

## SilaFresh™ Additive for Hair Care

### About ABS Materials Inc.

[www.absmaterials.com](http://www.absmaterials.com)

ABS Materials is headquartered in Wooster, Ohio and serves diverse markets. The company's core competency is material science innovations centered around a patented suite of organosilica materials that volumetrically change upon absorption of organics. ABS Materials manufactures SilaFresh Additive, several granular medias, and commercial products.

### What is our innovation?

A highly elastic and porous silica that can capture sebum at high capacity, while remaining dry to the touch. Incorporation of SilaFresh additive into hair care products, such as dry shampoo or styling products, will lead to the removal of sebum and an increase in hair volume.



### Description of SilaFresh™ Additive:

SilaFresh additive for personal care applications is a specially designed absorbent material to absorb oil and sebum. The proprietary synthetic method leads to microscale morphology that allows SilaFresh additive to swell and absorb >3 times its weight in oil. Water is not absorbed due to the hydrophobicity of the material, resulting in the selective removal of oil and other organics from surfaces. SilaFresh additive can be incorporated into various hair care formulations, including aerosols, creams, gels, dry powders, and high surfactant liquids.

### Properties of SilaFresh® Additive

Physical state	Semi-transparent porous solid
Surface chemistry	Hydrophobic siloxane
Surface area	90 m <sup>2</sup> /g
Pore volume	0.65 (mL/g) dry state
Density (empty):	0.4 g/mL
Pore Size	<90% under 6 nm
Swell capacity	5.5 mL/g (organic liquids)
Thermal Stability:	>300°C
Particle size:	Millable to customer specifications without loss of function
CAS No.:	1914981-02-4
INCI name:	Dimethicone/Phenyl Silsesquioxane/Phenyl Bis-Silsesquioxane Crosspolymer
Staining:	None
Shelf life:	>5 years

### **SilaFresh Additive for Hair Care: Functional Capabilities**

ABS Materials has developed a unique material that can greatly improve many products in personal care and home care. SilaFresh additive provides the following benefits when added to hair care products:

**Removes sebum and oil from hair by absorption leaving a clean feel.**

**Can be incorporated with other ingredients including cationic hair care ingredients and surfactants.**

**Imparts volume to hair.**

**Delivers encapsulated organic ingredients, including fragrances.**

### **Patent Portfolio**

ABS Materials has 11 granted patents including composition of matter and applications such as personal care. Several key patents have been filed internationally including EU, Japan, China, Australia, Korea, Canada, Mexico, Brazil, India. The company also has 6 pending patents relevant to personal and home care applications. To date, there has been no limitations on field of use in personal care and home care.

#### **Granted**

7,790,830	Swellable sol-gels, methods of making, and use
8,367,793	Swellable materials and methods of use.
8,119,759	Swellable sol-gels, methods of making, and use thereof
8,217,131	Method for extracting a metal particulate from an aqueous solution...
8,563,649	Method of treating a material using a sol-gel derived composition
8,703,895	In-situ method and system for controlling the flow...
8,754,182	Sol-gel derived sorbent material containing a sorbate interactive material...
8,921,504	Method for removing ionic species contained in an aqueous phase...
14/481,077	Method for removing ionic species contained in an aqueous phase...
EP2601127	Method and system for applying force against a solid object...
14/156,326	Sorbent material and method for using the same.

### **Contact Information**

For additional information regarding SilaFresh additive, please email [info@absmaterials.com](mailto:info@absmaterials.com).