

HYLO®

HYLO DUAL® & HYLO DUAL INTENSE® – THE DUAL MODE OF ACTION FOR DRY EYES.



THE SPECIAL COMBINATION OF HYLURONIC
ACID AND NATURAL ECTOINE. LUBRICATION OF
DRY EYES AS WELL AS PROTECTION AND RELIEF
OF INFLAMMATORY SYMPTOMS.

hylo.de

DUAL MODE OF ACTION WITH HYALURONIC ACID AND ECTOINE

The high quality hyaluronic acid used in **HYLO**[®]-products provides uniform, stable and particularly long-lasting lubrication of the eye surface. The concentration of the hyaluronic acid determines the degree of intensity of lubrication.

The ectoine used in **HYLO DUAL**[®] (0.05% hyaluronic acid and 2% ectoin) and **HYLO DUAL INTENSE**[®] (0.2% hyaluronic acid and 2% ectoin) is isolated from microorganisms that survive under the harshest conditions. To protect themselves from extreme environmental conditions, these microorganisms synthesise the natural substance ectoine. This enables them to compensate for extreme variations in the surrounding salt or water concentration.

The role of ectoine in **HYLO DUAL**[®] and **HYLO DUAL INTENSE**[®] is to bind the surrounding water and create a very compact and water -rich shield on the ocular surface. This supports the physiological barrier against inflammatory irritations on the cornea and conjunctiva. At the same time ectoine stabilises the lipid phase of the tear film, which protects against excessive evaporation of lacrimal fluid.

The dual mode of action of hyaluronic acid and ectoin prevents the occurrence of irritations caused by environmental factors, which often lead to inflammatory allergic symptoms such as itching and burning.

- ✓ High quality hyaluronic acid and ectoine
- ✓ Preservative and phosphate free
- ✓ High yield of 300 drops
- ✓ Patented and easy to use **COMOD**[®] system
- ✓ Can be used for 6 months after opening

WHEN SHOULD **HYLO DUAL**[®] OR **HYLO DUAL INTENSE**[®] BE RECOMMENDED?

HYLO[®]



Burning, itching and watery eyes, the sensation of having a tiny grain of sand in the eye or a feeling of dryness are typical symptoms of irritated eyes. Often this indicates that the eyes are not sufficiently lubricated.

With 0.2% **HYLO DUAL INTENSE**[®] contains a particularly high concentration of hyaluronic acid and is highly viscous. Thus, it provides the eye with a very stable lubrication - intensive and long-lasting. **HYLO DUAL INTENSE**[®] therefore provides relief of lasting and more severe or chronic conditions.



HYLO DUAL® – LUBRICATION AND TEAR FILM STABILISATION

0.05% hyaluronic acid and 2% ectoine



HYLO DUAL INTENSE® – INTENSIVE MOISTURIZATION AND RELIEF OF INFLAMMATORY SYMPTOMS

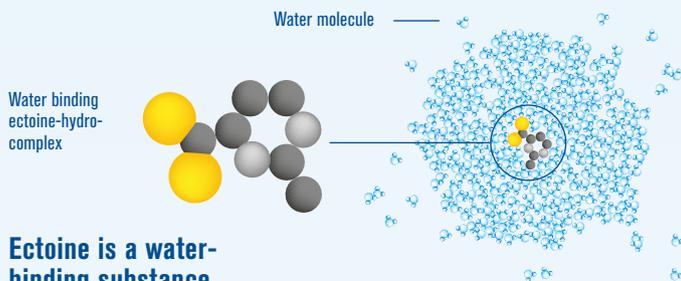
0.2% hyaluronic acid and 2% ectoine



- ✓ Lubrication for dry and irritated eyes and sustained protection against re-drying by stabilising the tear film
- ✓ Supports the body's own barrier against substances that trigger allergies and irritants
- ✓ Free from preservatives and phosphates
- ✓ Can be used for up to 6 months after opening

- ✓ Intensive and long-lasting lubrication of chronically dry eyes with inflammatory symptoms
- ✓ The combination of highly viscous hyaluronic acid and ectoine protects the ocular surface from re-drying and stabilises the tear film.
- ✓ Long-lasting relief of inflammatory symptoms and support of the body's barrier function against inflammatory stimuli
- ✓ Free from preservatives and phosphates
- ✓ Can be used for up to 6 months after opening

EFFECT OF ECTOINE: INFLUENCING THE STRUCTURE OF THE SURROUNDING WATER



Ectoine is a water-binding substance.

