

Skin Fabric®

Product Name:	Skin Fabric®
INCI Name:	Gossypium Herbaceum (Cotton) & Silica & Dimethicone
Use Levels:	5.0-10.0%
Applications:	Pressed Powders, Loose Powders, & Mascaras

Introduction

When most of us think of cotton, we tend to envision our clothing, towels, sheets and bed linens. We envision softness, strength, and a multitude of other uses for cotton. In terms of cosmetics, however, cotton is often only associated with applying or removing cosmetic products and not typically with the finished product itself.

At **Resources of Nature** we have developed a product called Skin Fabric® which is derived from the whole cotton fiber for use in cosmetic application. This whole cotton product is not the polymer, cellulose, which is known to exist within cotton, but instead is a micronized powder developed from the entire cotton fiber. Skin Fabric® can be utilized in a number of applications including liquid makeups, pressed

powders, lipsticks, and mascaras for a natural breathable finished product.

Cotton

Cotton is a natural vegetable fiber that is produced by small trees and shrubs belonging to the genus *Gossypium*. As the cotton plant begins to grow, it first blossoms with an immature flower bud referred to as a square. Emerging from the square, is a yellowish-pink large blossom that quickly gives way to the boll. As the season proceeds, the cotton boll begins to fill out with both long and short fibers until it reaches maturity and can thus be harvested.

Cotton has been in existence for thousands of years, and it has been difficult to determine the exact original habitats of the many species of cotton. To date, fibers have been identified from

the Tehuacán Valley of Mexico and have been determined to be somewhere in the range of 7000 years old. In India, it has been concluded that cotton has existed there for over 5000 years. The ancient Chinese, North and South Americans, and Egyptians have also used it. It was also known as one of the first crops that were planted in Jamestown in 1607, by the early European settlers.

Now, there are only a few species grown for commercial uses including; American Upland cotton, Egyptian and Sea Island cotton, and Pima (an American-Egyptian hybrid cotton). American Upland cotton is a low, multibranched shrub, which is grown as an



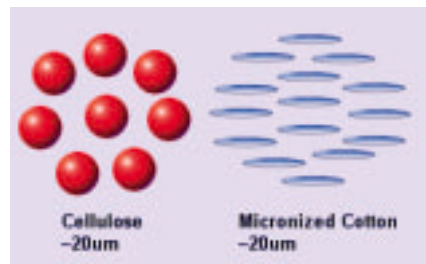
annual. The Egyptian and Sea Island cottons have longer fibers and thrive in the unique climate of the Sea Islands, as well as on the islands of the West Indies. Pima, the hybrid cotton, is the only long-fiber cotton that is now commercially grown in the US.

Cotton can be found growing from April through harvest time in September in vast areas of the southern United States, reaching from Northern Florida, north to North Carolina and west to California. Cotton ranks just behind corn, soybeans, and wheat as one of the leading cash crops in the US and is also one of the US's principal agricultural exports. Today, as might be imagined, cotton remains a principle raw material in the world's textiles industry.

Skin Fabric®

Skin Fabric® is a micronized powder derived from whole cotton fibers mixed with spherical silica, and a silicone. The micronized powder is mixed with the spherical silica and silicone to improve the aesthetics and flow of the powder. The silica and silicone are not bound to the cotton fibers, but are merely mixed with the fibers to

reduce drag and any pilling effect that would occur from the cotton fibers alone. The cotton fibers themselves are flat particles measuring somewhere in the vicinity of 20µm. The addition of the spherical silica particles acts to create movement, and produces the ability of the cotton fibers to glide across the skin's surface. The silicone acts as a fabric softener for the cotton fiber, additionally improving

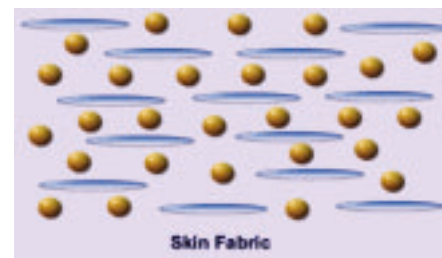


overall aesthetics and functionality.

Skin Fabric® maintains a low refractive index, which closely matches that of human skin. Human skin has a refractive index of ~1.55. Functionally, **Skin Fabric®** performs primarily as a line filler. Since the refractive index so closely matches that of the skin, the micronized fibers actually serve to fill in fine lines and wrinkles without creating a poring effect, or looking as though the skin has been painted. The fibers fill in the fine lines and wrinkles

transparently and effectively, while aiding to diffuse light, resulting in skin that appears more translucent with a young healthy glow.

As one begins to age, the epidermal layers of the skin begin to diminish in size as a result of the decreasing levels of collagen and elastin. This collagen and elastin fiber network becomes more compact, resulting in a thinning epidermal layer. This thinner outermost layer of the skin becomes duller in appearance because it begins to lose its ability to effectively diffuse light. The thinner the epidermal layer, the less light is diffused. In youth, the epidermal layer is much thicker and rich in collagen and elastin. This thicker outermost layer allows greater internal light reflection, thus providing the healthy, translucent glow of youth. **Skin Fabric®** operates to increase overall light diffusion by filling in these imperfections and providing an external layer that scatters light, softening



the appearance of fine lines and wrinkles.

Pigments and other powders such as Titanium Dioxide, Talc or other metal derivatives like Iron Oxides are often utilized to cover fine lines and wrinkles. However, these materials often feel heavier on the face particularly when used at higher concentrations, such as in liquid makeups or foundations. These materials accomplish this by providing a more painted on or masking type effect, thus the heavier look and feel.

Skin Fabric® can be used to decrease the use level of any one of these pigments or powders, in order to produce a lighter more natural looking makeup formulation.

Benefits & Applications

Skin Fabric® can provide an immediate reduction in the appearance of fine lines, by filling in the wrinkle or crease and acting as a light diffuser. Overall, skin will be smoother and more youthful appearing.

Skin Fabric® can be used in pressed or loose powders as a filler, light diffuser, and to provide enhanced aesthetic properties.

Skin Fabric® may also be incorporated into mascara formulations to help naturally build and thicken lashes through the use of this breathable fiber.

Skin Fabric's® ability to aid in oil or sebum absorption, makes it a perfect addition to oil control powdered makeups by helping to reduce shine, thus further serving to hide skin's imperfections.

Formulation Considerations

Skin Fabric® may be formulated as any other powder or pigment type product. Since **Skin Fabric's®** ability to absorb water is low, it can be added directly to the oil phase of the formulation.

Alternatively, **Skin Fabric®** can be post-added to the formulation as the batch begins to cool and reaches a temperature of 45° C or below.

Skin Fabric® can be used anywhere from 5.0-10.0% in a formulation or may be used as a replacement for a portion of other pigments

found within the color cosmetic formulation.

Benefits

- Natural light diffuser
 - o Fills in fine lines and wrinkles
 - o Hides imperfections
- Natural absorbent
 - o Controls oil and sebum build-up on surface of skin
 - o Reduces shine
- Natural fiber
 - o Gentle on skin
 - o Light skin feel
 - o Helps to increase lash thickness
 - o Breathable pressed or loose powder formulations

Applications

- Pressed or Loose Powders
- Mascaras and Thickening Mascaras
- Oil/Sebum Control Foundations

Typical Properties

Appearance
Odor

Fine White Powder
Odorless