

Natural HydroSal™ Malodor Control

Natural Odor Eliminating Technology

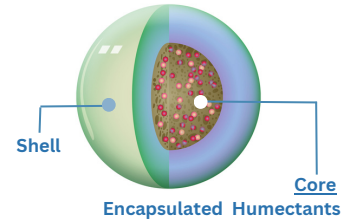


Figure 1: Scheme of Natural HydroSal™ Malodor Control



NHS MOC TECHNOLOGY

Natural HydroSal™ Malodor Control (NHS MOC) is a technology to eliminate and suppress human malodor.

The technology is based on a polymer matrix designed to encapsulate functional ingredients in situ for sustained release of functional ingredients

The proprietary functional ingredient blend is an all-natural odor-suppressing formulation to neutralize and eliminate malodors immediately upon contact, with the added benefit of sustained release providing a powerful solution to everyday unpleasant odors immediately and over time

The technology is water soluble and natural, making it safe for use in cosmetics and personal care as well as easy to incorporate into formulations

FUNCTIONAL INGREDIENTS



Natural Odor Reducer from soybeans



Natural Odor Reducer from beets



Natural Microbiome Control from bacteria components



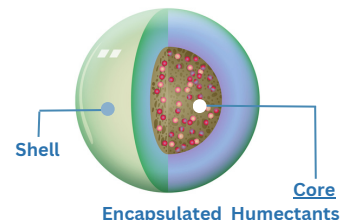
Natural Odor Eliminator from Persimmon tannins

KEY BENEFITS

- 1) Malodor Reduction** comes from the natural odor eliminating ingredients delivered in the HydroSal complex
- 2) Sustained Release** from the polymer matrix for instant and lasting odor reduction
- 3) Safe and Easy** to formulate with, while being acceptable for skin, fabric, and the environment

Regulatory compliance:





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Technical Data

Table 3: Specification of Raw NHS MOC

Property	Characteristic
Appearance at 20C	Clear Liquid
Color	Slight Yellow to Yellow
Odor	Characteristic
pH (1% aqueous)	4.0-6.5
Density (g/cm ³)	1.00-1.05

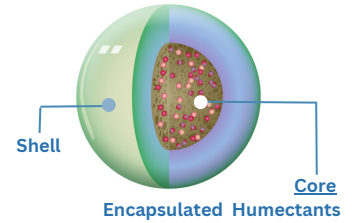
Table 4: Composition of NHS MOC PID: 8096-08

INCI of NHS MOC
Aqua
Astragalus Gummifer Gum
Glycerin
Hydroxypropyl Methylcellulose
Hydroxypropyl Cellulose (AND) Propanediol
Soybean Extract
Triethyl Citrate
Saccharomyces Ferment
Diospyros Kaki Fruit Extract
Pentylene Glycol (AND) Caprylyl Glycol (AND) Propanediol (AND) Ehtylhexylglycerin

Figure 1. Natural HydroSal™ Malodor Control PID #8069-08



Formulation Tips: Natural HydroSal Malodor Control should be added at the end of formulations under 40C



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BODY MALODOR REDUCTION PANEL

A blind panel study was done on a thick paper divided into two sections. A drop of a chemical simulating (sulfurous thioalcohol, 3-methyl-3-sulfanylhexan-1-ol (3M3SH) simulating human malodor was applied on both sections. One side was sprayed with 5% NHS MOC in water, and the other with Febreze.

Panelists blindly ranked the samples' malodor intensity by odor potency after 5 minutes, and the results were analyzed for trends (fig. 2).

The data showed overwhelmingly that NHS MOC is more effective than Febreze at initial and sustained odor control.

24 HOUR PROTECTION

The malodor intensity was rated over 24 hours.

Natural HydroSal™ Malodor Control performed better in a blind test by two points or higher in each time interval tested against the current industry standard, Febreze.

The most protection was achieved for 8 hours.

MALODOR NEUTRALIZATION OF SULFUR SMELL IN LOTION

NHS MOC 5% was mixed in a colloidal sulfur lotion containing 7.5% sulfur for use as an anti acne treatment

Participants (n=6) evaluated the odor of two samples, with and without NHS MOC (fig 4).

83% of participants found the sample with NHS MOC had less sulfur odor than the sample without NHS MOC

Consumers Sensory Testing Malodor Intensity Reduction

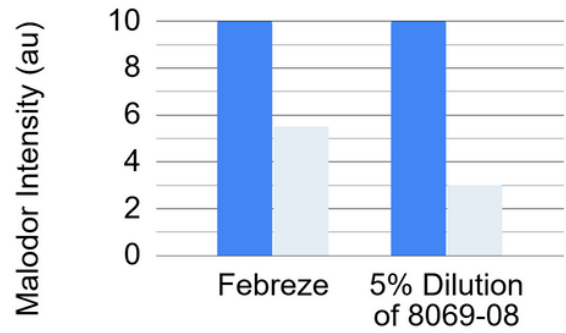


Figure 2. The positive and negative controls were used to establish baselines on a scale from 0-10, with 0 being the negative control and 10 being the positive control.

