

## Technical specifications

### • *Xeradin 40851*

PROPERTIES	Increases water maintenance and absorption, decreases its loss and improves its use. It improves skin hydration immediately and at a 24 hours.
ACTIVE MOLECULES	Salvia sclarea (flavonoids) Standardized in flavonoids and total sugars
APPEARANCE	Liquid Brown color
SOLUBILITY	Soluble in aqueous solutions
RECOMMENDED DOSE	2 – 4%

### *Cosmetic applications*

#### Immediate action

- face and body creams and milks
- face and body lotions
- shampoos
- aftershaves
- bath moisturizing products

#### 24-hour action

- intensive moisturizing products
- moisturizing products for dry skin
- anti-aging moisturizing products
- moisturizing products for extreme activities and conditions (extreme sports and other applications)

## *Xeradin*

Vegetable source of hydration  
24 hours

Moisturizing

**Xeradin**

XERADIN™ is a functional ingredient of vegetable origin with a high immediate and at 24 hours hydration power. This innovative ingredient has been obtained due to the adaptogenic mechanisms of xerophyte plants in hydric conditions.

**Xerophyte plants**

In the biosphere, plants are subjected to a series of adverse conditions (they differ from the optimum environment required for the growth and reproduction of the plant), and they survive according to their adaptive flexibility.

There are some areas on the planet that have already been classified as especially disadvantageous for the survival of most plants due to the lack of water they are subjected to and the resulting hydric stress (xeric conditions).

Flora inhabiting those areas has had to adapt to these xeric conditions to be able to grow and reproduce, which means that it has developed different and special mechanisms to better leverage and manage available water.



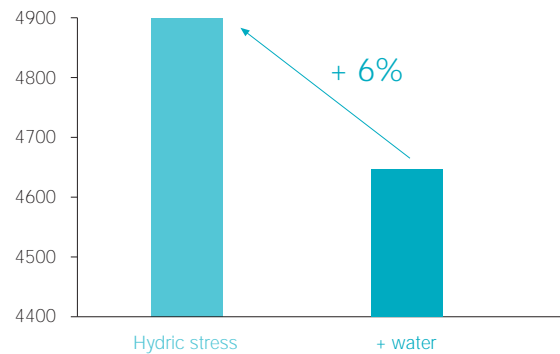
**Agronomic study**

With the collaboration of IRTA, *Institut de Recerca i Tecnologies Agroalimentàries* (Research and Agrifood Technologies Institute of the Catalan government), 16 xerophyte plants from the Mediterranean area were studied. The objective of the project was to select the vegetable species that, in hydric stress conditions, would create differential adaptations.

The plants were subjected to conditions of controlled cultivation with two hydric regimes and samples were taken at different times of the day (7am, 12pm and 8pm).

The results indicated that xerophyte Sage is the species that better adapts to hydric stress. Its content in flavonoids is clearly different compared to an environment with a higher hydric level.

• Flavonoids



Salvia sp.

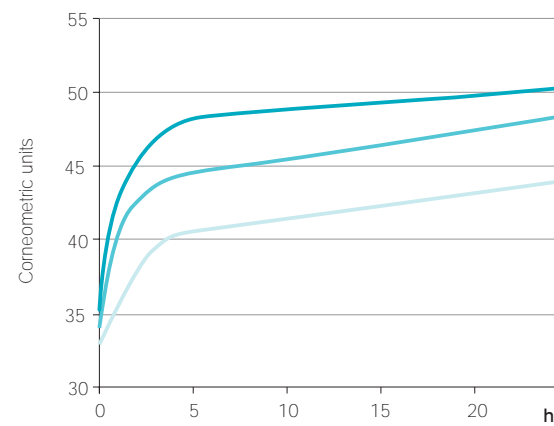
Xeradin™ was obtained from xerophyte Sage, becoming an effective active ingredient as an immediate and 24 hours moisturizer.

Plants wisdom as a moisturizing source.

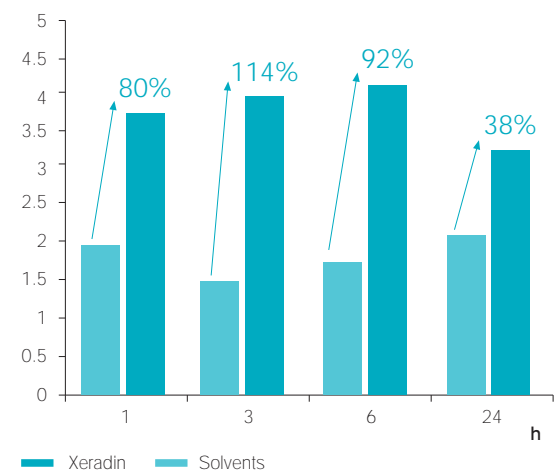
**In vivo test**

- Transepidermal water loss and skin hydration were observed.
- Volunteers tested three products: the base formula, the base formula plus solvents, and the previous ingredients plus Xeradin™.
- Measurements were taken 1h, 3h, 6h and 24h after the products were applied.
- Relative humidity and temperature were controlled (40-50% HR; 20° C)

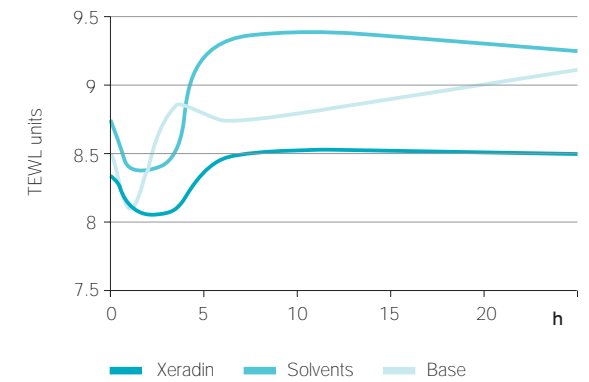
• Moisturizing effect



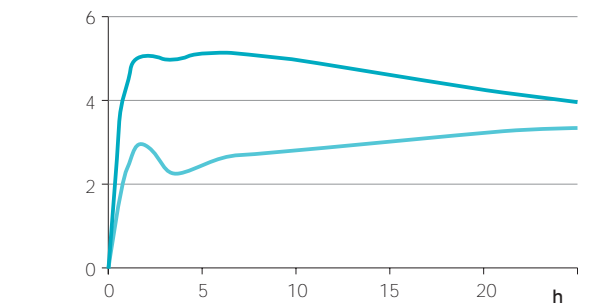
• Hydration levels



• TEWL



• Hydration without base formula



**Xeradin™ hydrating results after the application, at different times:**

- T1: 80% increase
- T3 : 114% increase
- T6 : 92% increase
- T24: 38% increase

**Toxicological information**

XERADIN™ has been evaluated according to the available toxicological information, based on safety assays and bibliographical data. These data allow the conclusion that using this ingredient, under the normal conditions for the use of cosmetics and at the recommended concentrations, is free of risks.