Antimicrobial Biopolymer

■ Introductions

Since the antimicrobial market is growing annually, Far Eastern group has developed an amino acid antimicrobial biopolymer which can be applied to different finished products depending on the customized applications.

Biodegradable

☑ Patented natural polymer

☑ No environmental pollution

Non-irritating

☑ No oral toxicity – Pass SGS test (LD50>5000mg/kg)

☑ Neutral formula –pH=7.0, Gentle to skin

Extended-spectrum

The antimicrobial biopolymer can resist bacteria and mold efficaciously – passing SGS test.

(Standard : ASTM E2149、AATCC 30)

Long-term

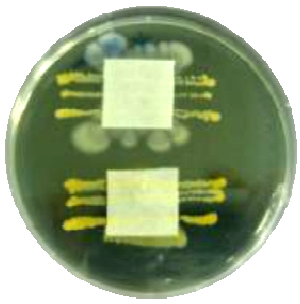
The antimicrobial capability can maintain more than 20 days. (Standard : AATCC 100)

Instantaneously

More than 97% microorganisms will be eliminated after contacting the antimicrobial biopolymer in one minute.

(Draw the plate from left to right by a cotton swab dipped with bacteria solution and stay on the textiles which were treated with antimicrobial agent in one minute. Culture the samples at 37 °C for 24 hrs.)

Our product

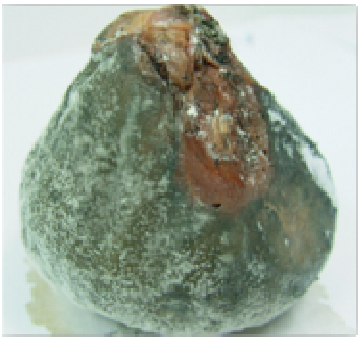


Commercial product

■ Fruit treatment with the antimicrobial biopolymer

(Treat the experimental group with the antimicrobial biopolymer and observe it after 8 days.)

Experimental group



Control group

■ Comparison of the antimicrobial material

	Validity date	LD50 (mg/kg)	Irritating	Extended-spectrum		Water solubility	Shortcoming
				Bacteria	Mold		
FE antimicrobial biopolymer	>20 days	>5000	—	+++	+++	+++	—
Siliver ion	>20 days	100 (*1)	++	+++	++	+++	◻Infertility ◻Pollution
Chitosan	>20 days	16000	+	+	+	++(acid)	Allergic diseases
Quatemary ammonium salt	< 1 days	240	+	++	+	+++	◻Invalid to G(-) ◻Allergic diseases
PHMB	< 1 days	>5000 (*2)	+	+	+	+++	Cornea injure
Chlorhexidine	< 1 days	60	++	+	+	+	◻Liver toxicity ◻Gastrointestinal Irritating
Triclosan	< 1 days	3800	—	+	—	+	Carcinogenic

*1 : colloidal silver for mice

*2 : 0.3% in water