



# HydroSal® FreshCool (HS FC)

A delivery system used to provide a fresh sensation.

HS FC delivers a fresh sensation for skin and hair care products due to its mild effect at low concentrations.

## UNIQUE FEATURES

- EASE OF FORMULATION**  
Compatible with a wide range of water-based and hydroalcoholic formulas to form clear products.
- LONG-LASTING REFRESHING SENSATION**  
The time release technology of HS FC allows for a sensation that can last up to 2 hours.
- REDUCED MENTHOL ODOR**  
Delivers cooling properties without the overbearing odor of menthol.

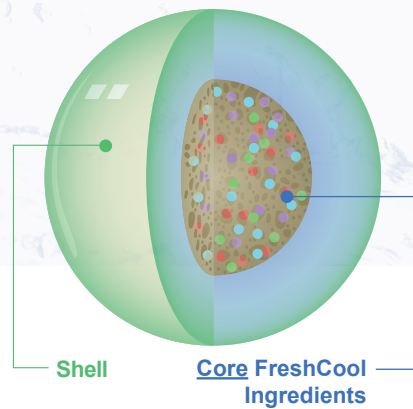


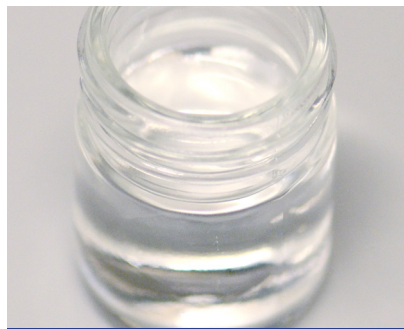
Figure 1: Structure of HS FC with its core infused with FreshCool complex.



## HOW THE TECHNOLOGY HELPS YOU

HS FC technology is based on sub-micron spheres, characterized by a solid core and polymeric shell (Figure 1). The technology is designed to enhance the performance of a complex ingredient blend, FreshCool, by modulating its release kinetics.

The FreshCool ingredients are infused into the core and surrounded by a shell coating. The release rate is controlled by the shell's unique permeation properties, providing an immediate and long-lasting refreshing sensation.



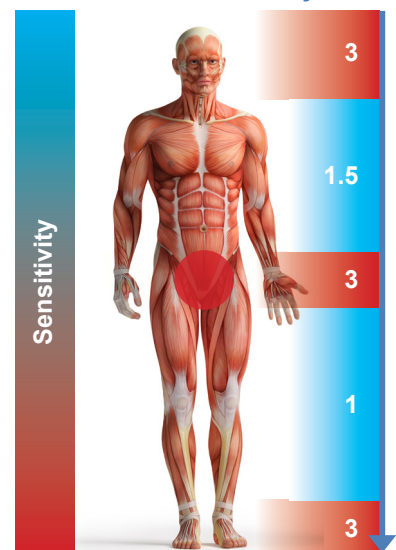
HS FC raw



## SKIN SENSITIVITY

The sensitivity of the skin to these cooling functional ingredients is different at various parts of the body. The dosage needs to be adjusted to complement the intended area of application.

### LEAST Sensitivity Level



### MOST

Figure 2: Areas of the body that are more sensitive to HSFC (1-3).

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## LASTING REFRESHING SENSATION

The time release properties of HS FC noticeably outperform those of free menthol (Figure 3). The sensation can last up to 2 hours, depending on the concentration.

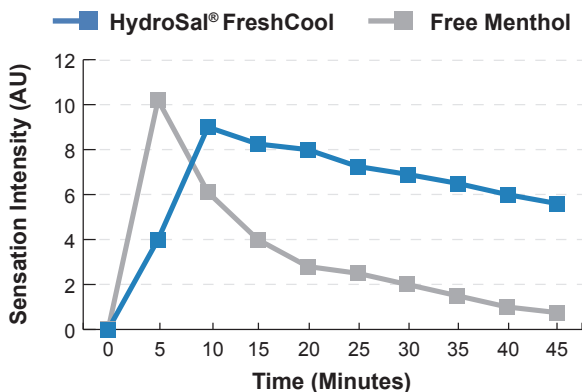


Figure 3: A clinical sensory test compared HS FC to free menthol at 1% concentration in a lotion. There is no limit to the level of FreshCool allowed, as it is a cosmetic technology.

## DOSE RESPONSE STUDY

A clinical study was conducted to determine the dosage response of HS FC based on the duration of the refreshing intensity on the scalp. From a conditioner, it was found that the highest distinguishable dosage of HS FC is 5%.

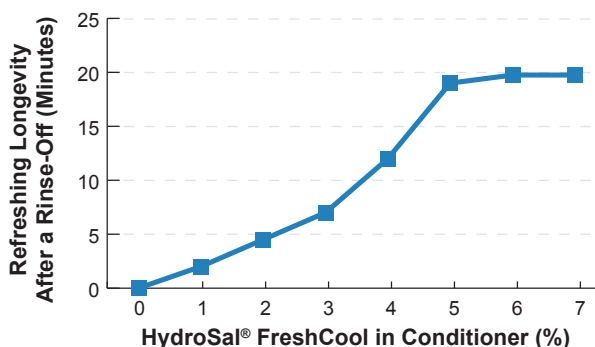


Figure 4: Dose response of HS FC when used in conditioner.

## FORMULATION

Ingredients	(W/W %)
HydroSal® FreshCool	2
SalSphere® Severe Acne Relief	1.67
Salvona Pre-Mix A	20
DI Water	75.33
Preservative	1

## TECHNICAL DATA

<b>Appearance @ 20°C</b>	Translucent liquid
<b>Applications</b>	Recommended for water-based and hydroalcoholic applications such as lotions, hair and body washes, shaving gels, oral care, and topical pain relief
<b>Color</b>	Colorless
<b>Odor</b>	Characteristic
<b>pH (1 % solution)</b>	5.0 ± 1.0
<b>Menthol Level (%)</b>	15
<b>Shelf Life (months)</b>	18
<b>Usage Level (wt%)</b>	0.5-5.0%
<b>Storage (°C)</b>	Closed container at 12-32°