



# CERAMIDE 2




Ceramide 2

### 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.

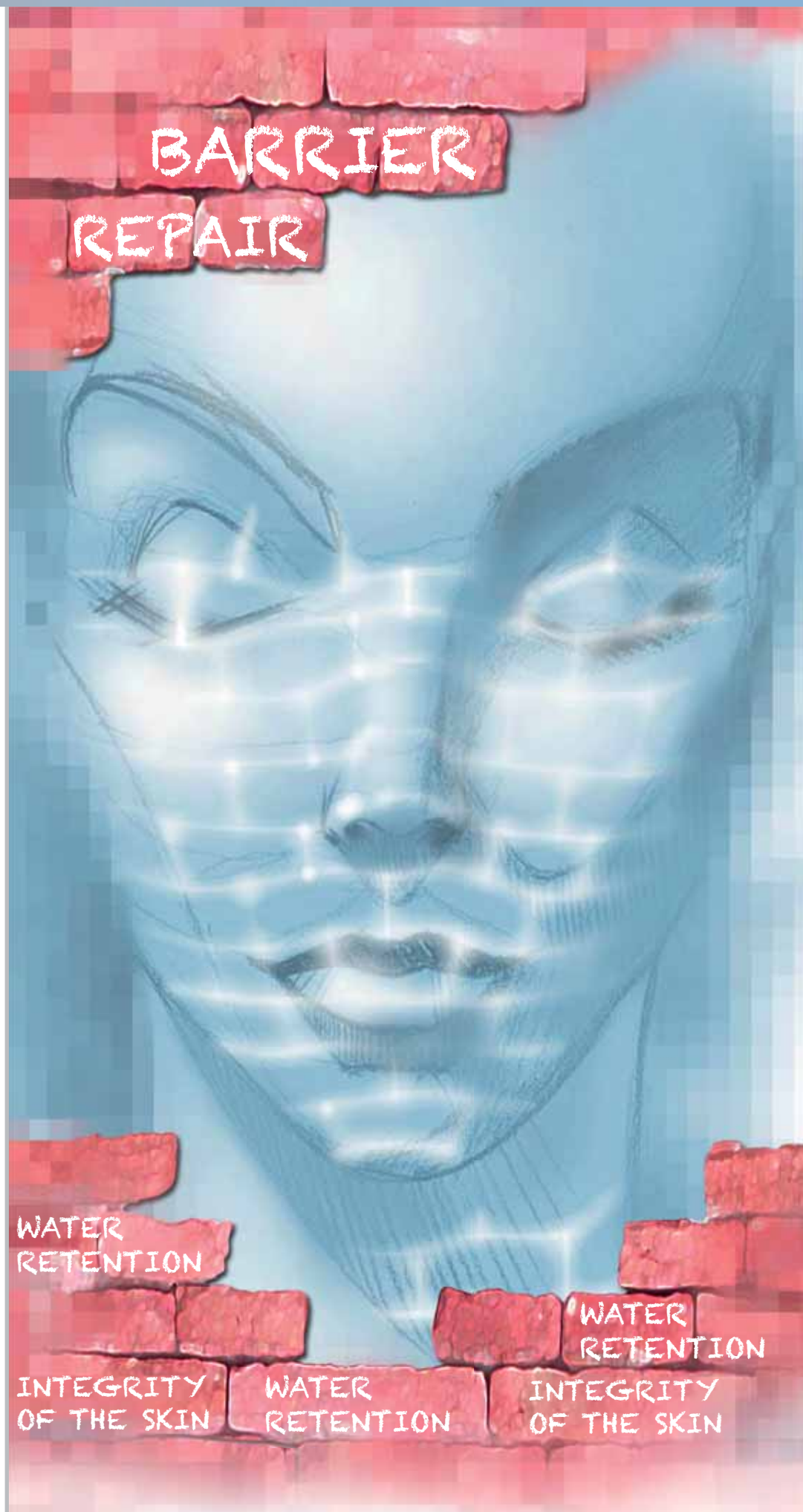
### Recommended use level:

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



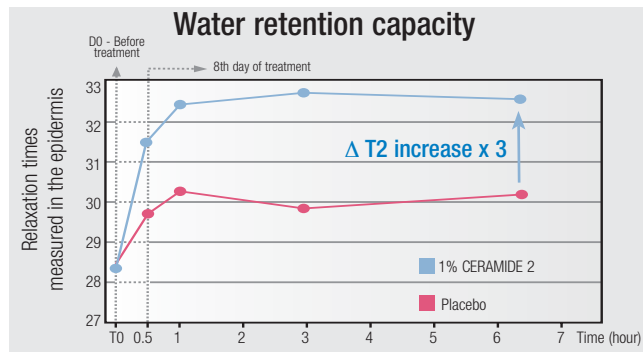
In vivo tests

● 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.**



● Restructuring effect of Ceramide 2

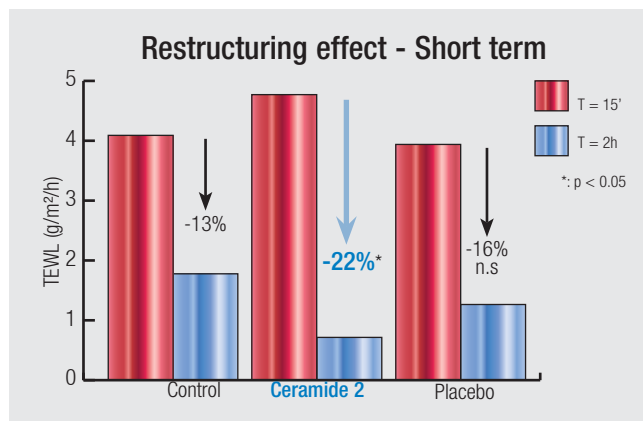
● Study on short term : 2 hours

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.**



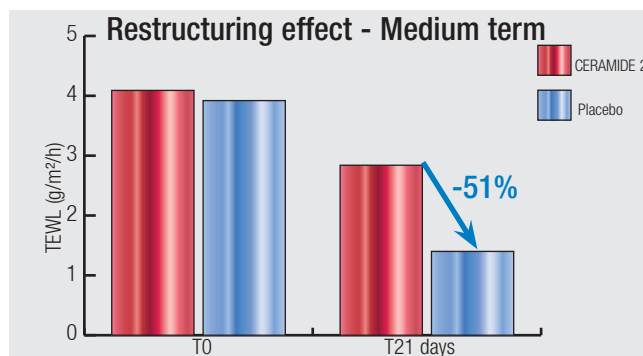
● Study on medium term : 21 days

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

Cream with Ceramide 2 Indicative formula ref: SED 0101115 A

<b>Part A</b> .....%	
Water Deionised	qs 100
Ultrez 10 (Carbomer)	0.40
<b>Part B</b> .....%	
Glycerin	5.00
Preservative	0.80
<b>Part C</b> .....%	
Span 60 (Sorbitan Stearate, Croda)	2.00
Crodamol CSO (Cetearyl Octanoate, Croda)	7.00
<b>Part D</b> .....%	
Arlacel 170 (Glyceryl Stearate, PEG-100 Stearate, Croda)	3.00
<b>CERAMIDE 2</b> (Sederma)	0.20

<b>Part E</b> .....%	
Potassium Sorbate	0.10
<b>Part F</b> .....%	
Sodium Hydroxide 30%	0.40
Water Deionised	4.00
<b>Part G</b> .....%	
Fragrance	0.10

Protocol

Weigh Part A and allow to swell for 20 minutes. Mix Part B and add it to Part A. Then heat Part A+B to 75°C in waterbath. Weigh Part C and heat to 75°C in water-bath. Weigh Part D and heat to 90°C until dissolution. Pour Part D and Part C into Part A+B with staro stirring. Add Part E. Neutralize with Part F. Add Part G at about 35°C. Homogenize well.

**Non-guarantee:** This 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.