SALVONA
Unique&Easy Micro-Encapsulation Solutions

HydroSal® SalCool (HS SC)

Odorless fresh lasting sensation.

HydroSal® Sal Cool is an encapsulation technology that delivers an odorless, refreshing, revitalizing, soothing, and invigorating sensation from topical applications.

HydroSal® Sal Cool is a low-viscosity, clear liquid that is easy to use in most product forms. It can enhance and replace the desired traditional refreshing and cooling ingredients.

The Technology

HydroSal® Sal Cool introduces a distinctive sub-micron sphere (fig. 1). The functional ingredients known as SalCool are enclosed within the polymeric core. The polymeric shell facilitates effective skin deposition and controlled release.

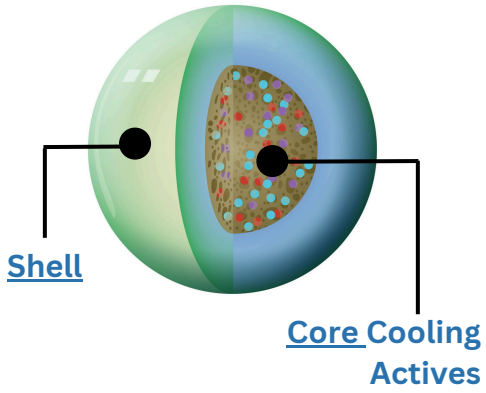


Fig 1: Structure of HydroSal® Sal Cool

Unique features

1. **Fast and easy** to formulate, compatible with most product forms.
2. **Long-lasting** sensation.
3. **Odorless**
4. **Skin-friendly**

Neurocosmetics

Nerucosmetics focuses on the skin-brain connection and interpretation of sensations applied to the skin.

HydroSal® Sal Cool targets the skin's sensory receptors and neural pathways. It modulates sensory perception to create pleasant, fresh, or tingling sensations. It does not have a physiological effect or reduce the skin's temperature, so it’s safe for sensitive areas, such as around the eye.

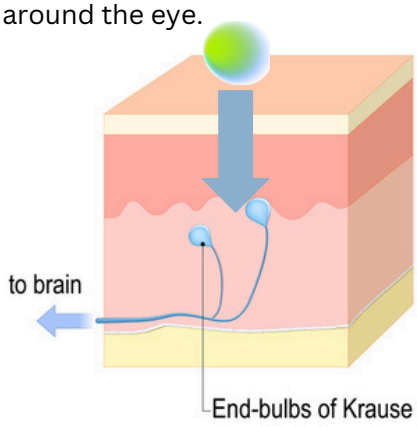


Fig 2: HydroSal® Sal Cool delivers cooling signal to the nerve system

HydroSal® Sal Cool is Menthol—and alcohol-free and utilizes food-grade, skin-friendly (GRAS) ingredients that are not irritating or burning.

The complex activates TRPM8 Receptors (Transient Receptor Potential Melastatin 8) receptors, which are cold-sensitive receptors located in the skin. When these receptors are activated, they send signals to the brain that are interpreted as a cooling or cold sensation, even though the actual temperature of the skin may not change.

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Sensory testing

HydroSal® Sal Cool contains a special blend of ingredients that synergize for a sustained sensation. Some ingredients in SalCool provide a quick, intense cooling burst, while others offer a more sustained and gradual cooling experience.
We monitored the longevity of the fresh sensation using HydroSal® Sal Cool at 1% in a moisturizing lotion (fig 3).

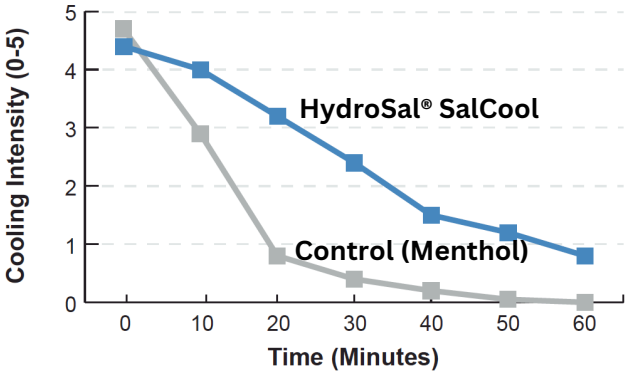


Figure 3: Sensory ratings of HydroSal® SalCool compared to Menthol, both functional ingredients used at 1% in a leave-on base. The product was applied to the inner arm.

