

# SalSphere® Severe Acne Relief (SS SAR)

*Technology for the reduction of the appearance of acne*

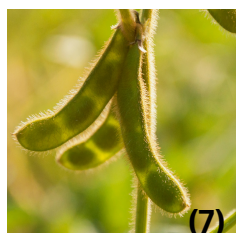
## The Opportunity

Acne is a skin condition that results in pimples, redness, uneven skin, and undesirable blemishes. It can be caused by many factors such as oil (sebum) buildup on the skin, unhealthy skin microbiome, inflammation, among others

Current treatments for acne include salicylic acid and benzoyl peroxide, among others

These ingredients are hard to work with, and often cannot bind effectively to the skin to work to reduce acne, and they target only some of the root causes

## Functional Ingredients



## The Technology

SalSphere Severe Acne Relief is a technology that delivers a core of Salicylic Acid with botanical functional ingredients to acne target areas to treat even the most problematic acne symptoms

The sub-micron spheres offer a sustained release of the functional salicylic acid and botanical extracts which promote healthy skin microbiome, reduce sebum production, and ultimately provide relief from severe acne symptoms

## Functional Ingredients

Salicylic Acid (1) -- Can be derived from the bark of the willow tree, a natural anti-acne and exfoliator

Vitamin C (2) -- Comes from fruits like oranges, acts as an anti-inflammatory to reduce the effects of acne

Chamomile (3) -- Comes from flower extract, works to soothe redness and inflammation caused by acne

Zinc (4) -- From sources such as nuts, helps regulate oil production on the skin to stop acne formation

Green Tea Extract (5) -- From green tea leaves, reduces red skin bumps caused by acne

Kaolin (6) -- From natural clay, absorbs excess oil that causes acne

Peptides (7) -- From soybeans, helps reduce inflammation due to anti bacterial properties

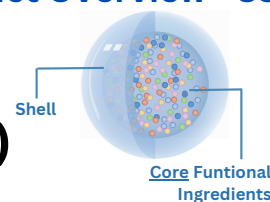


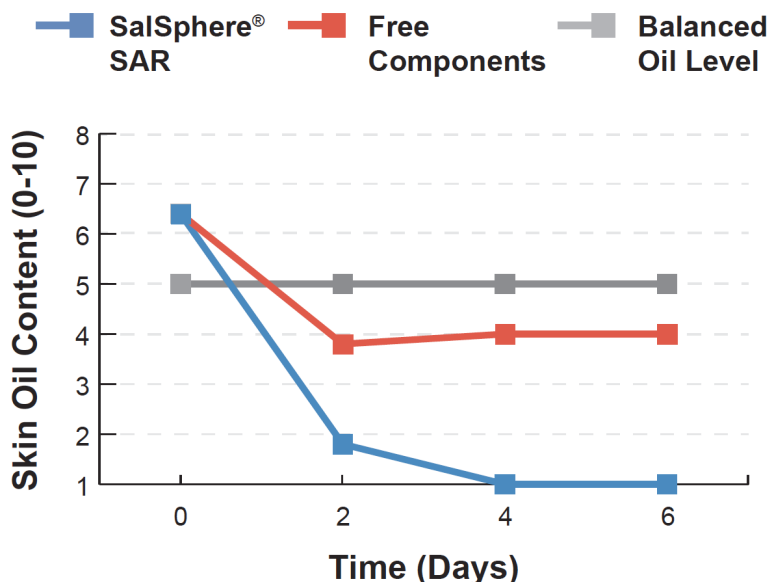
Figure 1: Sub-Micron Structure of SS SAR

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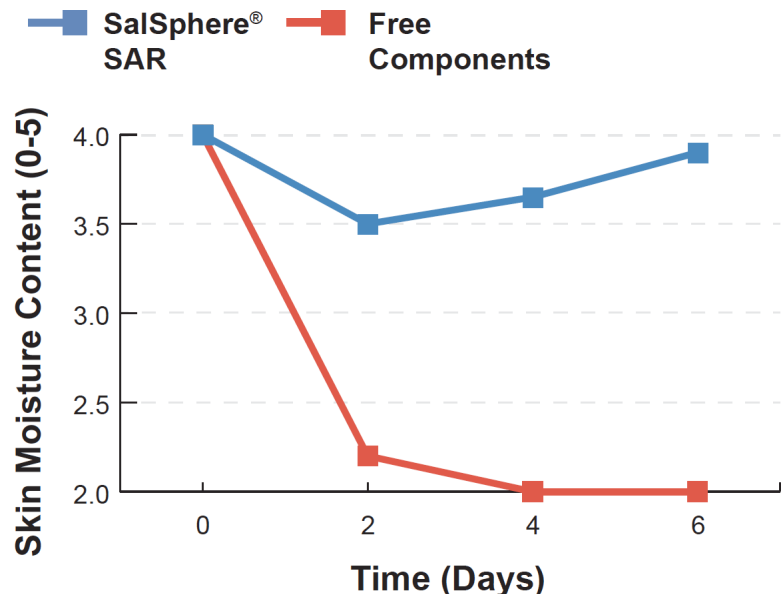
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## Control Sebum Without Drying

