

MariMoist®

A rare and precious marine-based biopolymer complex providing the ultimate in water release and textural sensation.

MariMoist® is a complex comprised of the whole-plant extract and hydrolysate of the aquatic plant *Chondrus crispus* (red seaweed; *Rhodophyceae*) in combination with bio-derived sodium hyaluronate.

The *Chondrus crispus* is harvested from a natural culture of specially selected sea plants farmed in terrestrial aquaculture facilities using a constant supply of cold, fresh-filtered sea-water. Care is taken throughout the growing process to ensure the best quality natural biomass by means of a procedure that is sustainable and renewable. The extraction is performed using tightly controlled conditions to produce a water-soluble, viscous, hydrocolloid flowing gel with the highest standards of consistency, quality and purity.



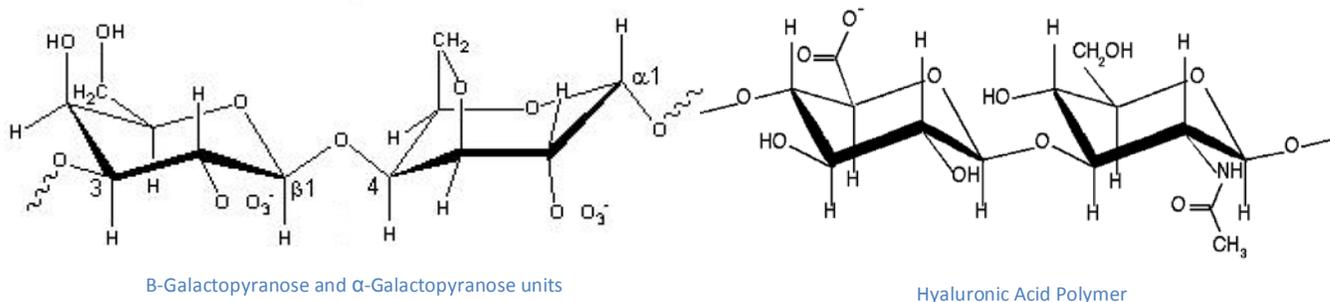
Chondrus Crispus from the U.S. Pacific

MariMoist® imparts unique sensorial effects to skin and hair. The light, silky/satiny film instantly hydrates, cools and soothes skin, leaving it feeling moist and refreshed. Often referred to as ‘aloe from the ocean’, *MariMoist®* is the choice of chemists seeking a value-added technology for skincare and moisturizing products. *MariMoist®* is also ideal for hair and scalp products for moisturization and enhanced comb-through.

MariMoist® provides the most fundamental component for beauty enhancement: Water

The primary components of *MariMoist®* are an algae-derived, long-chain linear polymer consisting of alternating units of 3-linked- β -D-galactopyranose and 4-linked- α -D-galactopyranose, and bio-derived

high molecular weight hyaluronic acid (HA), a glycosaminoglycan that is an important natural component of skin.



Together these long chain polymers form helical “coils” that trap water within their structures. This water is readily available to provide an instant bolus of hydration to the skin. The polymer combination provides enhanced tactile performance with superior, long-lasting moisturization. HA is able to bind up to 1000 times its weight in water and is therefore a natural reservoir for skin hydration. HA not only delivers water to the skin, but also functions as a humectant that attracts moisture from the air. The HA polymer is a natural constituent of the skin where it functions as a cellular “cementing agent”, as a structural component of the extracellular matrix, and as a reservoir of bound water that contributes to the moisture balance necessary for attractive, healthy skin.

