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.

SOBIND™ HARMONY SOY POLYMERS FEATURES:

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

- Colloidal material—swellable 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.
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 improves 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

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<tr>
<td>Bass H</td>
<td>Fluid high pH systems: aqueous gels (when an alkali boost is needed, except emulsions)</td>
<td>Hair dyes aqueous gels, gelled eye shadows..</td>
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* 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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