

## Biosil PA

Tests conducted by SkinAxis

### Ingredient Information

CAS# 83-86-3

EINECS# 201-506-6



COSMOS  
APPROVED



### Specifications

Color	Colorless to slight yellow
Appearance	Viscous Liquid
Phytic Acid Content	50% min
Inorganic Phosphorus	0.20% max
Chloride	0.02% max
Sulfate	0.02% max
Calcium	0.02% max
Arsenic	0.0003% max
Heavy Metal	0.002% max

### Attributes

- Gentle exfoliating activity
- Lightening activity
- Powerful chelator
- Free radical scavenger

### Applications

- Skin care
- Hair care
- Color Cosmetics

*Recommended use levels 0.50% - 20.00%*

*CAUTION: Material has a very low pH*

Phytic Acid is a naturally sourced acid found in many plant sources, including corn, wheat, rice, soybean, sesame, and oat. **Biosil PA** is a water clear 50% active solution sourced from a GMO-free corn.

Phytic Acid has a unique structure which provides self-neutralizing activity that yields gentle keratolytic effects and aids in cell turnover. Proper exfoliation helps in maintaining healthy skin by removing the barrier of dead skin cells clogging the skin to uncover the fresh new cells below to provide many benefits such as the reduction of clogged pores and breakouts, increased collagen production, fine lines are softened and appear less noticeable, dryness and flakiness are greatly reduced, and skin appears smoother with a more even-toned complexion.

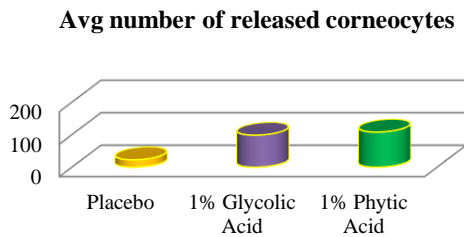
Hyperpigmentation can all attack skin as it ages, making it look blotchy, uneven, and scarred. Several conditions can cause a greater production of melanin, the substance responsible for color (pigment), resulting in dark patches on the skin. By inhibiting the enzymatic transformation of tyrosine into melanin, Phytic Acid can provide a lightening effect on the skin.

In hair care applications, Phytic Acid can aid in restoring scalp health through its keratolytic actions. **Biosil PA** is also supplied as food grade and can be utilized in oral care preparations. This ingredient has proven chelating properties and binds to specific divalent minerals.

With exfoliating efficacy comparable to Glycolic Acid and the ability to inhibit melanin synthesis comparable to Ascorbyl Glucoside, **Biosil PA** is undoubtedly a mild multi-benefit ingredient for many personal care applications.

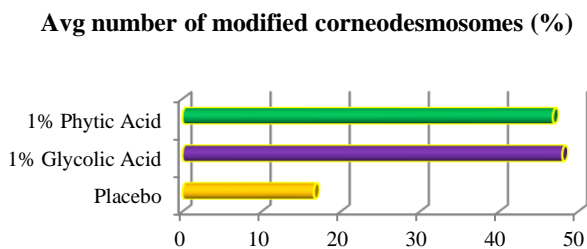
### Exfoliating Activity

The efficiency of exfoliation was evaluated by the assessment of the desquamation process within the upper layers of the stratum corneum in human skin explants by counting released corneocytes.



*The topical treatment with formulation containing 1% Phytic Acid significantly increased the number of released corneocytes with respect to the placebo. The effect was comparable to that of the topical treatment with formulation containing 1% Glycolic Acid.*

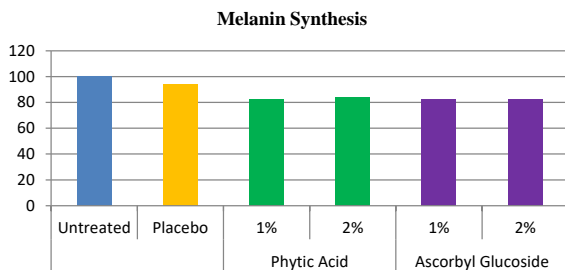
Desquamation was also evaluated by Transmission Electron Microscopy (TEM) for modified corneodesmosomal structure. The loss of corneodesmosomes integrity allows the detachment of corneocytes. These modifications decrease corneocytes' cohesion and enhance the exfoliation process.



*The topical treatment with formulation containing 1% Phytic Acid significantly increased the number of altered corneodesmosomal structures compared to the placebo. The effect was comparable to that of the topical treatment with formulation containing 1% Glycolic Acid.*

### Lightening Activity

The effects on pigmentation was evaluated by testing melanin synthesis in 3D skin equivalents (SE).



*The topical treatment with formulations containing 1% and 2% Phytic Acid produced a significant decrease in melanin production. The lightening effect was comparable to that of the topical treatment with formulations containing 1% and 2% Ascorbyl Glucoside.*

### Formulating Tips

Biosil PA has a very low pH level of less than 1 which can create some complications incorporating it into formulations. Some components of a formula may not tolerate this low pH and might be easily destroyed. Depending on the formulation, the best way of creating a stable formulation is to add the additional step of neutralizing Biosil PA to a desired pH. You can perform this in a separate beaker with Sodium Hydroxide 50% solution. Only after that add the other components of the formula. This is the only way to make the ingredients compatible.

### Storage and Handling

Before handling please read the Safety Data Sheet and container label for safe use, physical and health hazard information.  
Keep away from light and high heat.

**Biosil Technologies, Inc.**  
6A Pearl Court, Allendale, NJ 07401  
Tel : 201-825-8800 Fax : 201-825-8810  
[www.biosiltech.com](http://www.biosiltech.com)

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