Menthol's intensity declined (below 2) after about 15 min, while HydroSal™ SalCool continued for 100% longer.

Technical Data

Specifications:

Appearance at room temp: Clear Liquid
Odor: Characteristics
Color: Clear
pH (15 in water): 4.5 - 6

INCI

Major ingredients: Ethyl Menthane Carboxamide, Methyl Diisopropyl Propionamide, Menthyl Lactate, Hydroxypropylcellulose, Propanediol Phenethyl Alcohol, Pentylene Glycol

Longer lasting sensation

HydroSal® Sal Cool encapsulation technology enhances the overall sensation and lasts longer (fig 3). This benefit results from:

1. Combining multiple functional ingredients that work in a synergy
2. Layering Ingredients to achieve a consecutive delivery
3. Combining ingredients with complementary actions so that they don't inhibit or compete with the receptors

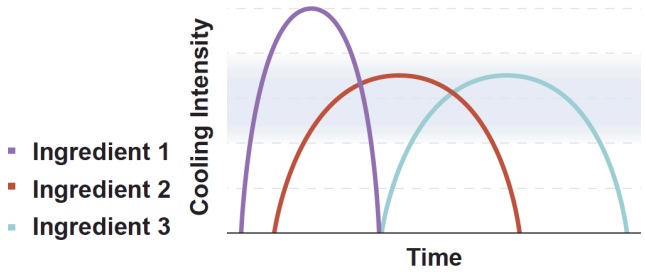


Figure 4 illustrates the consecutive action of 3 functional ingredients used in HydroSal® Sal Cool.

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The benefits of a fresh signal?

- Immediate comfort and relief, particularly for irritated, inflamed, or sunburned skin.
- The soothing effect can help reduce the feeling of tightness, itching, or discomfort associated with conditions like acne, eczema, rosacea, and after certain cosmetic procedures.
- Perceived efficacy can make the product feel more effective to the user. This sensory feedback can enhance the overall satisfaction and perceived results from the product.
- De-puffing can help reduce puffiness, particularly around the eyes. This can be beneficial in eye creams and serums to reduce under-eye bags and dark circles.
- Invigoration and refreshment make skincare routines more enjoyable and uplifting, especially in the morning or after a workout.
- Enhanced blood circulation can promote improved blood circulation, delivering nutrients to the skin and removing toxins, contributing to a healthier complexion.

FEEL FRESH

Factors influencing cooling sensation:

- Thinner skin areas tend to feel the cooling sensation more intensely, i.e., the forehead and temples.
- Areas with a higher density of nerve endings, such as the scalp, soles, and toes.
- Increased blood flow can enhance the perception of cooling as the product interacts with the skin, i.e., pulse points.
- Areas with more sweat glands, such as armpits, can amplify the cooling sensation as the product mixes with sweat.

Users can achieve a more effective and satisfying sensory experience by targeting these specific areas with cooling products.



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Applications

A fresh sensation can enhance various personal care applications, making products more enjoyable and adding functional benefits. Here are some key applications:

1. Facial Care Products

- Cleansers: Fresh-sensation cleansers can invigorate the skin, making the cleansing routine more enjoyable.
- Toners: Cooling and refreshing toners can tighten pores and provide a wake-up effect, especially in the morning or after exercising.
- Moisturizers: Light, gel-based moisturizers with a fresh sensation can be particularly appealing for oily or combination skin types, providing hydration without a heavy feel.
- Masks: Cooling face masks can soothe irritated or sunburned skin, providing instant relief and hydration.

2. Eye Care Products

- Eye Creams and Gels: Products with a cooling effect can help reduce puffiness and dark circles around the eyes, making the eye area appear more refreshed and awake.

3. Body Care Products

- Lotions and Creams: Body lotions with a fresh sensation can be especially refreshing after a shower or workout, providing a cooling effect that helps the skin feel rejuvenated.
- Deodorants and Antiperspirants: Fresh-sensation ingredients can enhance the effectiveness of deodorants.
- Body Washes: Cooling body washes can provide an invigorating start to the day or a refreshing cleanse after physical activity.