Ectoine

- ✓ increases the number of water molecules in its immediate vicinity
- ✓ increases the bond between neighbouring water molecules
- ✓ therefore strengthens the water binding to the Ectoine-molecule

Key information about ectoine

The earth is colonised by millions of different types of microorganisms. The extremophiles can be found under extreme conditions such as hot water geysers, kilometres of thick Antarctic ice and even in salt water lakes. They live where no one would expect to find life and where conditions prevail that were long thought to be absolutely hostile to any living organism.

The adaptation to these extreme environmental conditions is made possible through extremolytes. These are low molecular weight protective substances that stabilise biological membranes, proteins and nucleic acids. This stabilisation protects the microorganisms from environmental stresses such as severe temperature variations, high levels of UV radiation or dehydration. One of the best known extremolytes is ectoine.

In particular, dehydration-resistant and halophilic microorganisms accumulate ectoine for protection. Ectoine is both an osmoprotectant and a stabiliser of biological structures, i.e. biopolymers.

Ectoine causes more water to bind to the membrane. In this way it protects cells from inflammatory reactions towards environmental stress factors such as dehydration (e.g. caused by hyperosmolar tears), UV radiation or airborne allergens.¹

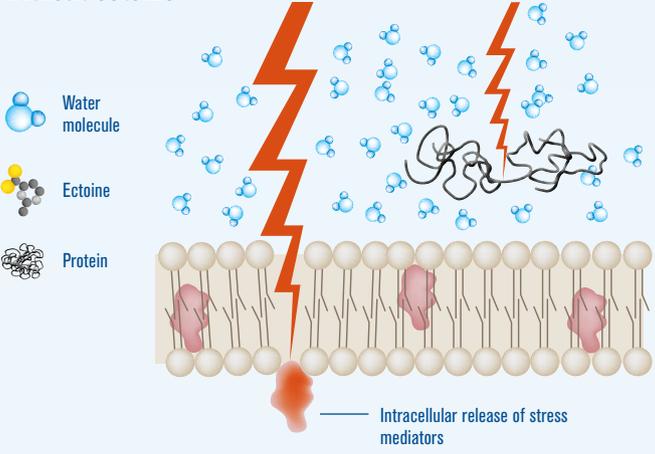
- ✓ Ectoine has a protective effect on cell membranes.²
- ✓ Ectoine reduces inflammatory processes.³
- ✓ The water-rich protective shield of ectoine protects epithelial cells against allergens.⁴
- ✓ Furthermore, ectoine has a stabilising effect on the tear film lipid phase.⁵

On the ocular surface tears form a heterogeneous, highly structured film comprised of layers that vary in thickness and consistency. With every blink of the eye, the tear film is subjected to a three-dimensional compression prior to its renewed expansion. The lipid phase should in this process be reversibly restored.

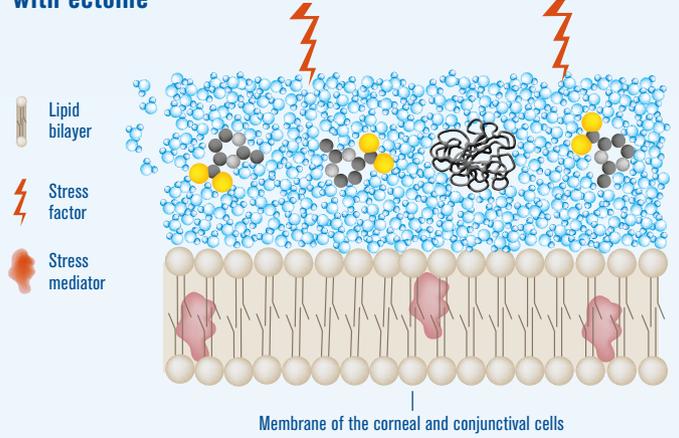
Ectoine increases the compressibility of the tear film. Consequently, the elasticity of the lipid phase is enhanced leading to a homogeneous spreading of the tear film over the ocular surface. This improved distribution of the lipid phase counteracts excessive evaporation of tears.⁶

