

Salsphere® Phytosterol

Natural phytoestrogens for revitalized skin

The Technology

SalSphere® Phytosterol is a technology that rejuvenates and revitalizes the skin to give a younger fuller look

This technology works by delivering encapsulated estrogen precursors which results in more elastic skin

Functional Ingredient

Phytosterols, naturally occurring compounds in plants like soybeans, are gaining popularity in skincare for their impressive benefits. Acting similarly to cholesterol, phytosterols help reinforce the skin's protective barrier, which aids in retaining moisture and shielding against environmental stress.

These compounds effectively support skin hydration and resilience, making them ideal for maintaining a healthy, supple complexion. Additionally, phytosterols offer antioxidant protection, guarding the skin against free radical damage. Their anti-inflammatory properties also make them excellent for soothing irritation and redness, making them especially beneficial for sensitive skin types.

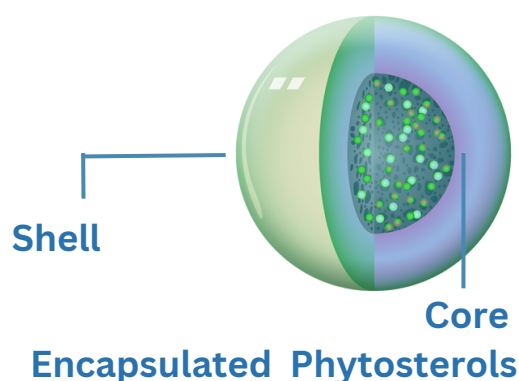


Figure 1: Sub-Micron Structure of SS PhytoSterol



The Opportunity

- Phytosterols face stability challenges when exposed to air, light, or high temperatures, which can lead to oxidation and a reduction in their effectiveness.
- Due to their hydrophobic nature, phytosterols are difficult to incorporate into water-based formulations, often requiring specialized emulsifiers or solvents for effective dispersion.
- Incorporating phytosterols can also affect the texture and sensory qualities of formulations, as they may alter the feel and appearance of the final product. Adjustments in formulation are often needed to ensure a desirable sensory experience for consumers.

Benefit of Encapsulation

- Encapsulating phytosterols enhances their stability, shielding them from degradation due to environmental factors. This technique also improves their delivery to the skin, allowing for a controlled release and more targeted effects.
- Additionally, encapsulated phytosterols blend more easily with other formulation ingredients, preserving product integrity and maximizing their therapeutic benefits.



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Technical Data

Key INCI: Phytosterols, Butyrospermum Parkii (Shea) Butter, Copernicia Cerifera (Carnauba) Wax

Other INCI: Aqua, Sorbitan Oleate Decylglucoside Crosspolymer, Propanediol, Hydroxypropyl Guar, Isostearyl Isostearate, Cetearyl Glucoside, Cetearyl Alcohol, Glycine Soja (Soybean) Oil, Phenetyl Alcohol*, Pentylene Glycol*, Citric Acid

*= Components of Preservative

SalSphere Phytosterol should be added at the end of formulation at around or below 40 C.

Store product in a tightly closed container at room temperature

Table 1: Specification of SalSphere® Phytosterol, PID:8117-10

Property	Characteristic
Appearance at 20C	Thick Emulsion
Color	Off-White to Tan
Odor	Characteristic
pH (Neat)	6.5-7.5

QUALIFICATION

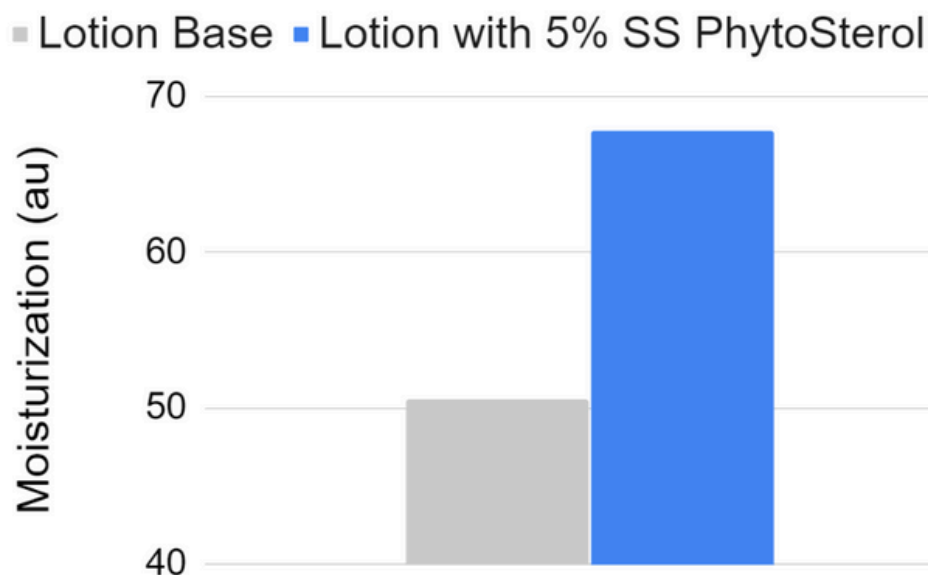


Figure 2: Moisturization measurement after 1 hour of lotion base versus a lotion base with 5% SalSphere® PhytoSterol Technology added