24 Hour Malodor Protection

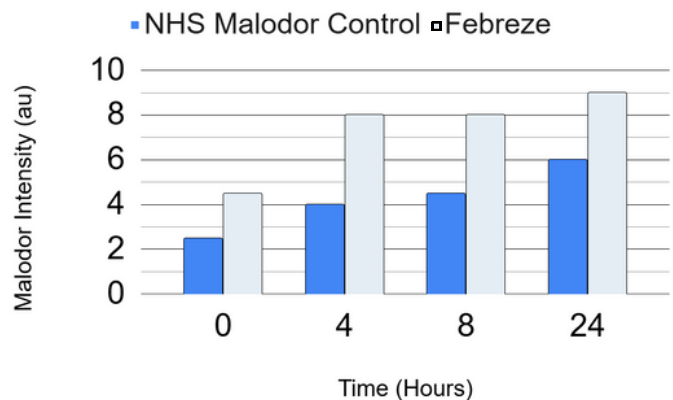


Figure 3: Malodor Coverage over 24 hours

Preference of Lotion Smell

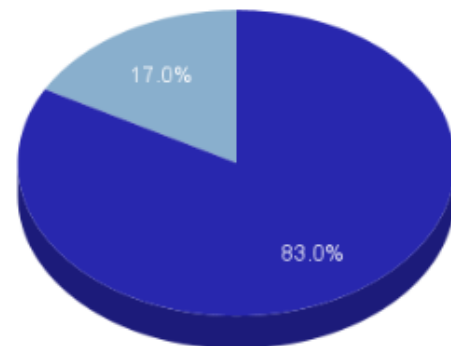
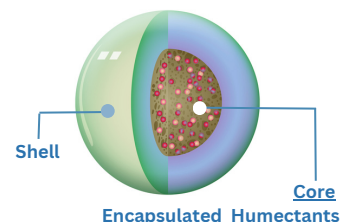


Figure 4: Malodor Coverage in a lotion

Regulatory compliance:





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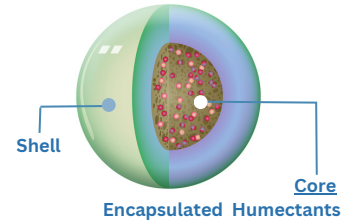
Applications

Table 1. Deodorizing Lotion containing NHS MOC

INCI	Weight (%)
Water/Aqua	80.0
Glycerin	3.00
Propanediol	3.07
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
NHS MOC (8069-08)	5.00
Phenethyl Alcohol (AND) Pentylene Glycol (AND) Propanediol	1.00
TOTAL	100.00

Table 2. Hair Conditioner with NHS MOC

INCI	Weight (%)
Water/Aqua	73.50
Oryza Sativa (Rice) Extract	2.00
Glycerin	3.00
Behentrimonium Chloride	5.00
Cetearyl Alcohol	2.00
Glyceryl Stearate	0.50
Cocos Nucifera (Coconut) Oil	1.00
Squalane	3.00
Argania Spinosa Kernel Oil	1.50
Helianthus Annuus (Sunflower) Seed Oil (AND) Rosmarinus Officinalis Extract	0.50
Aleurites Molaccanus Seed Oil	2.00
NHS MOC (8069-08)	5.00
Phenethyl Alcohol (AND) Pentylene Glycol (AND) Propanediol	1.00
TOTAL	100.00



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Substantiation

Soybean Oil	Soybean Oil forms a complex with malodorous organic materials to neutralize them	https://www.ulprospector.com/en/na/PersonalCare/Detail/3476/735968/ColaQuat-SME
Beet Roots	Natural compound from beet roots to neutralize malodor	https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=d91314db4fee58ab6fc9a0f3576c73b37d973b01
Saccharomyces Ferment Extract	Natural Deodorizer that turns volatile material like ammonia into amino acids	https://incidecoder.com/ingredients/saccharomyces-ferment
Persimmon Extract	“Excellent deodorizing ability of persimmon tannin on odor compounds”	https://www.researchgate.net/publication/286579273_Deodorizing_effect_on_five_odor_compounds_and_extraction_of_tannin_from_persimmon_fruit_juice
Human Malodor (3M3SH)	One of the major causes of human malodor	https://pubchem.ncbi.nlm.nih.gov/compound/d/3-Methyl-2-hexenoic-acid
Malodor Control	Proprietary Blend of Malodor-Reducing ingredients	Salvona
HydroSal™	Proprietary Technology for encapsulation of cosmetic ingredients	Salvona

Regulatory compliance:

