

SalSphere® Healthy Scalp

A technology to improve scalp health and appearance.



COMBAT THE PROBLEM

The scalp's microbiome determines its overall health. A healthy scalp is composed of a balanced microecosystem of bacteria, fungi, and yeast. Stress, diet, and harsh hair care products can disrupt this balance leading to infection, damage to the skin barrier, and overgrowth of certain microbes. The yeast, *Malassezia* thrives on the scalp's natural oils and is a key contributor to dandruff. Disbalance of the scalp's microbiome causes flaking, itching, scalp irritation, and further damage by production of irritants leading to cell turnover and the flakiness associated with dandruff.

CUTTING-EDGE TECHNOLOGY

The SalSphere® technology is designed to encapsulate functional ingredients within microspheres. The core is composed of ceramides that holds functional ingredients as the polymer shell encapsulates the core-contained ingredients. Together, the core and shell work to protect and preserve the functional ingredients.

- Targeted Delivery: The microspheres shield the ingredients and deliver them directly to the scalp, targeting hair follicles.
- Microflora Regulation: A specialized blend of ingredients addresses scalp imbalances and supports scalp health.
- Formulation Ready: Easy to integrate in formulations at any stage

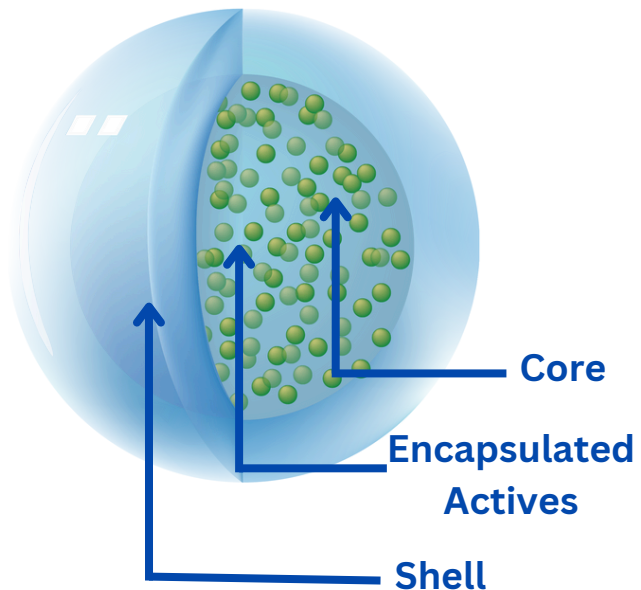


Figure 1. Diagram of SalSphere® Healthy Scalp
PID: 9234-05

Regulatory compliance:



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Technical Data

Table 1. Composition of SalSphere® Healthy Scalp, PID: 9234-05

INCI
Water
Glycerin
Aloe Barbadensis Leaf Juice (and) Sodium Benzoate (and) Potassium Sorbate
Inulin
Propanediol
Hydroxypropyl Guar
Isostearyl Isostearate
Cetearyl alcohol
Butyrospermum Parkii (Shea) Butter
Simmondsia Chinensis (Jojoba) Seed Oil
Cocos Nucifera (Coconut) Oil
Ceramide AP
Squalene
Tocopheryl Acetate
SalSphere® Skin Smoothing PID: 8415-19
Arginine
Preservative

Table 2. Specification of SalSphere® Healthy Scalp, PID: 9234-05

Characteristic	Specification
Appearance	Opaque Viscous Liquid
Color	White
Odor	Characteristic
pH (1% Aqueous)	3.50-6.00



Figure 2. SalSphere® Healthy Scalp PID: 9234-05

Regulatory compliance:

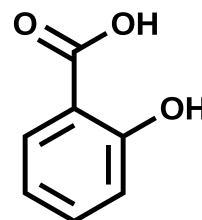


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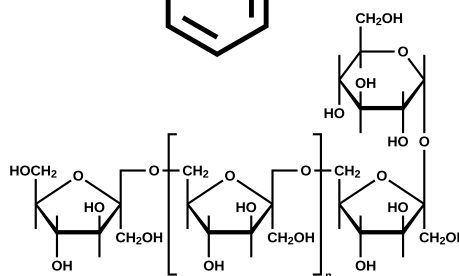
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Functional Ingredients

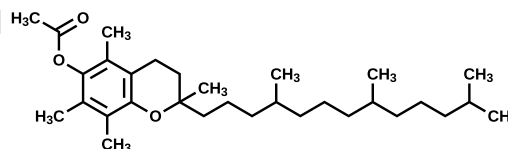
1. **Salicylic Acid:** A powerful exfoliator that aids in treating dandruff through breaking down thick skin layers that leave the skin looking flaky and dull. Exfoliation encourages new skin cell regeneration, leaving skin healthy and smooth.



