
NATURSOL™ BioSeven
Seven ways to care.
One way to make a difference.
SNF

NATURSOL™ BioSeven



Beauty today demands more balance

Brands are working to satisfy consumer demands for sustainability and innovation that actually works. Not just promises of possibilities.

Performance is no longer about claims. It is about visible results, reliable sensory benefits, and formulas that deliver performance every day, for everyone.

Sustainability must be tangible, credible and transparent.

Not a promise, not a story but realistic solutions that significantly reduce environmental impact without performance trade-offs.

Innovation is beneficial when it solves real formulation challenges.

It must be easy to use, cost-realistic, and compatible with existing formulations.

Turning essential values into real solutions

At SNF, we believe that innovation in Beauty Care should be practical, measurable and accessible.

True performance means delivering visible and reliable benefits.

Sustainability means finding the right balance: to reduce the environmental impact detrimental effects on the formulation.

True innovation is only valuable when it solves real formulation challenges, fits existing processes, and remains user-friendly and affordable for every day use.



True innovation happens when performance, sustainability and usability intersect.

No compromise. Just the right balance.



NATURSOL™ BioSeven

A balanced approach to Next-Gen beauty formulations

NATURSOL™ BioSeven next generation, naturally derived cationic conditioning polymer that redefines sustainable beauty. Readily biodegradable and expertly formulated for Hair, Skin and bodycleansing applications.

NATURSOL™ BioSeven was built with formulators in mind. Easy to use, compatible with the real market constraints, and proven in formulas. It gives brands a practical, path toward greener, performance-cleansing products.

NATURSOL™ BioSeven helps brands move into the right direction. This naturally responsible conditioning polymer offers a convenient way to entrance the sustainability profile of exiting formulations. **Not a revolution. An evolution that feels right.**

In nature, seven is a symbol of balance and harmony.

With **NATURSOL™ BioSeven**, this balance takes shape in a solution designed to care - for hair, for skin, and the formulation itself.

NATURSOL™ BioSeven brings together what truly matters - in the right proportions.

Seven ways to care

INCI Name	Starch Ethylamidopropyltrimonium Chloride/Acrylamidopropyltrimonium Chloride Copolymer
Naturally Derived	Conditioning polymer inspired by nature, designed for Next-Gen formulations.
Eco-Responsible by Design	Supports a more responsible approach with readily biodegradable properties.
Easy to Formulate	Liquid, cold-processable and intuitive to use in every day formulations.
Accessible Innovation	Designed to be realistic — easy to use, easy to integrate, easy to afford.
Hair Care Performance	Delivers gentle conditioning while maintaining a clean non-coated hair feel.
Skin Respect	Provides moisture and comfort thanks to a non-irritating polymer.
Delicate Foam	Supports long lasting foam stability.

SUSTAINABILITY MEETS REAL
Responsible, without complexity

Readily Biodegradable

Easy to handle and formulate

High performance in various foaming applications without irritation

Reduced environmental impact

HAIR CARE UNIVERSE
Feel the care

- Hair is easier to comb
- Non-coated hair feel
- Compatible with everyday cleansing bases



BATH & SHOWER EXPERIENCE
Gentle foam, conscious beauty

- Stabilizes delicate and fine foam
- A refreshing cleansing experience
- Suitable for the entire family



SKIN CARE & TOLERANCE
Respect by design

- Preserves skin's natural equilibrium
- Contributes to hydration
- Designed for modern rinse-off facial formulations



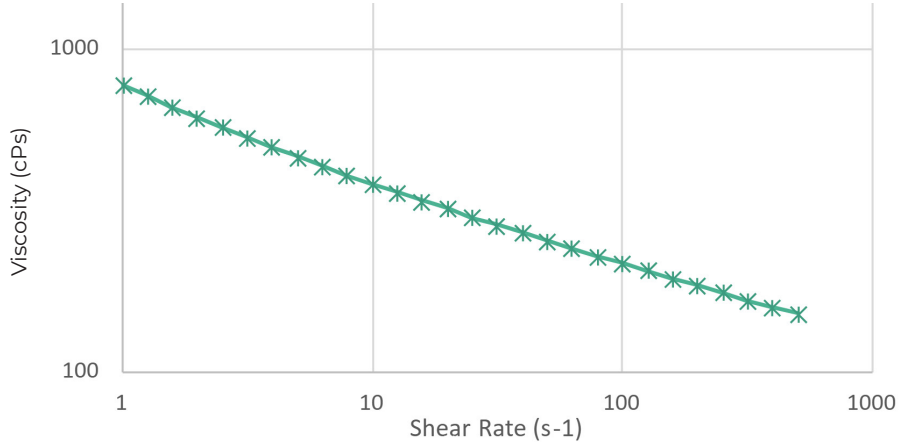
NATURSOL™ BioSeven

VISCOSITY Evolution

NATURSOL™ BioSeven is a non-stringy low viscosity liquid with an amber color compared with other conditioning polymers. It is easy to handle and unload at any temperature.