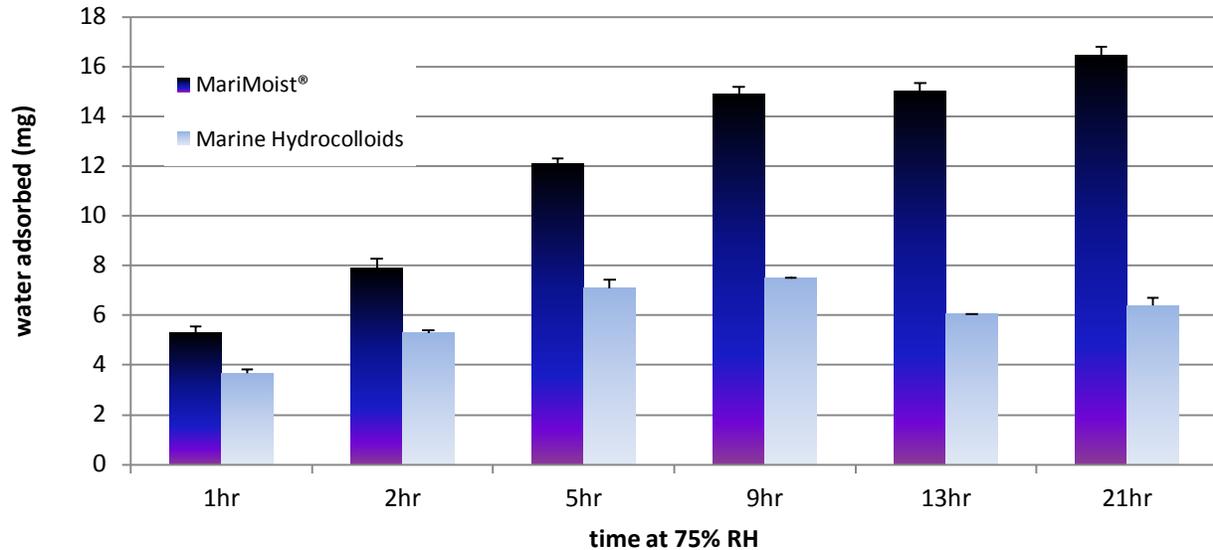
MariMoist® is a technologically-advanced and value-driven ingredient for use in skincare, haircare, anti-aging and moisturization products. It is a viscous, translucent, luxuriously emollient liquid with unique and pleasant textural properties. *MariMoist®* is derived from sustainable sources and is manufactured in the USA using state-of-the-art processing technology.

***MariMoist®* Testing**

1. Assessment of *MariMoist®* Water Binding Capacity.

MariMoist® was tested for water adsorption capacity and compared to conventional marine derived hydrocolloids. Duplicate films of *MariMoist®* and the marine hydrocolloids were layered onto cleaned glass slides using a calibrated film spreader to ensure equal and uniform thicknesses of product on all slides. Cleaned slides without product also were included in the experiment to provide background measurements of water uptake. The slides were dried in a desiccant chamber for five days at 40C. The slides were then equilibrated to room temperature overnight and weighed on an analytical balance to obtain baseline readings. Slides were then placed into a 75% RH chamber at 25C and at the indicated time points, were removed and immediately reweighed. Triplicate measurements were recorded for each slide at each time point. Blank slide readings (negligible at all time points) were subtracted from product readings at each time point.

