Oats (Avena sativa) are a cereal grass and cultivated world-wide. For centuries they have been used not only as an excellent food source, but for their soothing and healing qualities. Clinical studies have proven that the multi-functional ingredients in oats heal dry and itchy skin, reducing inflammation and alleviating redness.

Avenanthramides are unique as they are only found in oat grains. Powerful natural anti-oxidant and skin smoothing properties make them ideal for skin, hair, baby, and sun care products, plus toiletries and cosmetics. What’s more, they are particularly effective as an active ingredient in sensitive skin and scalp products.

Colloidal oatmeal has been used for centuries for soothing the skin. In 2003, colloidal oatmeal was recognised as a skin protectant for the relief of a variety of dermatoses by the FDA (June, 2003). Ceapro scientists added immense value as they were the first to discover the link between the traditional use of colloidal oatmeal for alleviating red, itchy and inflamed skin and naturally occurring avenanthramides in oats.

A group of naturally occurring polyphenols found in oats. CEAPRO scientists were the first to indentify the link between the traditional symptomatic relief from oatmeal and the functional activity of avenanthramides.

- Fully soluble in aqueous, oil/water, water/oil systems
- Yellow -amber colour
- Low odour

**ECOCERT NATURAL REGISTRATION**

- Manufacturer: Ceapro Inc, Canada
- Product # 902-3043
- INCI Name: Avena sativa (Oat) Kernel Extract, Water, Glycerin, Potassium sorbate

**PRODUCT COMPOSITION**

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CAS</th>
<th>EINECS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Avena sativa (Oat) Kernel</td>
<td>84012-26-0</td>
<td>281-672-4 (I)</td>
</tr>
<tr>
<td>Extract</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Glycerin</td>
<td>56-81-5</td>
<td>200-289-5</td>
</tr>
<tr>
<td>Potassium sorbate</td>
<td>590-00-1</td>
<td>246-376-1</td>
</tr>
</tbody>
</table>
ACTIVITY & BENEFITS

• Contains natural antioxidants producing superior skin soothing benefits

• The skin calming active has been identified as Avenanthramides

• Standardized on its active principle of 100ppm Avenanthramides A,B,C

KEY PRODUCT APPLICABILITY

• Hair care products (shampoos & conditioners) 3.0-8.0%

• Baby care products

• Sun care products (Sun products & after sun) 2.0-10.0%

• Creams and lotions 1.0-5.0%

• Antiperspirants 1.0%

• Liquid foundations 2.0-5.0%

PRODUCT SUITABILITY

• Exhibits high effective soothing properties (in vivo) at usage levels as low as 0.5%

• Suitable for all water based cosmetic product based applications

• Shown to suppress skin and hair lipid peroxidation

• Effectively calms the skin as low as 0.45ppm

TECHNICAL SPECIFICATION

• Colour: Yellow to Amber

• Avenanthramides AF-1, AF-2, AF-6: 100 to 120 ppm

• Protein: ≤2.0 %

• pH @ 25°C: 2.8

• Turbidity (NTU) @ 25°C: <20

• Preservative: 0.2% (w/w) Potassium sorbate

Product formulated in glycerol and water (1:1 w/w)
MICROBIOLOGICAL PROPERTIES

Yeast / Mould
Total Aerobic Microbial Count <100 cfu/ml
Total combined yeast and mould count <100 cfu/ml

SOLUBILITY
Suitable for all water-based product forms (aqueous, aqueous/alcohol, emulsions, etc.)

RECOMMENDED USAGE
• Recommended usage: 1.0 to 5.0%
• Formulating pH range: 2 to 8
• Formulating temperature range: 25°C to 50°C

MAXIMUM USAGE
• No known restrictions

SUGGESTED FORMULATIONS
• Moisturising High SPF Sunscreen Lotion with Ceapro Oat Avenanthramide Extract

CERTIFICATION STATUS
• Natural product free from Genetically Modified Organisms
• Allergen free
• Not tested on animals
• ECOCERT Natural Registration

PACK SIZES AVAILABLE
5 and 20kg

HANDLING PROCEDURES
• Store at room temperature in a cool and dry place, avoid light and heat.
• Ceapro Oat Avenanthramides Extract is designated as non hazardous material.
• Keep containers closed when not in use.

SHELF LIFE
Use within 12 months.

The information contained herein is provided in good faith and, to the best of our knowledge, is true and correct. However, no warranty or guarantee is implied or inferred and the information may be subject to change without further notice. Ceapro Inc. products are sold with the understanding that the purchaser will conduct their own tests to determine the suitability of these products for their own intended application.
MOISTURISING HIGH SPF SUNSCREEN LOTION WITH CEAPRO OAT AVENANTHRAMIDE EXTRACT

SUGGESTED FORMULATION USING CP OAT AVENANTHRAMIDE EXTRACT

This high protection sunscreen lotion spreads easily and leaves a soft, non-greasy, water-resistant film on the skin. The formulation contains a mixture of sunscreen agents that are active in both the UVB and the more ageing UVA region. The Ceapro Oat Avenanthramide Extract helps to reduce any redness and irritation and potentially deal with any skin discomfort that being in the sun may cause. Visit www.ceapro.com for suggested formulations for other natural and soothing products.

<table>
<thead>
<tr>
<th>Phase</th>
<th>Tradename</th>
<th>INCI Name</th>
<th>% w/w</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Parsol 1789</td>
<td>Butyl Methoxydibenzoyl-methane</td>
<td>3.00</td>
</tr>
<tr>
<td>A</td>
<td>Parsol SLX</td>
<td>Polysilicone-15</td>
<td>3.00</td>
</tr>
<tr>
<td>A</td>
<td>Parsol 340</td>
<td>Octocrylene</td>
<td>3.60</td>
</tr>
<tr>
<td>A</td>
<td>Amphisol K</td>
<td>Potassium Cetyl Phosphate</td>
<td>3.00</td>
</tr>
<tr>
<td>A</td>
<td>Ceraphyl 368</td>
<td>Ethyl Heol Palmitate</td>
<td>5.00</td>
</tr>
<tr>
<td>A</td>
<td>Lanette O</td>
<td>Cetearyl Alcohol</td>
<td>2.50</td>
</tr>
<tr>
<td>A</td>
<td>Ceraphyl SLK</td>
<td>Isodecyl Neopentanoate</td>
<td>1.00</td>
</tr>
<tr>
<td>A</td>
<td>Antaron (Ganex) V- 220F</td>
<td>VP/Eicosine Copolymer</td>
<td>2.00</td>
</tr>
<tr>
<td>A</td>
<td>Copherol F 1300 G</td>
<td>Tocopherol</td>
<td>0.50</td>
</tr>
<tr>
<td>A</td>
<td>Sensolene</td>
<td>Ethylhexyl Olivate</td>
<td>5.00</td>
</tr>
<tr>
<td>A</td>
<td>Ceraphyl 230</td>
<td>Disopropyl adipate</td>
<td>7.00</td>
</tr>
<tr>
<td>A</td>
<td>Myritol 318</td>
<td>Caprylic/Capric Triglyceride</td>
<td>5.00</td>
</tr>
<tr>
<td>B</td>
<td>Tetrasodium EDTA</td>
<td>Tetrasodium EDTA</td>
<td>0.20</td>
</tr>
<tr>
<td>B</td>
<td>Glycerine</td>
<td>Glycerine</td>
<td>4.00</td>
</tr>
<tr>
<td>B</td>
<td>Keltrol CG-RD</td>
<td>Xanthan Gum</td>
<td>0.30</td>
</tr>
<tr>
<td>B</td>
<td>Water</td>
<td>Aqua</td>
<td>To 100</td>
</tr>
<tr>
<td>C</td>
<td>Triethanolamine</td>
<td>Triethanolamine</td>
<td>0.12</td>
</tr>
<tr>
<td>D</td>
<td>Parsol HS</td>
<td>Phenylbenzimidazole Sulfonic Acid</td>
<td>4.00</td>
</tr>
<tr>
<td>D</td>
<td>Triethanolamine</td>
<td>Triethanolamine</td>
<td>3.00</td>
</tr>
<tr>
<td>D</td>
<td>Water</td>
<td>Aqua</td>
<td>10.00</td>
</tr>
<tr>
<td>E</td>
<td>Ceapro Oat Avenanthramide Extract</td>
<td>Glycerine, Aqua/Water, Avena sativa (Oat) Kernel Extract</td>
<td>2.00</td>
</tr>
<tr>
<td>E</td>
<td>Optiphen Plus (or other suitable preservative)</td>
<td>Phenoxethanol (and) Caprylyl Glycol (and) Sorbic Acid</td>
<td>1.50</td>
</tr>
<tr>
<td>E</td>
<td>Citric Acid 25%</td>
<td>Citric Acid</td>
<td>qs</td>
</tr>
</tbody>
</table>

METHOD OF MANUFACTURE

1. Disperse the Keltrol in the water of phase B. Add the remaining ingredients of phase B and heat to 80°C.
2. Heat phase A to 85°C under stirring.
3. Add phase B to A with homogenisation.
4. Add phase C when the temperature drops below 55°C to adjust the pH to 7.0 (this level may need slight adjustment).
5. Mix phase D, ensuring the pH is 7.0 and that the solution is clear. Add to the emulsion and homogenise once more. Cool to room temperature with stirring.
6. Add phase E (only use citric acid if the pH needs adjusting to 7.0).

N.B. Phase A does not look homogeneous but this material disperses on mixing with the water phase and homogenising the emulsion.

For more information on a variety of products visit www.ceapro.com