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Applications

Table 3. Lotion with 5% SalSphere Phytosterol

Phase	List of Ingredients	Weight (%)
A1	Aqua	55.0
A2	Glycerin	6.0
A3	Xanthan Gum	1.0
B1	Cetearyl Alcohol (and) Cetearyl Glucoside	4.0
B2	Coco Glucoside	4.0
B3	Cetearyl Alcohol	6.0
B4	Butyrospermum Parkii (Shea) Butter	6.0
B5	Isononyl Isononate	6.0
B6	Squalane	6.0
C1	SalSphere Phytosterol, 8117-10	5.0
C2	Preservative	1.0
	Total	100.0

PROCEDURE

1. Mix ingredients of Phase A sequentially in main vessel, pre-mixing A2 and A3.
2. Add phase B sequentially in a separate vessel and heat both vessels to 60-75C
3. When both have reached temperature, add phase B to A, remove from heat and mix at 600rpm
4. At 40C add Phase C under mixing

ADDITIONAL FORMULATIONS

SalSphere® Phytosterol is a transformative ingredient that enhances various skincare and beauty products with its unique benefits. Here's how different products can leverage SalSphere® Phytosterol along with the advantages it brings:

Moisturizers: Infused with SalSphere® Phytosterol, moisturizers not only provide long-lasting hydration but also fortify the skin's natural barrier to maintain moisture balance while strengthening the skin's resilience against environmental stressors.

Serums: SalSphere® Phytosterol enriches serums with intense hydration while harnessing the soothing and anti-inflammatory properties of phytosterols to not only plump the skin but also calm any irritation or redness.

Essences and Toners: With the addition of SalSphere® Phytosterol, essences and toners deliver deep hydration and prepare the skin for subsequent treatments.

Eye Creams: Eye creams containing SalSphere® Phytosterol leverage the antioxidant properties of phytosterols to combat signs of aging around the eyes, such as fine lines and wrinkles.

Sunscreens: SalSphere® Phytosterol-infused sunscreens offer not just protection from UV rays but also enhanced hydration and antioxidant defense to ensure that the skin remains moisturized and shielded from environmental damage throughout the day.



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Substantiation

Ingredient	Description	Substantiation
Moisturization	“Phytosterols have emollient properties, which means they can lock in moisture and help keep skin hydrated. They keep the skin hydrated by preventing water loss from the skin, which reduces dryness and flakiness.”	https://www.clinikally.com/blog/s/news/the-power-of-phytosterols-elevate-your-skin-and-hair-health
Barrier Protection	“Phytosterols uphold the skin's natural protective layer. They strengthen the stratum corneum, the skin's outermost layer, and improve its ability to retain moisture. This barrier function is critical for protecting the skin from external irritants and stressors. By lowering TEWL, phytosterols help to keep skin hydrated. <u>The skin remains moisturised and healthy when it loses less water to the environment</u> ”	https://www.clinikally.com/blog/s/news/the-power-of-phytosterols-elevate-your-skin-and-hair-health
Anti-Inflammatory	“Phytosterols have anti-inflammatory properties that can help soothe irritated and inflamed skin. This is especially beneficial for people who have sensitive skin or who experience redness and inflammation as a result of various skin conditions.”	https://www.clinikally.com/blog/s/news/the-power-of-phytosterols-elevate-your-skin-and-hair-health
Anti-Aging	“The ability of phytosterols to reduce oxidative stress and protect against UV damage contributes to their anti-aging properties. They can aid in the <u>prevention of wrinkles, fine lines</u> , and other signs of aging. “	https://www.clinikally.com/blog/s/news/the-power-of-phytosterols-elevate-your-skin-and-hair-health



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Substantiation

Environmental Protection	“Phytosterols act as a protective shield on the skin's surface, shielding it from environmental stressors such as air pollution, harsh weather, and UV radiation. This protection helps to prevent skin damage and premature aging.”	https://www.clinikally.com/blogs/news/the-power-of-phytosterols-elevate-your-skin-and-hair-health
Enhanced Elasticity	“Phytosterols have been shown to promote the synthesis of collagen and elastin, two important proteins responsible for skin elasticity. This property can result in firmer, more youthful-looking skin.”	https://www.clinikally.com/blogs/news/the-power-of-phytosterols-elevate-your-skin-and-hair-health
SalSphere	Proprietary Encapsulation	www.salvona.com