Results

As a rheofluidifying polymer, it's viscosity decreases under shear, making handling and transfer more efficient.

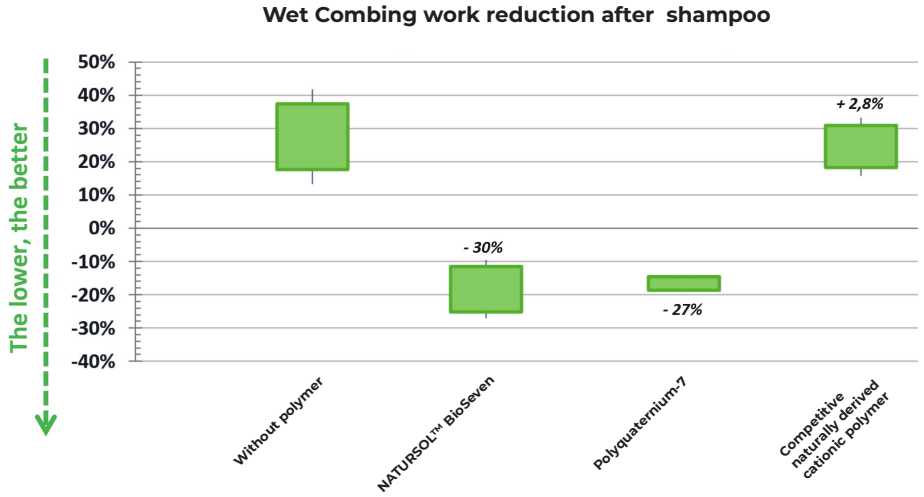


Rheological profile of **NATURSOL™ BioSeven**

WET COMBING - On Caucasian Bleached

0,15g product/g of hair - 1 application
3 Hair Tresses per run
Work required to comb the hair is measured before and after the shampoo
% of variation of combing work is calculated

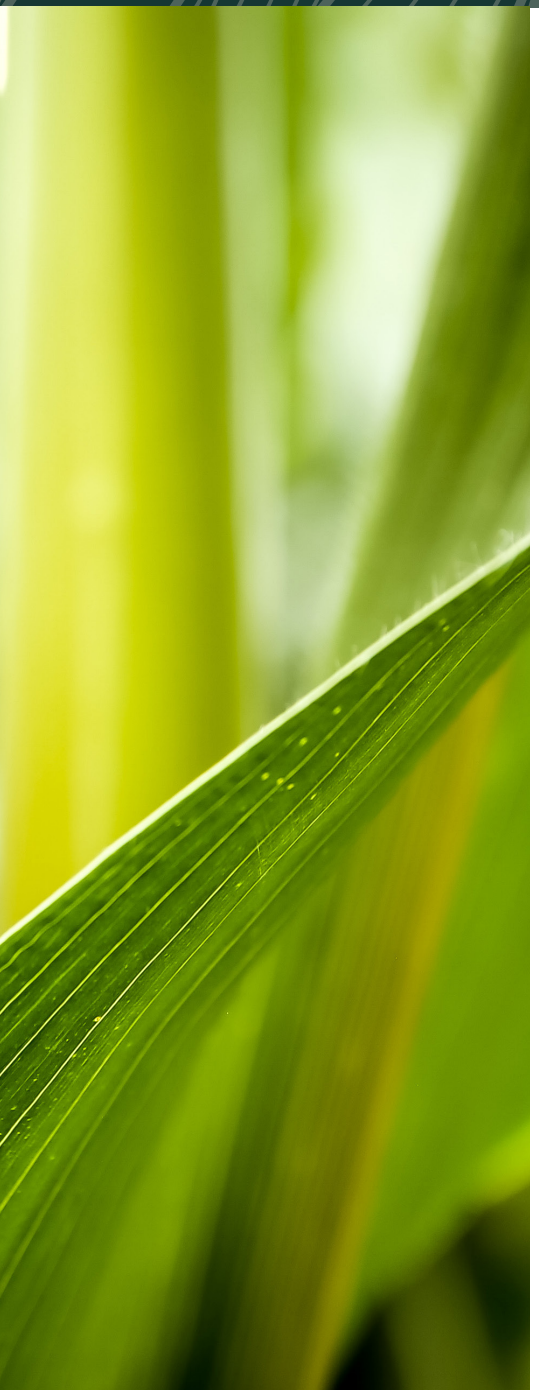
Test carried out in a simplified chassis @0,3% polymer/ SLES 11% / CocoBetaine 2%



Results

A single application of **NATURSOL™ BioSeven** delivers significant conditioning benefits.

It matches the performance of synthetic polymers such as polyquaternium-7 and outperforms other naturally derived solutions on key conditioning parameters.