SS SAR reduces sebum from oily skin without causing dryness. SS SAR reduced sebum nearly to the ideal level, compared to the free ingredients (Figure 2).



**Figure 2:** Oil level of SS SAR vs free components during in-vivo study (n=3). Levels taken using Hydr8 Digital Skin Analysis System (Epicureanist, LLC). SS SAR is targeted to the pimples.



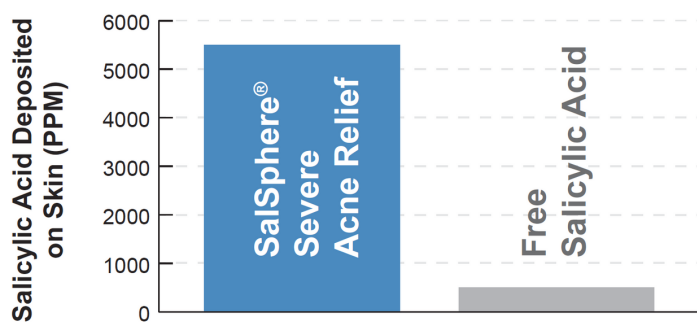
**Figure 3:** Moisture content of SS SAR vs free during in-vivo study (n=3). Levels taken using Hydr8 Digital Skin Analysis System (Epicureanist, LLC).

## Improved Retention on Skin

When used in a wash, SS SAR deposits almost 10 times more salicylic acid onto skin (Figure 4) compared to free Salicylic Acid. As the SalSphere dissolves in the pimple, the ingredients slowly release at the location, reducing side effects like dry skin.

## Anti-Blemish Gel

Ingredients	(W/W%)
Sodium Carbomer	1
DI Water	96.8
SS SAR	1.6
Preservative	0.6
<b>Total</b>	<b>100</b>



**Figure 4:** Salicylic acid remaining on skin post-rinse after treatment with a 2% SA (wt%) facewash formulation during in-vivo study (n=3).

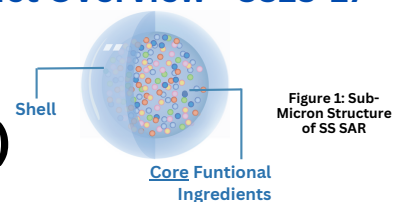


Figure 1: Sub-Micron Structure of SS SAR

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## Technical Data Sheet

INCI
Salicylic Acid
<i>Isostearamidopropyl Ethyldimonium Ethosulfate (AND) Propylene Glycol</i>
<i>Propylene Glycol</i>
<i>PEG-8</i>
<i>Arginine</i>
<i>Glycerin</i>
<i>Butyrospermum Parkii (Shea) Butter</i>
<i>Maltodextrin</i>
<i>Glycerin (and) Water (and) Chamomilla Recutita (Matricaria) Flower Extract</i>
<i>Glycerin (and) Aqua (and) Camellia Sinensis Leaf Extract</i>
<i>Palmitoyl Tripeptide-5 (and) Glycerin (and) Aqua</i>
<i>L-Ascorbic acid</i>
<i>Zinc PCA</i>
<i>Kaolin</i>

### Unique Features

- 1. ALL-IN-ONE SOLUTION** Single system that ultimately addresses multiple symptoms associated with acne. It delivers optimal exfoliation, controls sebum, reduces scars and blemishes, and moisturizes skin all at the same time.
- 2. EASY TO FORMULATE WITH** One system that contains all the required ingredients in a clear water soluble system compatible with different formulation bases.
- 3. COST EFFECTIVE** Reduces time spent on formulation, purchasing, and managing inventory of multiple ingredients.

