

# SalSphere® Sunkiss

**8316**
*Sunless Tanning for Glowing Skin*

v050616



SalSphere® Sunkiss is a technology designed to generate an even and long-lasting sunless tan. Dihydroxyacetone (DHA) is the only FDA approved ingredient for sunless tanning. This technology combines DHA with other ingredients to enhance performance.

Consumers are looking to achieve an all-over bronze glow that looks natural and lasts for a long period of time. DHA is a water soluble ingredient that reacts with protein on the skin to form this desired dark complex. However, typical products using DHA have a limited shelf life and generate a malodor.

SalSphere® Sunkiss solves these issues using a unique technology to encapsulate and slowly release DHA over time to enhance its performance and reduce malodor.

## Unique Advantages

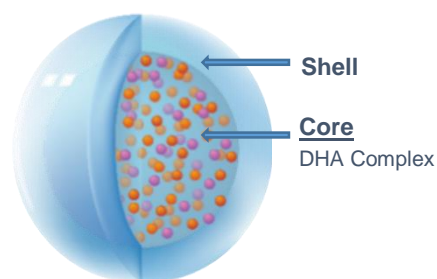
- 1. Longer Shelf Life:** Longer shelf life as a raw material and in a formula.
- 2. Instant and Long-Lasting Tan:** Due to the slow release system, SalSphere® Sunkiss can offer longer lasting results. Provide instant results by combining with SalColorFx™ technology.

- 3. Reduced Odor:** The encapsulation technology of SalSphere® Sunkiss reduces the unwanted odor usually associated with sunless tanning products.

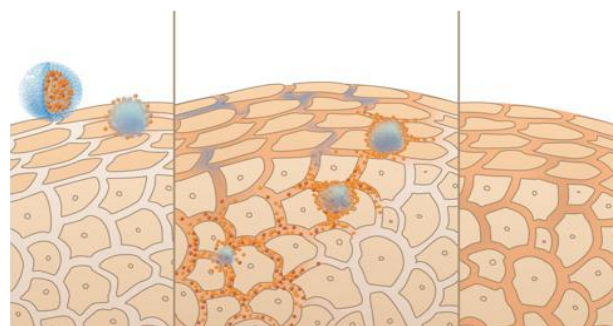
## How the Technology Helps You

SalSphere® Sunkiss is a unique sub-micron sphere delivery system designed to enhance the efficacy of DHA. The technology is made out of spheres with a diameter of 0.1 to 0.3 microns. The polymeric core is infused with DHA (Figure 1).

The mechanism of operation is based on the core slowly partitions into the skin to release DHA over time and produce a natural-looking, even tan that lasts longer (Figure 2).



**Figure 1:** Structure of SalSphere® Sunkiss with its shell and core encapsulating DHA



**Figure 2:** SalSphere® Sunkiss mechanism of release into the stratum corneum results in an even, natural-looking tan.

SalSphere® Sunkiss technology protects DHA from premature reactivity, thus enhancing stability and preventing discoloration over a time (Figure 3). By enhancing stability, SalSphere® Sunkiss is able to deliver a maximum amount of DHA to the skin for increased efficacy.

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### Enhanced Stability and Shelf Life

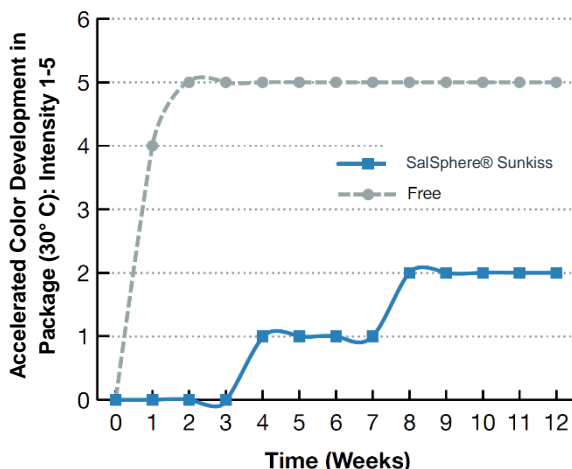


Figure 3: Color Intensity of lotion containing SalSphere® Sunkiss vs. free.

The free form of DHA, in a lotion loaded at 8% shows discoloration after just five days at 30° C (Figure 4).

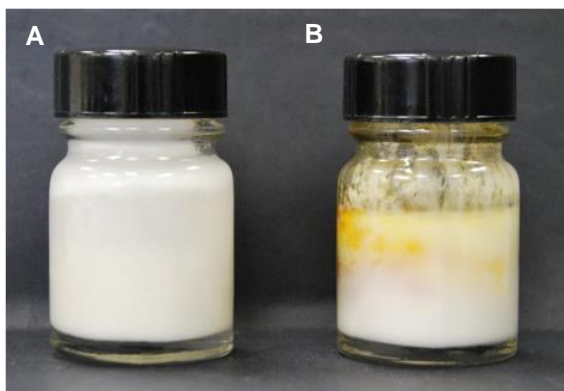


Figure 4: Lotions containing SalSphere® Sunkiss (A) and free DHA (B) at 8% loading after five days under accelerated conditions of 50 °C.

### Reduced Odor in Formulation

Encapsulation of DHA in SalSphere® Sunkiss significantly reduces the undesirable odor that is characteristic of sunless tanning products (Figure 5).

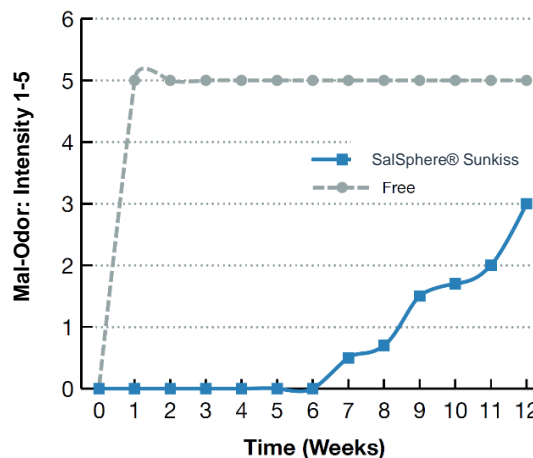


Figure 5: SalSphere® Sunkiss reduced odor compared to the free DHA formulation at 30° C in lotion (8% DHA).

### Formulation Data

Instant Bronzing Mist #11415-121	
Ingredients	W/W%
SalSphere® Sunkiss	10
SalSphere® AquaSkin	2
Pre-mix S #5016	15
DI Water	80
Preservative	1

Instant Bronzing Lotion #11415-122	
Ingredients	W/W%
SalSphere® Sunkiss	10
SalColorFx white to brown	2
Pre-mix A #5019	20
DI Water	75
Preservative	1

### Technical Data

Appearance @ 20°C	Opaque Paste
Applications	Skin care products such as lotions and creams
Color	Off-White
Odor	Characteristic
pH ( 1 % solution)	4.5 ± 1.5
Shelf Life (months)	18
Usage Level (wt%)	5
Storage (°C)	Closed container, at 12 – 32°