2. **Inulin:** Supports a balanced scalp microbiome by nourishing beneficial bacteria, leading to dandruff prevention, scalp hydration, and protection from oxidative damage.



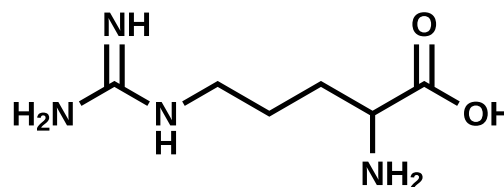
3. **Vitamin E:** An antioxidant that increases blood flow and moisturization to promote a healthy scalp, protecting hair follicles from oxidative stress that could result in hair loss.



4. **Aloe Vera:** A bioactive combination of vitamins, amino acids, and antioxidants that nourishes the scalp and hair. This locks in increased levels of hydration to prevent the scalp from becoming dry and leading to itchininess and dandruff.



5. **Arginine:** Promotes nitric acid production for scalp blood flow that results in increased nutrients reaching the hair follicle. Arginine also stimulates production of keratin and collagen which are important for the scalp microbiome and hair.



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SKIN EXFOLIATION

The effectiveness of SalSphere® Healthy Scalp is determined by the chemical exfoliation of the skin evaluated using a skin simulation model. To examine its effect on skin pigmentation, Tanbest DHA, a self-tanning agent, was applied to the simulated skin. Serums containing 5% and 10% SalSphere® Healthy Scalp were applied for 30 minutes and then rinsed off. Pigmentation levels were measured both before and after treatment using the Cutometer Dual MPA 580 system and the Mexameter MX 18 probe. The untreated control exhibited minimal color change, with a difference of 2.67. In contrast, the 5% SalSphere® Healthy Scalp serum significantly decreased pigmentation by 35 points, representing a 12% reduction compared to the control. The 10% SalSphere® Healthy Scalp serum produced an even greater effect, reducing pigmentation by 83.67 points, equivalent to a 30% reduction compared to the control.

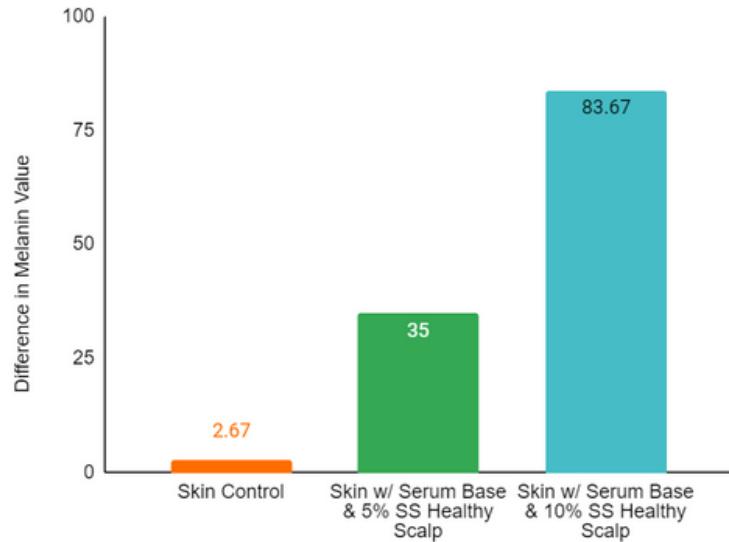


Figure 3. Difference in Melanin Values of Skin Simulation After Treatment with Test Groups.

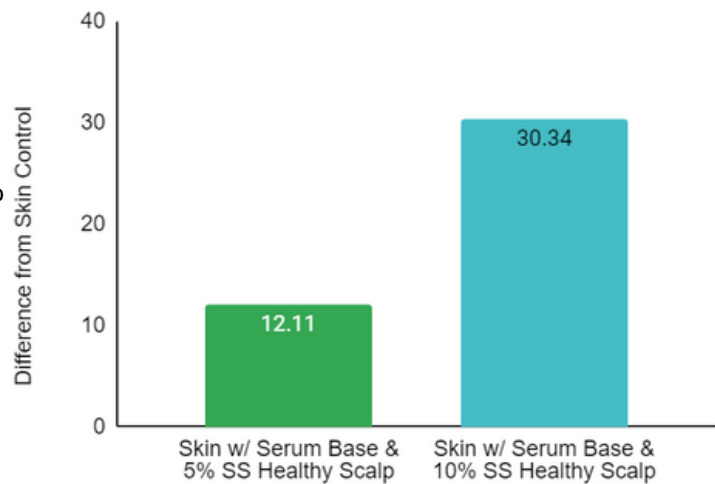


Figure 4. Difference in Melanin Values of the Skin Simulation from the Control After Treatment with Test Groups.

Regulatory compliance:



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Applications

SOOTHING SHAMPOO

Table 3. Formulation of shampoo with SalSphere® Healthy Scalp technology.

