

Care
Creations™

Advanced Moisture Complex

by **Beauty Creations**

The «Water Binding System»

 **BASF**

The Chemical Company

Immediate and long term hydration

It is difficult to comprehend the efficacy of classical active ingredients in the field of hydration. Glycerin, Petrolatum, urea, provide very intense moisture, and each plays a specific role: rapid hydration or barrier repair for a long term effect...

Thus humectants, such as glycerin, or other glycols, replenish moisture in the *Stratum corneum*, and immediately soften the skin. Hydrated polymers play a dual role as anti-dehydration shield as well as a water cushion at the skin surface.

Petrolatum prevents Trans Epidermal Water Loss (TEWL), and helps to restructure lipids to reinforce the natural skin barrier.

Advanced Moisture Complex Plant, synthetic, biotechnology active is a targeted suite of active ingredients that all play a specific role, thus providing both immediate and long-term hydration.

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Advanced Moisture Complex, an intense moisturizing complex

Glycerin, sodium PCA, trehalose, sodium hyaluronate and Polyquaternium-51, comprise a “super complex” that softens skin immediately after application, and generates optimal moisture all day long.

Glycerin, urea and sodium PCA act in synergy to keep water in the *Stratum corneum*. Trehalose, a complex sugar made of two molecules of glucose, reinforces the lamellar structure of epidermal lipids.

Sodium hyaluronate, a highly hygroscopic macromolecule, provides a water reservoir at the skin surface; Polyquaternium-51 (2-methacryloyloxyethyl phosphorylcholine and butyl methacrylate) reinforces the skin barrier properties because of the phosphorylcholine part of the polymer. It maintains a very high water level inside the skin thanks to its high water retention capability.

Properties

Short and long term hydration,
moisture replenishment, barrier repair

Origin

Natural, Biotechnology, Synthetic

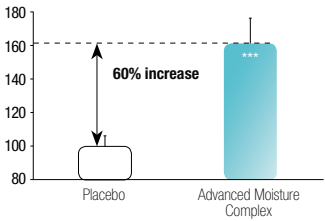
Skincare

Face care for very dry skin
Comforting face and body care
Dehydrated skin repair concentrates

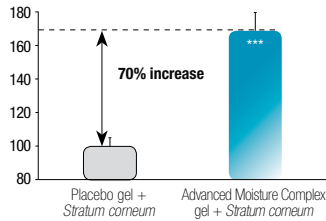
Water is the plasticizer of skin

Albert, M, Kligman

Water binding capacity



*** Statistically significant $p < 0.001$



*** Statistically very highly significant $p < 0.001$

In vivo study

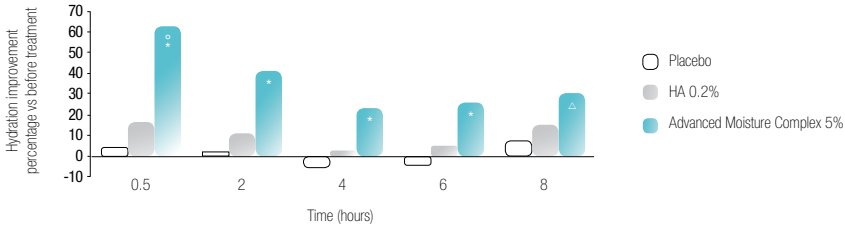
• Thermogravimetric analysis : Test able to distinguish between the bound water and free water content of a sample and quantify it.

Experiment A: Two gels were formulated in house. One contained 10% Advanced Moisture Complex, and the other, a placebo containing silica in place of Advanced Moisture Complex. **Experiment B:** The two gels from experiment A were mixed with human skin cells (corneocytes) to mimic the effect these gels will have, when applied to the skin.

Presence of Advanced Moisture Complex in formulation increases the bound water of formulations.

This capacity is further enhanced in the presence of skin cells.

More hydrating than hyaluronic acid



* Statistically significant vs placebo $p < 0.05$

◦ Statistically significant vs HA $p < 0.05$

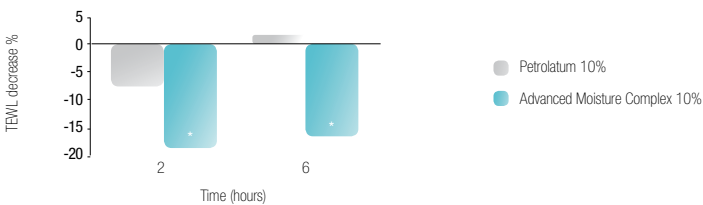
△ Statistically significant vs baseline $p < 0.05$

In vivo study

- Tested on 24 volunteers.
- Each group of 8 tests 1 product on the forearm, thanks to a single application.
- Slight damaging of the epidermis (a 3 day washing step with a soap bar, twice a day) before the test.
- Base, base + 0.2% hyaluronic acid, base + 5% Advanced Moisture Complex
- Hydration measurement by Skicon® at 30 mn, 2, 4, 6, 8 h after application.

