

HydroSal® Sebum Control

Reduces excess sebum for healthy, blemish-free skin and maintain a matte finish.



HydroSal® Sebum Control is a sub-micron sphere delivery system that controls or reduces excess oil production on the skin, particularly on the face and scalp.

The microsphere technology comprises a polymeric core infused with Zinc Sulfate, Niacinamide, Aloe Vera, and Ceramides. Zinc and Niacinamide (Vitamin B3) help regulate sebum production and have anti-inflammatory properties that reduce redness and irritation. Although primarily known for its soothing properties, Aloe vera can also help reduce sebum production.

The oil-absorbing polymers work immediately to remove excess sebum via a super-absorption mechanism.

This technology works fast and provides a matte skin appearance for longer periods.

The technology's unique feature is its ability to deliver functional ingredients into the sweat (fig 2) glands where they are needed the most.

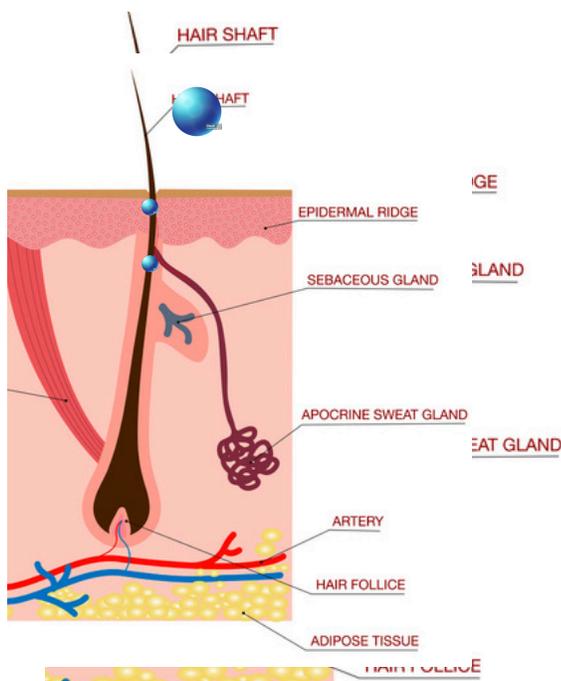


Figure 2: The sub-micron of HydroSal® Sebum Control can penetrate the hair follicle and to the sebaceous gland to modulate sebum production.

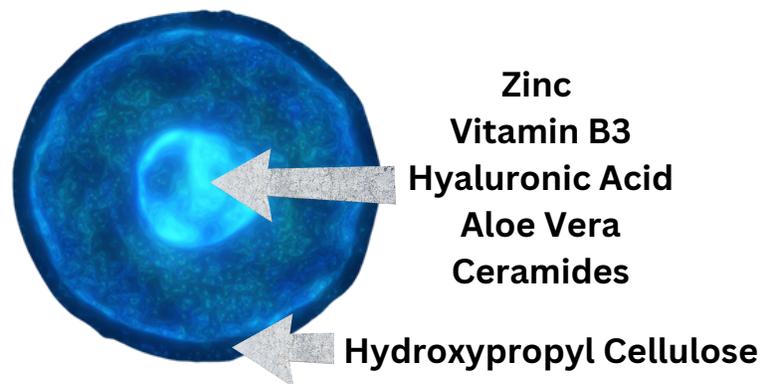


Figure 1: The sub-micron structure of HydroSal® Sebum Control with its Hydroxypropyl Cellulose shell.

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Technical Data Sheet

Table 1: INCI of HydroSal® Sebum Control

INCI
Zinc Sulfate
Niacinimide
Hyaluronic Acid
Aloe Barbadensis Leaf Juice (and) Sodium Benzoate (and) Potassium Sorbate
Hydroxypropyl cellulose
Ceramides
Aqua
Phenethyl Alcohol (and) Pentylene Glycol (and) Propaendiol

Table 2: Specifications and Characteristics of HydroSal® Sebum control

Specifications	Characteristics
Appearance	Viscous Liquid
Odor	Characteristic
Color	Light Yellow
pH (neat)	5.0-6.0

APPEARANCE



Figure 3 HydroSal® Sebum control

UNIQUE FEATURES

- **REDUCES EXCESS SEBUM:** Reducing excess sebum eliminates the environment that allows the growth of acne-causing bacteria.
- **PROMOTES A MATTE FINISH TO THE SKIN:** The reduction in oil reduces the appearance of undesirably shiny skin.
- **IMMEDIATELY AND LASTING EFFECT:** Immediate reduction in appearance and oil levels on the skin.