4. After-Sun Care

- Gels and Lotions: After-sun products with cooling can immediately relieve sunburned skin, reducing redness and discomfort.

5. Shaving Products

- Shaving Creams and Gels: Products with a fresh sensation can help soothe the skin during and after shaving, reducing irritation and providing a cooling effect.
- Aftershave: Cooling aftershaves can calm the skin post-shave, minimizing irritation and providing a refreshing finish.
- Foot Creams: Cooling foot creams can help soothe tired, achy feet, particularly after a long day of standing or walking.

6. Hair Care Products

- Shampoos and Conditioners: Formulations with a fresh sensation can stimulate the scalp, promoting cleanliness and vitality. These are particularly popular in dandruff treatments and products designed for oily scalps.
- Scalp Treatments: Cooling scalp treatments can help soothe irritation and relieve itching or inflammation.

7. Oral Care

- Toothpaste and Mouthwash: Products with a fresh sensation can enhance the feeling of cleanliness and freshness in the mouth, providing a more pleasant oral care experience

8. Sports and Fitness Products

- Cooling Sprays: Sprays that provide an instant cooling effect can be used during or after physical activity to refresh the skin and reduce overheating.
- Muscle Gels: Cooling gels can be applied to sore muscles to relieve pain and inflammation, enhancing recovery after workouts.

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Formulations

Table 1: Refreshing After Shave Lotion

INCI	Weight (%)
Aqua	85.00
Glycerin	3.00
Propanediol	2.05
Hydroxypropyl Guar	0.50
Cetearyl Alcohol (and) Cetearyl Glucoside	2.50
Isostearyl Isostearate	2.43
Cocos nucifera (Coconut) oil	1.40
Butyrospermum Parkii (Shea) Butter	0.10
Squalane	1.00
HydroSal™ SalCool (8278)	**5.00**
Preservative	1.00
Lactic Acid	qs
TOTAL	**100**



Figure 5: Raw HydroSal™ SalCool at 20C

Table 2: Cooling Face Wash

INCI	Weight (%)
Aqua	62.15
Aloe Barbadensis Leaf Juice	6.50
Xanthan Gum	1.15
Propanediol	6.20
Cocamidopropyl Betaine	17.50
HydroSal™ SalCool (8278)	**5.00**
Preservative	1.50
TOTAL	**100**

Table 3: Cooling Face Gel

INCI	Weight (%)
Aqua	87.2
Carbomer	0.8
Glycerin	5
HydroSal™ SalCool (8278)	**5**
Preservative	1
TOTAL	**100**

HydroSal™ SalCool should be added at the end of formulations at or below 40 degrees Celsius with normal agitation.

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Claim Substantiation

The HydroSal™ SalCool encapsulates a specific ratio of Methyl Diisopropyl Propionamide, Ethyl Menthane Carboxamide, and Menthyl Lactate that allows for a continuous sensory effect.

Claim	Substantiation	Reference
Methyl Diisopropyl Propionamide	" Methyl Diisopropyl Propionamide is a cooling agent for cosmetic and personal care products. The most valuable characteristics of Methyl Diisopropyl Propionamide are its long-lasting cooling effect, its low odor, and its low volatility.	https://www.ulprospector.com/en/na/PersonalCare/Detail/117398/6073260/Methyl-Diisopropyl-Propionamide#:~:text=Methyl%20Diisopropyl%20Propionamide%20is%20a,odor%2C%20and%20its%20low%20volatility.
Ethyl Menthane Carboxamide	Ethyl Menthane Carboxamide " is similar in function to menthol but is milder."	https://cosmetics.specialchem.com/inci-ingredients/ethyl-menthane-carboxamide
Menthyl Lactate	Menthyl Lactate is a cooling agent for cosmetic products. It is derived from menthol but is less likely to cause irritation than pure menthol but with a similar level of cooling effect. It has a lower odor than Menthol.	https://www.ulprospector.com/en/na/PersonalCare/Detail/34152/5123945/Menthyl-Lactate
Benefits of Encapsulation	Encapsulation can help with deposition on the skin and sustained release	www.salvona.com

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