Up to 4 times more hydrating than hyaluronic acid

Reinforces cutaneous barrier



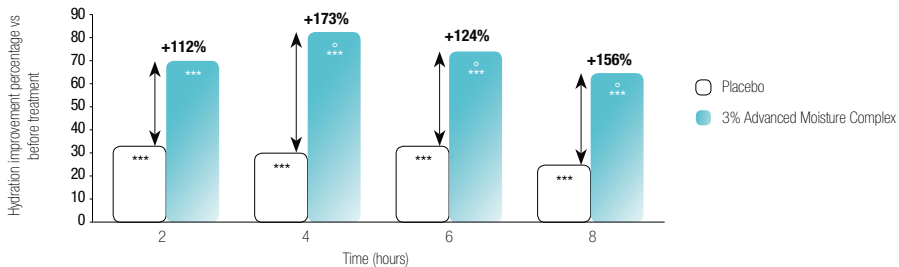
* Statistically significant vs before application $p < 0.05$

In vivo study

- Tested on 11 volunteers.
- A single application on the forearm.
- Lotion + petrolatum 10% versus lotion + Advanced Moisture Complex 10%.
- TEWL measurement by Tewameter® at 2 and 6 h after application.

Advanced Moisture Complex prevents water evaporation more effectively than petrolatum

Immediate and all day intense moisture



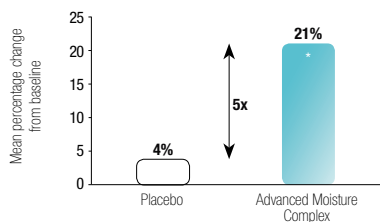
*** Statistically significant vs before application $p < 0.01$
 ° Statistically significant vs placebo $p < 0.05$

In vivo study

- Tested on 10 volunteers.
- A single application on the forearm
- Slight damaging of the epidermis (a 4 day washing step with a soap bar, twice a day) before the test.
- Base versus base + Advanced Moisture Complex 3%.
- Hydration measurement by Skicon® at 2, 4, 6 and 8 h after application.

Advanced Moisture Complex provides a very intense hydration during 8 hours.

Long term intense moisture



* Significance $p \leq 0.05$

In vivo study

- Tested on 6 women between 24 to 64 years old
- Measurements on the volar forearms with Corneometer CM 825
- Base, base + 10% Advanced Moisture Complex, application twice daily for 2 weeks
- Hydration measurement by Corneometer® at D0 and D15 (10 to 16 hours after the last application)

Advanced Moisture Complex provides a very intense hydration after 2 weeks of application.

Summary file

REF R11016

DESCRIPTION

Glycerin (plant), Sodium PCA (plant), Urea (petroleum), Trehalose (Plant), Polyquaternium-51, Triacetin, Caprylyl Glycol, Sodium Hyaluronate, Triacetin (petroleum), Sodium Hyaluronate (ferment), Polyquaternium 51 (petroleum)

REGULATORY DATA

US INCI Glycerin, Water, Sodium PCA, Urea, Trehalose, Hexylene glycol, Polyquaternium-51, Triacetin, Caprylyl Glycol, Sodium Hyaluronate.

Japanese Cosmetic Denomination Guriserin, Mizu, PCA-Na Nyouso, Toreharoshu, -, Porikuotaniumu-51, Toriacechin, Kapuririrugurikohru, Hiaruronsan Na.

CAS# 56-81-5, 7732-18-5, 28874-51-3, 57-13-6, 99-20-7, 107-41-5, 125275-25-4, 102-76-1, 1117-86-8, 9067-32-7.

EINECS# 200-289-5, 231-791-2, 249-277-1, 200-315-5, 202-739-6, 203-051-9, N/A, 203-051-9, 214-254-7, 232-678-0.

SPECIFICATIONS

Color Colorless to pale yellow

Odor Characteristic

Appearance Slightly hazy to transparent liquid

Specific gravity 1.140 – 1.180

pH (50% solution) 4.6 – 8.0

Total Aerobic Bacteria Count <100 cfu/g

Total Yeast and Mold Count <100 cfu/g

Gram negative rods Absent in 10 ml or g

Escherichia coli Absent in 10 ml or g

Pseudomonas aeruginosa Absent in 10 ml or g

Staphylococcus aureus Absent in 10 ml or g

Aspergillus niger Absent in 10 ml or g

Candida albicans Absent in 10 ml or g

FORMULATION DATA

Concentration of Use Up to 10 %

Incorporation method

• Advanced Moisture Complex must be incorporated at temperatures less than 80° C. However, depending upon the formulation requirements, it may also be added during the final phase of formulation.

• Advanced Moisture Complex may be added to the formulation in the same phase as the glycols or glycerin. It may be incorporated alone or in combination with them.

• In formulations containing thickening polymers, Advanced Moisture Complex should be added to the formula after the polymers are hydrated, but prior to the emulsification phase.

• Depending upon the formulation, Advanced Moisture Complex can be added by itself, dissolved in a solvent such as a glycol, or blended with other ingredients.

• Advanced Moisture Complex is not affected by shear of any type used during manufacturing.

• The concentration of Advanced Moisture Complex to be added to the final formulation may be "dialed" to provide mild to intense moisturization to suit the development profile.

PATENT

none

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