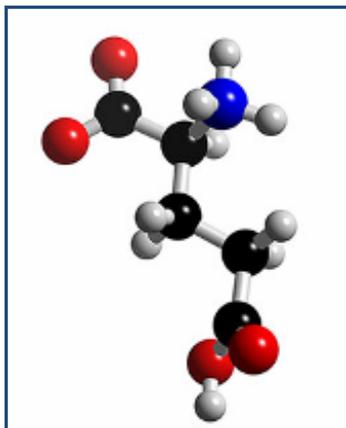


## AMINO ACID COMPLEX (B)

### GENERAL DESCRIPTION FOR RAW MATERIAL



AMINO ACID COMPLEX is a complex of amino acids, blended in the same or similar composition as they are composed in the stratum corneum, that maintain the skin moisturized, provide nutrients to the skin cells, proliferate skin fibroblasts and prevent the skin from aging.

Skin is composed of the epidermis, dermis and hypodermis and epidermis is composed of stratum corneum, stratum lucidum, stratum granulosum, stratum spinosum and stratum basale. The stratum corneum was the final cell layer generated from division of keratinocyte. About 20 layers of thin corneous cells are overlapped to form stratum corneum, which is mainly composed of keratin and protein. When epidermal cells die and turn into the stratum corneum, proteins in the cells are degraded to amino acids and transported to the stratum corneum. And the moisture of stratum corneum is protected by the amino acids called to NMF (Natural Moisturizing Factor). About half of the NMF in the skin is made up of amino acids and pyrrolidone carboxylic acid (PCA) derived from glutamate, an amino acid.

### TECHNICAL INFORMATION

#### Product specification

Appearance	Colorless clear liquid
Odor	Typical
Refractive Index ( $N_D^{20}$ )	1.345 ~ 1.395
pH(Neat)	3.5 ~ 5.5
Specific Gravity (d20/20)	0.990 ~ 1.030
Dry Residue (1g, 105 °C, 3hr)	0.9 ~ 2.5%
Total bacterial count	Not more than 100cfu/g
Yeast & molds	Not more than 10cfu/g

## Processing & Dosage

The recommended dosage of AMINO ACID COMPLEX (B) is 1.0% ~ 7.0%. AMINO ACID COMPLEX (B) is a water-soluble active ingredient. In order not to disturb the structure and conformation of the actives, it is recommended to incorporate it into formula at the last phase of the formulation at about 40°C.

## Storage & Shelf life

AMINO ACID COMPLEX (B) should be stored at room temperature in a tightly closed and lightproof package. If stored in these appropriate conditions the shelf life is at least 24 months. Once the original packing is opened, it is highly recommended to use at once.

## Safety information

Amino acid supplements are used to enhance protein intake in the body and to assist in recovery of muscle tissue after exercise. Also, with its properties, AMINO ACID COMPLEX (B) can be used in all kind of skin care cosmetics for moisturizing and anti-aging, and in all kinds of formulations for hair care and body care.

## PRODUCT INFORMATION

TRADE NAME	AMINO ACID COMPLEX (B)
INCI NAME	COMPOSITION (INCI Key Index)
WATER	A
BUTYLENE GLYCOL	B
AMINO ACIDS (Please refer to SPEC sheet)	F
STANDARD PACKAGE	20KG

INCI Key Index
A : Greater than 50%
B : Greater than 25% but less than or equal to 50%
C : Greater than 10% but less than or equal to 25%
D : Greater than 5% but less than or equal to 10%
E : Greater than 1% but less than or equal to 5%
F : Greater than 0.1% but less than or equal to 1%
G : Less than or equal to 0.1%

## Remarks

The content of this document was established with utmost possible care. However, we reserve the right to add the information, to correct or to delete it without prior notice.