Function:
Restructuring function
Maintains moisture and integrity of the cutaneous barrier.

Definition:
Ceramide 2 is a pure substance identical to natural ceramides constituting 40-50% of the skin’s lipids.

Properties:
Captures and retains the water necessary for the epidermal equilibrium.
Fights against skin ageing and preserves the skin’s youth.

Origin:
Synthetic.

INCI name:
Ceramide NG

Applications:
Make-up products, skin and body care, dry skin treatments, aged skin.

Formulation:
Heat ceramide 2 with emulsifier up to 90°C.
Add the oily phase after heated to 75°C.
Heat water phase to 75°C and emulsify.

Recommended use level:
Attack treatment (very dry skin):
0.2 to 1% (pure powder)

Maintenance treatment
0.05 to 0.2% (pure powder)
2 to 10% (sol at 2%)

Patent:
WO 1998/07744
In vivo tests

- **Water retention capacity of Ceramide 2**
  5 volunteers with dry skin. Twice daily application for 8 days of a cream containing 1% Ceramide 2 on the forearm versus placebo.

  Measurement of the epidermal water content by MRI (Magnetic Resonance Imaging).

  *Ceramide 2 captures and retains the water that the epidermis needs in order to stay supple, smooth and moisturised.*

  ![Water retention capacity](image)

- **Restructuring effect of Ceramide 2**
  - **Study on short term : 2 hours**
    13 volunteers with dry skin. 1 application of an emulsion containing 1% Ceramide 2 versus placebo after total delipidation (destruction of the cutaneous barrier).

    Measurement of the TEWL (Trans Epidermal Water Loss) with Tewameter 2 hours after application.

    - **TEWL decrease** -22%

    *Ceramide 2 leads to a rapid and efficient repair of the cutaneous barrier.*

  - **Study on medium term : 21 days**
    6 volunteers. Daily application of a cream containing 0.5% Ceramide 2 against placebo for 3 weeks on the forearm.

    Measurements of the TEWL with a Tewameter after stripping.

    - **TEWL decrease** -51%

    *The structure of the epidermis is reinforced and resists better to aggressions.*

Formulation

<table>
<thead>
<tr>
<th>Part A</th>
<th>Water Deionised</th>
<th>qs 100</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Ultrez 10 (Carbomer)</td>
<td>0.40</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Part B</th>
<th>Glycerin</th>
<th>5.00</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Preservative</td>
<td>0.80</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Part C</th>
<th>Span 60 (Sorbitan Stearate, Croda)</th>
<th>2.00</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Crodamol CSO (Cetearyl Octanoate, Croda)</td>
<td>7.00</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Part D</th>
<th>Arlacel 170 (Glycerol Stearate, PEG-100 Stearate, Croda)</th>
<th>3.00</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>CERAMIDE 2 (Sederma)</td>
<td>0.20</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Part E</th>
<th>Potassium Sorbate</th>
<th>0.10</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Part F</th>
<th>Sodium Hydroxide 30%</th>
<th>0.40</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Water Deionised</td>
<td>4.00</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Part G</th>
<th>Fragrance</th>
<th>0.10</th>
</tr>
</thead>
</table>

**Cream with Ceramide 2** Indicative formula ref: SED 0101115 A

**Protocol**


---

Non-guarantee: The formulation has been subjected to limited stability tests and has been shown to perform well. However, formulators adopting this approach should ensure to their own satisfaction long term stability and functionality. It is good practice to conduct safety tests on all final formulations prior to marketing. Suggested uses should not be taken as an inducement to infringe any existing patents.

Non-guarantee: The information in this publication is given in good faith by Sederma by way of general guidance and for reference purposes only. This information should not be construed as granting a license to practice any methods or compositions of matter covered by patents. Sederma assumes no liability in relation to the information and gives no warranty regarding the suitability of the product and/or ingredients described for a particular use. The use made of the product and/or ingredients described by the recipient and any claims or representations made by the recipient in respect of such product and/or ingredients are the responsibility of the recipient. The recipient is solely responsible for ensuring that products marketed to consumers comply with all relevant laws and regulations.