ECOTOXICOLOGY

TESTS CONDUCTED

Daphnia Test (48h) Standard (NF EN ISO 6341) : measures if the sample causes small aquatic animals (Daphnia) to stop moving.

Algae Test (72h) Standard (NF EN ISO 8692) : measures if the sample slows down the growth of green algae.

Fish Embryo Test (96h) Standard (OECD 236) : evaluates acute toxicity on Danio Rerio embryos by monitoring embryo mortality and development over 96 hours.

Results

NATURSOL™ BioSeven shows non-ecotoxicity results , confirming its strong environmental positioning as a sustainable and eco-friendly solution.

Criteria	NATURSOL™ BioSeven
EC50 24h (Daphnies)	> 100 mg/L
EC50 48h (Daphnies)	> 100 mg/L
CEr50 72h (Algae)	11.9 mg/L
LC50 96h (Fish Embryo)	265 mg/L
Environment Profile	Very good profile
CLP	Not Classified

BIODEGRADABILITY

The **OECD 301 F test** (Manometric Respirometry Test) is used to assess the readily biodegradability of a substance under **aerobic conditions**. The test measures the **oxygen consumption** by microorganisms as they degrade the substance over **28 days.**

Biodegradation is calculated by comparing the measured oxygen uptake to the **theoretical oxygen demand (ThOD)** of the substance. A product is considered **readily biodegradable** if it reaches **≥ 60% biodegradation within 28 days**, including the 10-day window criterion.

Results

Following the standardized OECD 301 F method, 60% minimum degrades in 28 days making **NATURSOL™ BioSeven** readily biodegradable polymer.

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SKIN TOLERANCE- Patch Test

A **patch test** is used to **assess the skin tolerance** of a product before market launch or broader use.

The product is applied **under occlusion** on the skin of volunteers, usually on the back, for **24 to 48 hours**.

After removal, the skin is examined for any **local reactions**, such as redness, irritation, or discomfort.

Conditions	Patch Duration	M.C.I.I.	Conclusion
Concentration : 0,5% in water Patch test type : Occlusive	48 hours	0,03	**Non-irritating**

Results

NATURSOL™ BioSeven demonstrates excellent skin tolerance.

HYDRATION

The hydration test is used to evaluate the moisturizing effect of a product after application.

Skin hydration is measured using a Corneometer®, a non-invasive instrument that assesses the moisture level of the stratum corneum.

Measurements are taken before application, 2 hours and 4 hours after application of the product. The results allow the assessment of the product's ability to increase and maintain skin hydration over time in comparison with the untreated zone.

T = 2H **+20%** of hydration level

T = 4H **+15%** of hydration level

Results

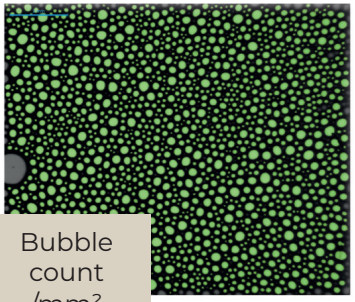
At just 0.5% active, **NATURSOL™ BioSeven** delivers a noticeable boost in skin hydration (+15%), with benefits lasting up to 4 hours.

FOAM STRUCTURE

At 300 s, bubble count/mm² reflects foam stability rather than foaming capacity.
Higher values indicate a finer, denser and more homogeneous foam, while lower values reveal coarser structures and advanced coalescence making bubble count/mm² a key indicator of interfacial structuring.

The test was performed on a sulfate-free foam cleanser formulation containing 6% active surfactants and 0.3% active polymer.The placebo corresponds to the same formula without polymer.

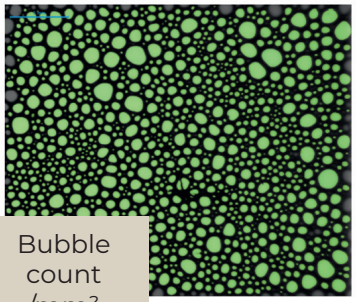
NATURSOL™ BioSeven



Bubble count /mm²

42,49

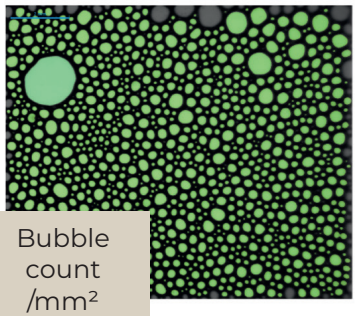
Polyquaternium-7



Bubble count /mm²

26,87

Placebo



Bubble count /mm²

23,75

Results

NATURSOL™ BioSeven clearly outperforms PQ-7 and the placebo by maintaining a finer, denser and more stable foam structure, driven by enhanced interfacial film cohesion.



NATURSOL™ BioSeven

A balanced choice for brands that want to care more simply.

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