MariMoist® Water Adsorption 25°C, 75%RH

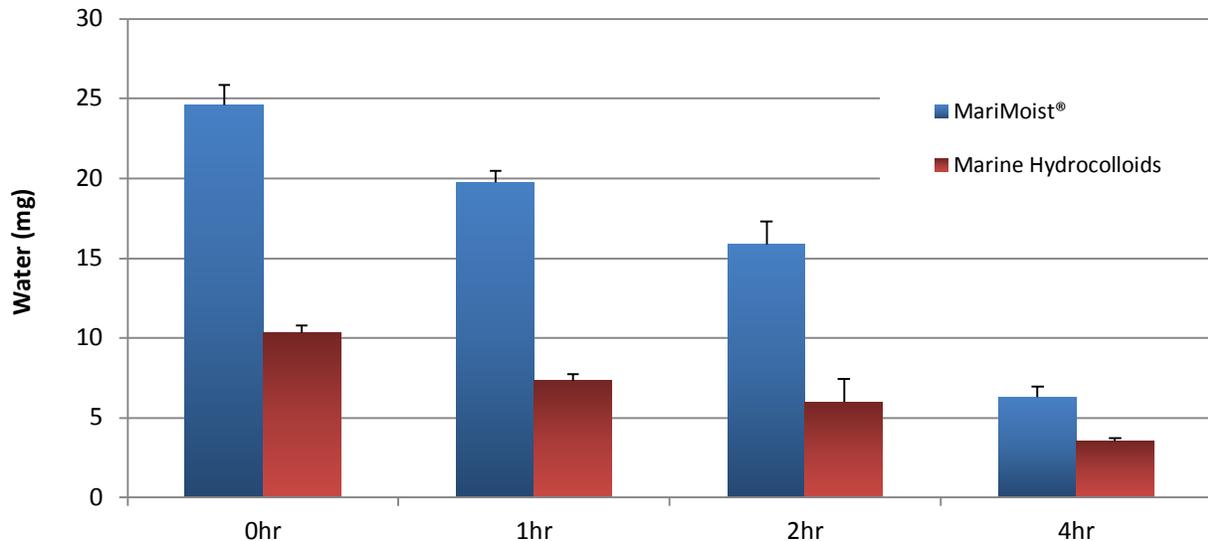


MariMoist® ingeniously works to create a reserve of water for long term skin moisturization. In comparison to the marine derived hydrocolloids alone, *MariMoist*® adsorbs and makes available to the skin, greater than 2.5-times more water by weight for moisturization. When excess of water is available (atmospheric, etc.) *MariMoist*® will “recycle” and continue to bind and retain water until needed.

2. Assessment of *MariMoist*® Water Release Capacity.

MariMoist® was tested for water release capacity and compared to conventional marine derived hydrocolloids. Duplicate films of *MariMoist*® and the marine hydrocolloids were layered onto cleaned glass slides using a calibrated film spreader to ensure equal and uniform thicknesses of product on all slides. Cleaned slides without product also were included in the experiment to provide background measurements. After exhaustive desiccation at 40C the slides were weighed, then maximally charged with water by incubation at 75% RH for four days at 25C. The slides were then weighed to obtain their t=0hr water content and placed into the desiccant chamber at 25C. At the indicated time points, the slides were removed from the chamber, reweighed, returned to the chamber, and so forth for each time point. Triplicate measurements were recorded for each slide at each time point and blank slide readings (negligible at all time points) were subtracted from product readings at each time.

MariMoist® Water Release 25°C, 10% RH



MariMoist® has been proven to function as a water “attractor”, but also as an excellent delivery system for water to the skin. Over a 4-hour period, hydrated *MariMoist*® provides nearly 3-times more water as the marine hydrocolloids over the same period of time. When excess moisture is again available, *MariMoist*® will “recharge” its water reserve making it available to the skin when and as needed.

Summary: *MariMoist*®

- *Marine and Bio-Derived*
- *Non-Occlusive Film Former*
- *Hydrating, Moisturizing*
- *Cooling, Refreshing*
- *Conditioning, Lubricating*
- *Remarkable Skin Feel*
- *Enhances Product Aesthetics*
- *Sensory Benefits*

Applications

Use in skincare and haircare products as an emollient and hydrator. *MariMoist*® can be used as a formulation base. As a formulation aid, *MariMoist*® can be used as an aesthetic modifier of product viscosity and body.

Recommended Use Levels

5% - 20%

Compatibility & Formulation Tips

MariMoist® is compatible with most conventional ingredients used in skincare products and tolerates well a wide pH range (3 to 9) in final formula.

MariMoist® allows development of clear, high-viscosity water-based formulations.

Compatibility in cationic systems and alcoholic systems varies and must be determined experimentally. *MariMoist*® can be cold mixed. Process at or below 60°C.

Safety

MariMoist® has not been tested on animals.

Human Repeat Insult Patch Testing (HRIPT) under semi-occlusive conditions indicated that *MariMoist*® did not perform as a primary skin irritant or as a primary skin sensitizer at recommended use levels.

Ocular Irritation testing predicted that *MariMoist*® would be a *Minimal/Mild* ocular irritant at recommended use levels.

Nomenclature & Composition

INCI Name: Water (and) Chondrus Crispus Extract (and) Sodium Hyaluronate

Material	CAS	EINECS
Water	7732-18-5	231-791-2
Chondrus Crispus Extract	244023-79-8	-
Sodium Hyaluronate	9067-32-7	232-678-0

Preservative: Phenoxyethanol (and) Gluconolactone (and) Sodium Benzoate

Specifications

Color	TMS, light straw to light amber
Odor	TMS, characteristic
Appearance	TMS, clear to slightly hazy liquid
pH	5.00 – 7.00
Specific Gravity	1.010 - 1.060
Viscosity	15,500-26,500 CPS RV, #4, 5rpm, 60sec. at 25° C
Total microbial count (aerobic)	<100 cfu/g
Pathogens	Free

Storage & Shelf Life

MariMoist® should be stored at room temperature (18° – 25° C) in original packaging away from heat and light. Shelf life is 18 months when stored as recommended.

Product Identification Number (PIN)

R10041

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