DEMONSTRATION KIT



Figure 4: **A.** Soybean Oil, used to simulate oily skin, and **B.** HydroSal® Sebum Control 5% in a light emulsion.

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SEBUM REDUCTION: skin evaluation

Soybean oil, used to simulate sebum, was applied to the skin (demonstration kit, fig 4). The skin turned shiny. A drop of HydroSal® Sebum Control was applied from a light emulsion using the demonstration kit. The shine reduction was measured with Cutometer Dual MPA 580 and the Sebumeter MS815 probe. The data is shown in Fig 5.

The shine reduction on the skin can be seen below (Figure 6), where applying a lotion containing 10% HydroSal® Sebum Control resulted in 34% shine reduction.

Sebum Simulation for HydroSal™ Sebum Control

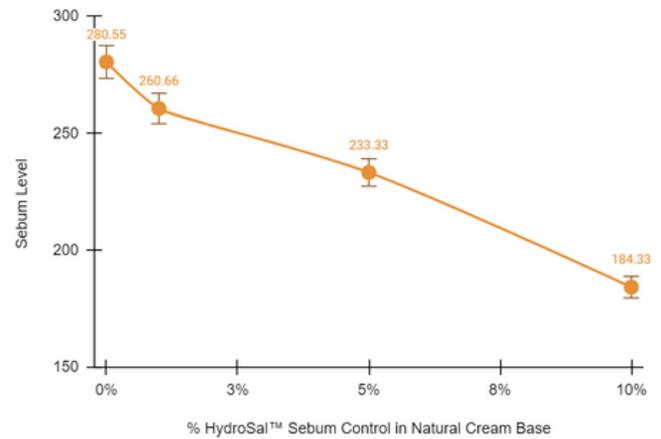


Figure 5: Effect of HydroSal® Sebum Control dose on shine reduction.

SKIN EVALUATION WITH 5% TECHNOLOGY

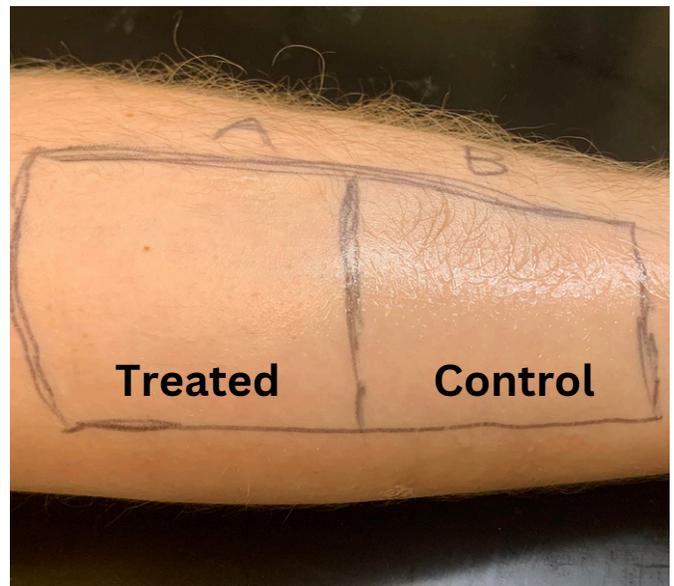
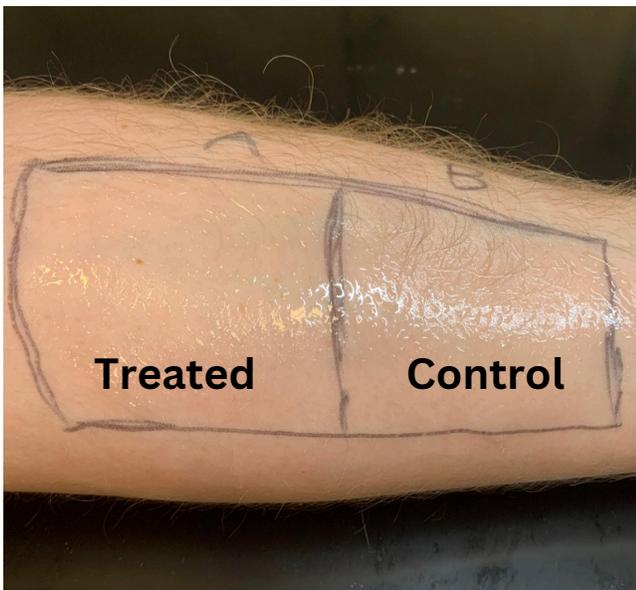


Figure 6: Photos of oily skin before and immediately after application of a Cream Base with 5% HydroSal® Sebum Control.

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Purpose and benefits

1. Oil Control

- Reducing Shine: Technology helps control excess oil, reducing the shiny appearance on the skin or scalp that often results from overactive sebaceous glands.
- Preventing Greasiness: Technology aims to maintain a matte finish, making it ideal for individuals with oily or combination skin.

2. Preventing Acne and Clogged Pores

- Minimizing Breakouts: Excess sebum can clog pores, leading to acne. Sebum-free products help keep pores clear, reducing the likelihood of breakouts.
- Non-Comedogenic: The technology is non-comedogenic, meaning they are less likely to block pores and cause acne.

3. Improving Product Performance

- Enhanced Absorption: When sebum is reduced, other skincare ingredients can absorb more effectively, improving the product's overall performance.
- Longevity of Makeup: For makeup products, this sebum-free technology helps makeup stay in place longer, preventing it from sliding off due to excess oil.

4. Comfort and Aesthetics

- Reducing the Need for Touch-Ups: With less oil production, individuals may need to touch up their makeup or blot their skin less frequently throughout the day.



HydroSal® Sebum Control is used in a wide variety of potential applications. The technology is computable with most emulsion-based formats. An example of a cream can be seen in **Table 3**.

Table 3: Example Formulation with HydroSal® Sebum Control in a cream

INCI	%
Water/Aqua	64
Zea Mays (Corn) Starch	1.5
Propanediol	2.0
Xanthan Gum	0.5
Isostearyl Isostearate	9.0
Glyceryl Stearate	1.5
Cetearyl Alcohol (and) Cetearyl Glucoside	3.0
Cetearyl Alcohol	1.0
Helianthus annuus (Sunflower) Seed Oil	1.0
Cocos nucifera (Coconut) oil	1.0
Butyrospermum Parkii (Shea) Butter	0.5
Squalane	4.0
C13-15 Alkane	4.0
HydroSal® Sebum Control PID: 8736-10	5.0
Phenethyl Alcohol (and) Pentylene Glycol (and) Propaendiol	2.0

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Claim Substantiation

Ingredient	Substantiation	Source
Zinc Sulfate	“Zinc is targeted towards individuals with oily skin, skin with imperfections such as comedones and enlarged pores, and skin that is prone to acne. It is also suitable for those with lack of brilliance with oily skin.”	https://universkin.com/en-us/pages/zinc#:~:text=Zinc%20has%20astringent%20properties%20that,reduce%20the%20appearance%20of%20blemishes.
Vitamin B3	“Niacinamide can help regulate sebum production by reducing the activity of sebaceous glands. In fact, a study found that applying a moisturizer containing 2% niacinamide resulted in lower sebum production and excretion rates.”	https://wishtrend.com/blogs/glam/niacinamide-4-benefits-for-skin-and-usage-tips-for-topical-use#:~:text=3.,the%20activity%20of%20sebaceous%20glands.
Aloe Vera	“Research highlights aloe vera's role in regulating sebum production—a critical factor in preventing excess oil that can lead to acne lesions.”	https://www.rupahealth.com/post/aloe-for-acne-unlocking-the-natural-healing-power-of-aloe-vera-in-skincare
Hyaluronic Acid	Studies have shown that HA can interact with specific receptors on sebocytes (the cells responsible for producing sebum) to modulate intracellular signaling pathways involved in sebum production. Specifically, HA activates a protein called RhoA, which helps regulate sebum production.	https://www.vivantskincare.com/blogs/got-60-seconds/hyaluronic-acid-a-summer-essential-for-all-skin-types#:~:text=Studies%20have%20shown%20that%20HA,which%20helps%20regulate%20sebum%20production.