### Technical Data

Appearance @ 20°C	Translucent liquid
Applications	Topical skin care and acne treatment suitable for cleansers, masks, lotions, creams, and gels
Color	Light to dark amber
Odor	Characteristic

### Formulation

SS SAR can be added at any stage of the formulation process at temperature below 40°C. For formulas using carbomers as thickeners, SS SAR must be added before the neutralization of the carbomer. Suggested carbomer concentrations are from 0.5-1.5% W/W to provide a serum to a gel structure respectively. pH of final formula has to be minimum of 4.5.

## SalSphere® Severe Acne Relief (SS SAR)

*Targets the multiple underlying conditions effecting and associated with acne.*

### Claim Substantiation

Salicylic Acid	“Salicylic acid works by penetrating the hair follicle and oil gland and dissolving the acne-causing blockages of dead skin cells, oil and other debris. It also works to reduce the amount of oil being produced by your oil glands, making it less likely that new acne-causing blockages will form or grow bigger.”	<a href="https://www.acnesupport.org.uk/treatment/salicylic-acid/#:~:text=Salicylic%20acid%20works%20by%20penetrating,will%20form%20or%20grow%20bigger.">https://www.acnesupport.org.uk/treatment/salicylic-acid/#:~:text=Salicylic%20acid%20works%20by%20penetrating,will%20form%20or%20grow%20bigger.</a>
Vitamin C	“Vitamin C contains anti-inflammatory properties and helps reduce the redness and swelling that comes with acne. The results are more pronounced when you use the vitamin topically. It, therefore, helps improve the appearance of acne wounds.”	<a href="https://www.webmd.com/beauty/what-to-know-about-vitamin-c-serum-for-acne">https://www.webmd.com/beauty/what-to-know-about-vitamin-c-serum-for-acne</a>
Chamomile	“Chamomile can be used against acne breakouts. It acts as an anti-inflammatory to reduce the inflammation caused by acne. “	<a href="https://skinkraft.com/blogs/articles/chamomile-for-skin#:~:text=%E2%80%9CChamomile%20can%20be%20used%20against,and%20in%20a%20lower%20concentration.%E2%80%9D">https://skinkraft.com/blogs/articles/chamomile-for-skin#:~:text=%E2%80%9CChamomile%20can%20be%20used%20against,and%20in%20a%20lower%20concentration.%E2%80%9D</a>
Zinc	“Zinc is an essential mineral which boosts immune function. It can reduce the inflammatory response seen with acne. Because zinc regulates cell production and turnover and can help reduce the amount of natural oil your skin produces. This reduces congestion, in turn preventing pores from clogging.”	<a href="https://drdavinlim.com/a-z-skin-care/zinc-skin-care/#:~:text=Zinc%20is%20an%20essential%20mineral,turn%20preventing%20pores%20from%20clogging.">https://drdavinlim.com/a-z-skin-care/zinc-skin-care/#:~:text=Zinc%20is%20an%20essential%20mineral,turn%20preventing%20pores%20from%20clogging.</a>



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Green Tea	“Green tea is a healthful, natural substance that may help reduce acne breakouts. Research has shown both oral and topical use of green tea to be effective in treating acne.”	<a href="https://www.healthline.com/health/beauty-skin-care/green-tea-for-acne#:~:text=Green%20tea%20is%20a%20healthful,be%20effective%20in%20treating%20acne.">https://www.healthline.com/health/beauty-skin-care/green-tea-for-acne#:~:text=Green%20tea%20is%20a%20healthful,be%20effective%20in%20treating%20acne.</a>
Kaolin	“Kaolin clay absorbs impurities and excess oil that can clog pores and lead to breakouts, all without irritating the skin or causing imbalances that are responsible for the vicious cycle many people get stuck in when using traditional acne treatments.”	<a href="https://www.shoprootscience.com/blog/kaolin-clay-for-skin#:~:text=Kaolin%20clay%20absorbs%20impurities%20and,when%20using%20traditional%20acne%20treatments.">https://www.shoprootscience.com/blog/kaolin-clay-for-skin#:~:text=Kaolin%20clay%20absorbs%20impurities%20and,when%20using%20traditional%20acne%20treatments.</a>
Peptide	“[Creates a] refined pore appearance for smoother, younger-looking skin.”	<a href="https://www.ulprospector.com/en/na/PersonalCare/Detail/473/302761/SYN-COLL">https://www.ulprospector.com/en/na/PersonalCare/Detail/473/302761/SYN-COLL</a>