Golden·Shell Pharmaceutical

Sodium Polyacrylate Starch

Product Information

CAS Number: 60323-79-7

Application

Sodium polyacrylate grafted starch is an environmentally friendly polymer material that perfectly combines the biodegradability of natural starch with the high water absorbency of polyacrylic acid. In personal care and medical fields, it is used as the absorbent core in diapers, drug delivery carriers, and wound dressings. In agriculture, it serves as an efficient soil water-retaining agent, significantly improving water conservation. In industrial environmental protection, it acts as both a natural flocculant for wastewater treatment and a water-retaining additive in the construction industry. Meanwhile, in cosmetics, its exceptional moisture-locking and hydrating properties make it a key ingredient in face masks and creams. This multifunctional material demonstrates remarkable social and economic value

(Quality Standard

PRODUCT	Sodium Polyacrylate Starch
CAS Registry Number	60323-79-7
Appearance	Fine Powder
Colour	White
Smell	Odorless
Alcohol-soluble coloring substance	Compliant
Ph content	Compliant
Acrylic acid content	Compliant
Heavy metal content	⩽20ppm
Arsenic content	⩽2ppm
Loss on drying	⩽10%
Combustion residual value	45~55%
Total plate count	＜100cfu/g
Total fungal population	＜100cfu/g

Package Specification

5 kg/bag
25 kg/drum

Storage

Keep container tightly closed in a dry and well-ventilated place. Store in a normal temperature indoor environment. Avoid high temperatures and high humidity.

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GS-SPS Product Series

INCI Name: SodiumPolyacrylateStarch
INCI Name (Chinese):聚丙烯酸钠接枝淀粉

Unique Water-Absorbent Polymer: Shaping Mousse Texture

Sodium Polyacrylate Starch is a water-based thickener with a unique structure. It exists as swollen small particles in water and remains stable even in a semi-dry state, presenting a unique powdery mousse texture that is lubricious and non-sticky.

Typical Characteristics

Water Solubility: Dispersible in water, absorbs water and swells to form a gel
Appearance: White or pale yellow powder
Starch Source: Corn

Performance Characteristics

Appropriate Matte Effect

Skin Feel Modifier: Eliminates the Stickiness of Traditional Macromolecular Ingredients

- Unique Skin Feel Expression: Non-sticky, easy to spread
- Effectively eliminates the drawbacks of polysaccharides and conventional polyacrylic acids

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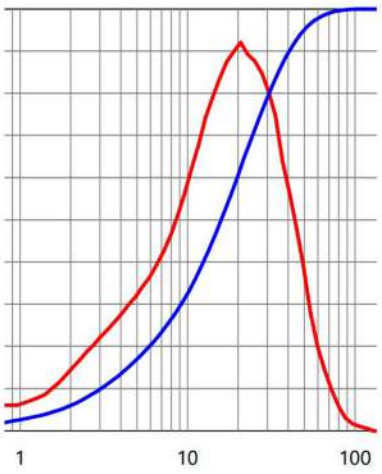
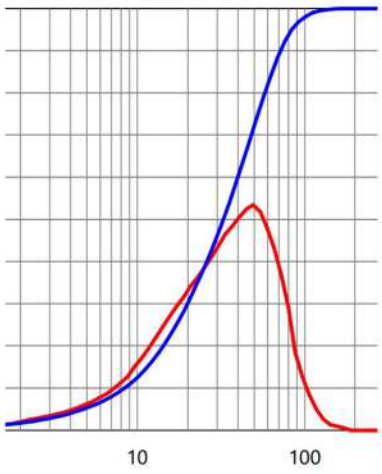
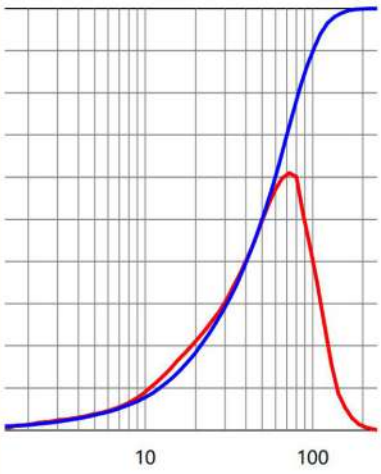
Different products create different "Mousse" skin feels

GS–SPS7SE	GS–SPS12SE	GS–SPS25SE
		
Soft & Smooth & Crystalline	**Matte & Powdery Gel**	**Small Particle Sorbet Gel**
Primary Use: Modifies skin feel, imparts a mousse texture, reduces the stickiness of other macromolecular ingredients.	Primary Use: Expresses unique mousse form, mousse-like touch, exhibits soft sorbet effect.	Primary Use: Expresses small particle soft sorbet form, presents smooth massaging effect.
		
D06 = 2.009 μm D10 = 3.049 μm D50 = 15.91 μm D84 = 33.99 μm	D06 = 5.556 μm D10 = 8.416 μm D50 = 32.69 μm D84 = 62.63 μm	D06 = 7.985 μm D10 = 12.23 μm D50 = 50.01 μm D84 = 88.79 μm

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Product Thermal Stability

Viscosity change after maintaining at 90°C water bath for 30 minutes			
Model	**GS-SPS7SE**	**GS-SPS12SE**	**GS-SPS25SE**
Before Heating	33559.56cp	34476.47cp	35248.12cp
After Heating	29595.78cp	31085.40cp	31695.87cp

Product Applications

The GS-SPS series are water-based thickeners that can create a "Mousse" effect, suitable for various skincare products.

Recommended Dosage:

- **Skincare Applications:** 0.1 - 2% (in aqueous or emulsion systems)
- **Cleansing Products:** 0.5 - 5% (in surfactant-containing systems)

Application Characteristics:

- The viscosity of GS-SPS aqueous solution is proportional to the dosage; higher dosage results in higher viscosity.
- GS-SPS has a very wide applicable pH range, showing good viscosity effects within pH 3–10.
- GS-SPS exhibits significant ion sensitivity. When electrolytes need to be added to the formulation, the thickening effect should be evaluated.
- GS-SPS aqueous solution has certain temperature sensitivity. The thickening effect should be evaluated for high-temperature storage.
- GS-SPS aqueous solution has good shear resistance; appropriate shear strength will not affect its thickening effect.
- GS-SPS has certain ethanol tolerance. When the ethanol content does not exceed 30%, its thickening effect is not significantly interfered with. When the ethanol content exceeds 30%, the system viscosity will change noticeably.

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•The viscosity of GS-SPS aqueous solution decreases when exposed to sunlight; the thickening effect should be evaluated.

•GS-SPS can be used in combination with ion-resistant thickeners to enhance the thickening

Usage Method:

•Disperses well in water, easily forming a gel; dispersion is faster when used with polyols.

•It is generally recommended to wet GS-SPS with a polyol (glycerin, butylene glycol, propylene glycol, etc.) before adding it to the system to form a uniform state more quickly.

Product Storage:

Store sealed at room temperature in a cool, ventilated place. Prolonged storage in damp and hot environments may cause product discoloration.

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