

# Biosponge Hydractyl

## Time release system

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### INCI Name:

Honey Extract (and) Sodium PCA (and) Serine (and) Glycogen (and) Nylon 12 (and) Water

### Description:

BIOSPONGE HYDRACTYL is a new cosmetic compound based on spherical/oval micro particles of an average homogeneous size (5 to 20  $\mu\text{m}$ ), loaded with different active ingredients hydrophilic or lipophylic.

Each particle is a micro-sponge, whose composition is:

- The container is a micro-vector whose is made up with a neutral polymer with a synthetic origin (polyamide), inert and stable and with an excellent local tolerance. Each micro-particle is formed by a micro-canal net destined to receive the active ingredient and release it in a progressive form, allowing time delay and progressive effect.
- The content is BIO-HYDRACTYL. It is a natural hydro-glycolic active with a composition similar in elements and in functionality to the skin's Natural Moisturizer Factor (NMF). The NMF is a compound of substances responsible of bounding the water at the superficial layers of the skin. It is thus, the responsible of the skin's hydration.

BIOSPONGE HYDRACTYL is presented as a light, white-beige powder, with weak odor made up by:

BIO-HYDRACTYL.....	40%
A matrix, neutral, inert micro-vector.....	60%

Presenting an Active Ingredient in a micro-vector offers considerable advantages due to the following:

1. **A progressive freeing of the linked active ingredient:** This system allows a progressive release of the ingredient, which result in a time delay, long lasting effect. The ingredients progressive release into the outside of the micro-particles is achieved through trans-matrix diffusion.
2. **Protection of the entrapped active ingredient:** thanks to its structure, composition and preparation, this active ingredient, which is linked to this micro-vector, is protected from the outside environment and its interactions.

These micro-particles do not have an occlusive effect, allowing the natural physiologic interchanges of gas and liquids thru the skin and the environment.

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### MECHANISM OF ACTION OF BIOSPONGE HYDRACTYL:

It is well known that the Skin is covered by a light hydro-lipidic film, made up by a mixing of sweat and sebaceous secretion. The cutaneous temperature is around 30 °C.

When a cosmetic preparation, with BIOSPONGE HYDRACTYL, is applied on the skin, the micro-particles, due to its size, stay at the external epidermic layers surface. The micro-sponges contents tend to be diffused over the cutaneous hydro-lipidic film.

There are three facts which contribute to the release of the active ingredient and its diffusion over cutaneous secretion.

- The micro-pressure made up by the massage, when the product is applied.
- The hydro-lipidic nature of the cutaneous film.
- The skin temperature (30-33 °C)

The facts that modulate the BIO-HYDRACTYL release into outside of the micro-sponge in controlled way are:

- The interaction between BIO-HYDRACTYL and micro-sponge micro-canal net.
- The internal micro-net fragility.
- The micro-net absorption phenomenon.

### Effects in Cosmetic Products

With this active ingredient we can formulate cosmetic products aimed to a time-release treatment concept. If applied in a day treatment, the active ingredient that provides the moisturizing action, will be released into the skin during certain time. The skin will be better moisturized during a longer period of time.

At night is when the skin's restoring activity is more intense. It is free from the protection role and its cells can perform repairing actions better. The progressive liberation of substances analogous to the skin's NMF will provide these cells with materials to help its restoring work.

BIOSPONGE HYDRACTYL provides the following properties to the skin:

- Natural moisturizer. Reproduces the skin's NMF
- Hydro-retention and hydro-regulation
- Restrains the dehydration without occlusive effect
- Improves the flexibility and softness of the skin.
- Restructures the cutaneous micro-relief.
- Reassures the irritated, sensitive skins.

BIOSPONGE HYDRACTYL is indicated for the following treatments (in creams, emulsions, masks, gels,...)

- Products for dry, rough skins

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- Preparations for skins lacking elasticity
- After-sun preparations
- After-shave products
- Treatment make-up
- Body gels or lotions
- Hair treatments.

### **Dosage – Solubility – Processing**

A- DOSAGE:

From 3 to 10%

B- SOLUBILITY:

Insoluble in oils and water.

C- PROCESSING:

BIOSPONGE HYDRACTYL in emulsions should be added in the final phase, at the cooling process (around 40 °C), with turbine agitation.

It can also be used at colour powders, to decrease the drying effects of these powders.

### **Analytical Data**

- APPEARANCE: powder, white-beige colored, sticky, extremely soft texture, with a weak odor.
- pH: 5,0 – 7,0
- PRESERVATIVES: EC, USA & Japan approved
- MICROBIOLOGY: Maximum 50 CFU/gram (not pathogenic)
- TOLERANCE: good local tolerance
- STORAGE: Store at room temperature, dry and away from light.

If original container is opened, to avoid secondary microbiological contamination handle with special care and keep refrigerated.