INCI	(WW%)
Aqua	55.00
Hydroxypropyl Guar (and) Hydroxypropyltrimonium Chloride	0.50
Glycerin	1.25
Xanthan Gum	0.50
Coco Glucoside	13.00
Sodium Cocoyl Glutamate	10.00
Glyceryl Stearate	1.50
Cocamidopropyl Betaine	11.00
Glyceryl Oleate Citrate (and) Caprylic/Capric Triglyceride	1.00
Sorbitol	1.00
SalSphere® Healthy Scalp PID: 9234-05	5.00
Preservative	1.25
Total	100.00

LEAVE-IN CONDITIONER

Table 4. Formulation of leave-in conditioner with SalSphere® Healthy Scalp technology.

INCI	(WW%)
Aqua	89.00
Polyglyceryl-4 Laurate	1.70
Bis-(isostearoyl/oleoyl isopropyl) Dimonium Methosulfate	1.70
Glycerin	1.70
SalSphere® Healthy Scalp PID: 9234-05	5.00
Preservative	0.90
Total	100.00



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Additional Applications

SCALP SCRUBS & EXFOLIATORS

These products benefit from SalSphere® Healthy Scalp as they remove buildup while also nourishing the scalp, ensuring it stays hydrated and balanced.

PRE-SHAMPOO TREATMENTS

SalSphere® Healthy Scalp in these treatments can prepare the scalp for cleansing, ensuring it remains healthy and balanced during the washing process.

ANTI-HAIR LOSS TREATMENTS

These treatments benefit from a healthy scalp environment, as a balanced microbiome and well nourished scalp can reduce hair thinning and support hair retention.

CONDITIONING OILS

SalSphere® Healthy Scalp in oils offers nourishment while promoting a healthy scalp environment, effectively preventing fungal growth that can cause dandruff or irritation.

LEAVE-IN CONDITIONER

Including SalSphere® Healthy Scalp in these products can soothe irritation and maintain scalp health, preventing issues like dryness and flakiness that can affect hair quality.

HAIR MASKS

SalSphere® Healthy Scalp in hair masks can deeply nourish the scalp, addressing dryness and supporting the overall health of both the scalp and hair.

DRY SHAMPOOS

Adding SalSphere® Healthy Scalp can prevent the scalp from becoming overly dry or irritated due to the absorbing ingredients from dry shampoos.

Regulatory compliance:



Globally Compliant



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SUBSTANTIATION

Claim	Substantiation
<p>Salicylic Acid aids in breaking down the scaly top layer of skin. This increases the moisture of the skin, unclogs hair follicles, and regulates oil production which decreases irritation and itchiness.</p>	<p>“Salicylic Acid Shampoo Benefits, Side Effects, and How to Use It.” <i>Healthline</i>, 16 Mar. 2020, www.healthline.com/health/salicylic-acid-shampoo#_noHeaderPrefixedContent.</p>
<p>Inulin provides nourishment to beneficial bacteria on the scalp resulting in reduced irritation, boost moisturization, and prevent microbes from impeding healthy scalp health and hair growth.</p>	<p>Qin YQ, Wang LY, Yang XY, Xu YJ, Fan G, Fan YG, Ren JN, An Q, Li X. Inulin: properties and health benefits. <i>Food Funct.</i> 2023 Apr 3;14(7):2948-2968. doi: 10.1039/d2fo01096h. PMID: 36876591.</p>
<p>Vitamin E Acetate possesses strong antioxidant properties resulting in increased blood circulation, while preventing hair loss and dry, itchy scalp.</p>	<p>“Vitamin E for Hair: Benefits, Side Effects, and How to Use It.” <i>Www.medicalnewstoday.com</i>, www.medicalnewstoday.com/articles/322836.</p>
<p>Aloe Vera provides many benefits including natural anti-inflammatory properties and increased hydration to prevent dryness, itchiness, and dandruff. Aloe Vera also acts as an antimicrobial, antibacterial, and antifungal while containing vitamins A, C, and E to prevent oxidative stress and support scalp cell growth and turnover.</p>	<p>Watson, Kathryn. “Aloe Vera for Your Hair: What Are the Benefits?” <i>Healthline</i>, Healthline Media, 4 Aug. 2017, www.healthline.com/health/aloe-vera-for-hair.</p>
<p>L-Arginine promotes nitric acid production that increases blood flow and improves delivery of nutrients to the scalp. L-Arginine also moisturizes and protects the scalp from hair loss by anchoring the hair shaft more securely in the follicle.</p>	<p>“L-Arginine: Uses, Side Effects, Interactions, Dosage, and Warning.” <i>Webmd.com</i>, 2019, www.webmd.com/vitamins/ai/ingredientmono-875/l-arginine.</p>

Regulatory compliance:

