ LD (Phenoxyethanol – SEPPIC)</td>
<td>0.70 %</td>
</tr>
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<td></td>
<td>• Fragrance</td>
<td>0.10 %</td>
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<td></td>
<td>• TEA 50%</td>
<td>Up to pH = 5.5</td>
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</tbody>
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Method:

- *In vivo*: 20 volunteers (average age: 56 years)
- Efficacy of 1% SEPILIFT DPHP versus placebo and versus an anti-age lipopeptide on the market (3%)
- 2 applications/day
- 42 days of treatment on crow’s feet
- Number of wrinkles: analysis software

> Demonstrated efficacy in comparison to the placebo formula (same formula without active ingredient) and a reference lipopeptide on the market
SEPILIFT™ DPHP, Anti-ageing ingredient

- **Anti-aging efficacy** versus a reference on the market (*in vivo*):

**Efficacy of 1% SEPILIFT DPHP** versus placebo and an anti-aging lipopeptide on the market (3%) after 42 days of treatment

<table>
<thead>
<tr>
<th>% reduction in number of wrinkles</th>
<th>Placebo</th>
<th>Lipopeptide 3%</th>
<th>SEPILIFT DPHP 1%</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%</td>
<td>No effect</td>
<td>-32% *</td>
<td></td>
</tr>
<tr>
<td>-2%</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>-4%</td>
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<td></td>
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<tr>
<td>-6%</td>
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<td></td>
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<tr>
<td>-8%</td>
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<td>-10%</td>
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<td></td>
<td></td>
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<tr>
<td>-12%</td>
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<td></td>
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<td>-14%</td>
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<td></td>
<td></td>
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<tr>
<td>-16%</td>
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</table>

After treatment, 65% of volunteers having used the formula with SEPILIFT DPHP showed a positive effect in comparison to placebo.

*: p<0.05

**Lipopeptide** = Glycerin and Water and Butylene Glycol and Carbomer and Polysorbate 20 and Palmitoyl Oligopeptide and Palmitoyl Tetrapeptide-7

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**Only the formula with 1% SEPILIFT DPHP significantly reduces the number of wrinkles in comparison to placebo.**

No significant efficacy of the formula with 3% anti-ageing lipopeptide on the market in comparison to placebo.
B. On lips: 30 volunteers – 15 days of treatment - 1% Sepilift DPHP in a lipstick (6831)

- Improvement of immediate and long-term moisturisation (corneometer)
  + 15% 10 minutes after application
  + 10% after 15 days of treatment

- Restructuring of labial mucuous after 15 days:
  - 15% of Trans Epidermal Water Loss (evaporimeter)

- Anti wrinkle effect: -37% of the width and depth of lips’ furrows after 15 days (image analyser)

- “Glamour” effect

Before application D15  After application D15
3 – Mode of action
WRINKLES CORRECTOR & MOISTURIZER (Lips and Face)

COMPLETE ACTION ON DERMIS

1. Contraction of collagen fibers
   + 14% of collagen fibers contraction (0.001% DPHP)

2. Protection of elastic fibers
   + 81% anti-elastase effect (0.05% DPHP)

3. Radical scavenging effect
   + 85% inhibition of superoxyde anion (0.07% DPHP)

4. Stimulation of TIMPs, natural anti age inhibitors
   + 46% of TIMP2 stimulation by fibroblasts (0.0005% DPHP)

5. Inhibition of MMPs, enzymes responsible for skin's ageing process
   + 94% of MMP2 inhibition by fibroblasts (0.0005% DPHP)

6. Protection of dermo epidermal matrix and collagen
   + 26% of pro-collagen 1 stimulation by fibroblasts (0.0005% DPHP), +61% of laminins stimulation by fibroblasts (0.0005% DPHP)
4 – Cosmetic applications
4. Very well tolerated, SEPILIFT DPHP can be incorporated at 1% in:

<table>
<thead>
<tr>
<th>INDICATIONS</th>
<th>COSMETICS APPLICATION</th>
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<tbody>
<tr>
<td>Long lasting moisturization</td>
<td>Anti-wrinkle and anti-age products</td>
</tr>
<tr>
<td>Anti-wrinkle activity</td>
<td>Firming products</td>
</tr>
<tr>
<td>Firming activity</td>
<td>Sliming products</td>
</tr>
<tr>
<td>Skin elasticity protection</td>
<td>Anti-stretch mark products</td>
</tr>
<tr>
<td>Radical scavenging effect</td>
<td>Care products (body and face)</td>
</tr>
<tr>
<td>Stimulation of natural anti-age defenses</td>
<td>Sun and after sun products</td>
</tr>
<tr>
<td>Long lasting lipophilic moisturizer</td>
<td>Make-up products (Lipsticks, foundations, powders ...)</td>
</tr>
<tr>
<td>Anti-wrinkles</td>
<td></td>
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<tr>
<td>Texturizing agent</td>
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</table>
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