EFFECT OF ECTOINE: ANTI-INFLAMMATORY PROPERTIES

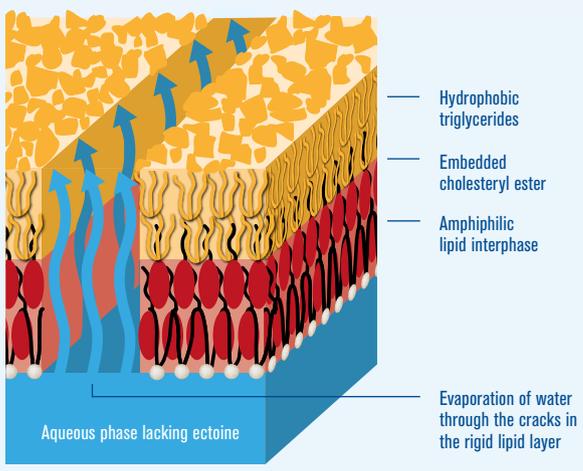
without ectoine



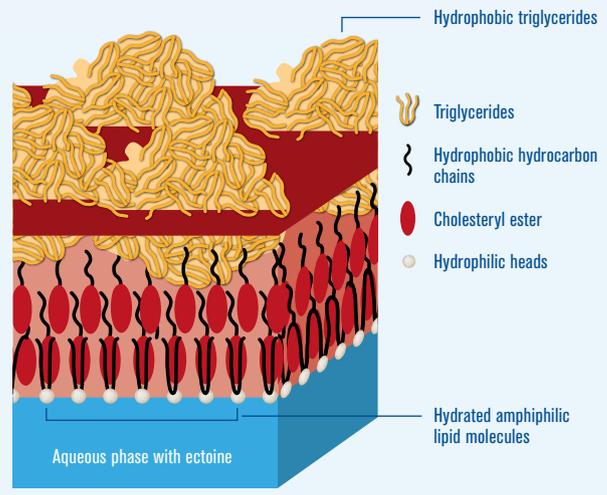
with ectoine



Unstable lipid phase of the tear film without ectoine



Stabilised lipid layer containing ectoine



Under the influence of ectoine the rigid lipid phase is transformed into an elastic layer. When the eye blinks, this layer is more easily compressed and spread across the ocular surface without being disrupted.

THE RIGHT SOLUTION FOR EVERY TYPE OF DRY EYE

	<p>HYLO FRESH® The blast of freshness</p> 
	<p>HYLO CARE® Intensive care for every day</p> 
	<p>HYLO COMOD® The classic</p> 
	<p>HYLO GEL® Uniquely for chronic symptoms</p> 
	<p>HYLO NIGHT® Night-time protection</p> 
	<p>HYLO DUAL® Lubrication and tear film stabilisation</p> 
	<p>HYLO DUAL INTENSE® The intensive therapy for chronically dry eyes with inflammatory symptoms</p> 
	<p>HYLO PARIN® The relief for eye irritation</p> 
	<p>PARIN POS® The gentle aid for eye irritations for the night</p> 

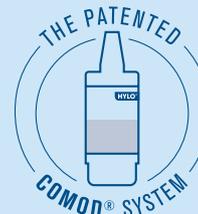
THE PATENTED COMOD® SYSTEM

HYLO®

With its sophisticated air routing and a special pump, the system ensures that the eye drop solution does not come into contact with the surrounding air at any time. Therefore, bacteria and fungal spores cannot get into the bottle. Contamination is virtually impossible.

All eye drops in the **HYLO®** range are dispensed using the unique **COMOD®** system and are therefore preservative-free. After opening, they have a shelf life of six months during which they gently and effectively treat and lubricate dry and irritated eyes.

- ✓ Sterility without preservative
- ✓ High yield: the products from **HYLO®** dispense a minimum of 300 drops
- ✓ Precise, economical dosing
- ✓ Can be used for 6 months after opening
- ✓ Patented multi-chamber system and sophisticated valve technique: Airless pump prevents the solution from contact with the surrounding air



THE NO.1 FOR
DRY EYE⁷ WITH
A NEW LOOK.



¹Galinski, E.A., 1993; Galinski, E.A. et al., 1985; Lippert, K. and Galinski, E.A., 1992; Bünger, J. et al., 2001; Galinski, E.A. et al., 1997

²Graf, R. et al., 2008

³Bünger, J. and Driller, H., 2004

⁴Werkhäuser, N. et al., 2014

⁵Harishchandra, R.K. et al., 2010

⁶Dwivedi, M. et al., 2014

⁷Total sales (retail) of the HYLO® product family; IH Galaxy; APO Channel Monitor; S01K1: MAT 2020.12