

SilaFresh™ Additive for Personal and Home Care

INCI Name(s): dimethicone/phenyl silsesquioxane/phenyl bis-silsesquioxane crosspolymer

Description

SilaFresh™ additive is a novel, high capacity and flexible sorbent. Its particles reversibly expand upon absorption of organic liquids, creating high absorption and loading capacity. SilaFresh additive is particularly well suited for encapsulation of actives and fragrances, and absorption of malodorous compounds and sebum. The pore structure of the media results in extended delivery of fragrances and actives, and it can be modified to create a desired release rate. SilaFresh additive has a soft, smooth feel and blends well with other ingredients. SilaFresh additive is chemically inert and can be formulated with dry and liquid phase formulations, including those based on ethanol.

Key Features and Benefits

- Stable in ethanolic and high-surfactant solutions
- High capacity, easily loaded
- Soft, smooth, and dry feel
- Can be used in dry or wet formulations
- Retains dry feel, even when highly loaded
- Functional as small particles
- Integrates well into aerosol products
- Can be colored or dyed
- Chemically inert and non-reactive ingredient

Potential Applications

- Fragrance release
- Actives delivery
- Odor adsorption
- Sebum capture

Typical Physical Properties	
Product Property	SilaFresh additive
Uses	Extended delivery of fragrances and actives Absorption of malodorous compounds and sebum
Appearance	White powder (can be colored or dyed)
Average Particle Size	10-60 µm typical, or to customer specification
Particle Density	0.2 g/mL typical
Linseed Oil Absorption (mL/100g)	650 - 810
Adsorption of Aqueous Solutes	Non-polar small molecule organics and semi-polar organics
Selectivity	Absorbs organic liquids May adsorb anionic organics Does NOT adsorb: water, sugars, protein, or ions
Tactile Properties	Granular - Very soft



SilaFresh™ Additive Applications

Fragrance Release

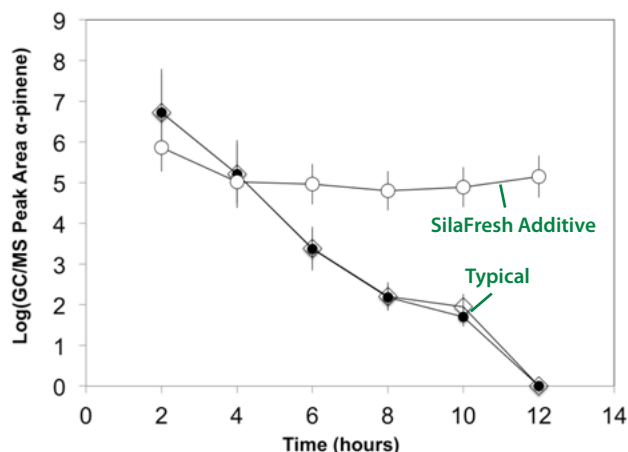
SilaFresh additive can be used for fragrances to balance and extend heart and top notes, and maintain accord. Significantly extended release time and increased intensity can occur when fragrances are loaded into the product.

SilaFresh additive can be loaded up to 400% wt/wt with liquid fragrances.

Key Features and Benefits:

- Stable in ethanolic and high-surfactant solutions
- High loading capacity and easily loaded
- Pore structure enables controlled rate of extended release

SilaFresh™ Additive Improves and Extends Fragrance Release

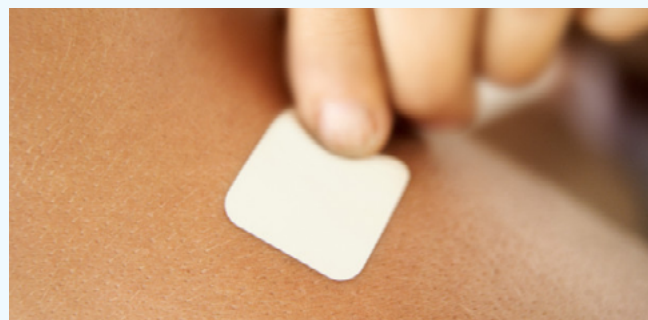


Actives Delivery

SilaFresh additive can be loaded with active ingredients at high capacity to improve product performance by extending release. SilaFresh additive extends time between applications and provides consistent release.

Key Features and Benefits:

- High actives loading capacity
- Can be used in dry or wet formulations
- Integrates well into aerosol products



Menthol Delivery to Skin

Odor and Sebum Capture

SilaFresh additive has been developed and tested as a personal care absorbent. SilaFresh additive can be used in aerosol, dry powder, cream, or gel formulations.

Key Features and Benefits:

- High loading capacity (typically 400% wt/wt)
- Soft, smooth feel
- Retains dry feel even when highly loaded
- Can be colored or dyed



Oil Absorbent for Dry Shampoo