

DuPont™ SoBind™
renewably sourced™ soy polymer

SoBind™ Harmony | *When Natural Becomes Functional™*

SoBind™ Harmony

Product Guide

INCI: Glycine soja (soybean) protein, Glycine soja (soybean) oil

DuPont Soy Polymers is the leading global supplier of soy-based specialty polymers for various applications including Personal Care. SoBind™ Harmony soy polymers are derived from soybeans. Soybeans are a biodegradable, renewable and sustainable resource.

Special manufacturing processes, including proprietary modifications, have resulted in products with specific functional benefits, designed based on individual user needs.

- ◆ Naturally Derived
- ◆ Multi-Functional
- ◆ Broad pH Stability (5.0-12.0)
- ◆ Sensory Enhancements

SOBIND™ HARMONY SOY POLYMERS FEATURES:

- ◆ Colloidal material—swelleble particles
- ◆ Molecular weights ranging from 150-300K Daltons
- ◆ Form suspensions
- ◆ Wets, disperses and stabilizes pigments
- ◆ Forms associations with charged and uncharged species

- ◆ Film former
- ◆ Amphoteric in nature with a net anionic charge
- ◆ Possesses hydrophilic & hydrophobic sites—co-emulsifying properties
- ◆ Multifunctional & Natural (non-GMO source)

SOBIND™ HARMONY: MULTIPLE BENEFITS FOR THE FORMULATOR

Pigment Dispersion

- ◆ Pigment wetting and dispersing agents .
- ◆ Iron oxides, zinc and titanium dioxides in sunscreens and color cosmetics.

Stabilization & Emulsification Properties

- ◆ Chelate metals; reduce surface tension & stabilize oil in water emulsions, formulation dependent, at 1% or more.

Cost benefits

- ◆ Possibility to reduce usage of other ingredients (pigments, fragrances, emulsifiers ..)

Rheology Modification

- ◆ These soy polymers are colloidal suspensions, and build viscosity by hydrating or swelling. This effect is solids dependent.
- ◆ In systems with < 30% solids it can be used as the only thickener with 5% or more.
- ◆ In systems with > 30% solids it can be used as the only thickener with 2% or more
- ◆ 0.5% or more of SoBind™ can be used in combination with other natural or synthetic thickeners for synergistic viscosity effects and sensory benefits.



DuPont Soy Polymers

SOBIND™ HARMONY: MULTIPLE BENEFITS FOR THE CONSUMER

Sensory benefits

- ◆ Delivers a soft after-feel on hair, nails and skin, with 0.5%+.
- ◆ Less greasy, fast absorbing, less tackiness, silky feel, matte finish

Unique textures

- ◆ Serves as a texture agent and creates a very homogeneous film on skin
- ◆ Textures achieved with SoBind™ can be fluid, powdery, mousse-like, soufflé-like

Conditioning effect

- ◆ In natural formulations— a viable alternative to cationics

Color protection & expression

- ◆ In dyed hair—intensified color, protection from color fade
- ◆ In color cosmetics—make up durability, darker color of lashes

Skin care & appearance (due to film forming)

- ◆ In sunscreens it helps improve the opacity of the pigment film, which enhances pigment efficiency and sun protection
- ◆ Provides a wrinkle blurring soft focus effect
- ◆ Smoothing effect on irritated skin

SoBind™ Harmony, a product line of water-soluble soy polymers, was developed to meet the specific requirements of personal care applications. The following products are recommended:

PRODUCT GUIDE

Product	Most Appropriate System	Applications examples
Soprano L:	Rich (higher viscosity) systems & textures: surfactant, emulsions, serums, gels, aqueous gels	Shampoos, conditioners, shower gels, rich skin care creams, mascaras, foundations, sunscreens creams
Soprano H:	Rich high pH systems: aqueous gels (when an alkali boost is needed, <u>except emulsions*</u>)	Hair dyes aqueous gels, gelled eye shadows..
Bass L:	Fluid (low viscosity) systems & textures: Surfactant, emulsions, serums, gels, aqueous gels	Light skin care creams, fluid emulsions, eyeliners, foundations, sunscreen lotions etc
Bass H:	Fluid high pH systems: aqueous gels (when an alkali boost is needed, <u>except emulsions</u>)	Hair dyes aqueous gels, gelled eye shadows..

* high amount of salts present in H grade may cause emulsion destabilization

STRONG CERTIFICATION & REGULATORY PROFILE

- ◆ Soy Polymer is not a restricted ingredient and is listed as the allowed cosmetic substance in China, Canada, Australia, US, EU, Japan



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