A Multi-Functional Plant Protein for Skin and Hair Care

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Abstract

This article discusses a specially developed gluten-free, multi-functional, hydrolysed wheat protein which has independent claims data to support its efficacy as a free-radical scavenger, as an active which is substantive to, strengths and repairs damaged hair, as an ingredient which reduces surfactant irritancy in formulations, particularly those for babies and sensitive skin and as a foam booster.

Introduction

Plants synthesise all amino acids independently compared to human beings and animals who are only able to generate internally the so-called non-essential amino acids. The essential amino acids have to be taken orally or applied topically to hair or skin in the case of cosmetic products. An exceptionally high yield of essential amino acids can be obtained from wheat.

I Test Product description

The test product* is is a high purity wheat protein hydrolysate obtained by a gentle enzymic digestion process which produces a cosmetic raw material which has the following important characteristics:

- Water soluble
- Preservative-free
- Gluten-free
- 100% plant-derived
- Attractive functional properties for both skin and hair-care
- Appearance: light, white odourless powder
- Molecular weight distribution: The average molecular weight is ca. 2200 Daltons, which represents an ideal value for both dual moisturising and film-forming properties.

Functional Properties	Technical Properties
• Free radical scavenger	• Thickens and stabilises foam in detergent formulations
• Moisture-retaining and balancing properties	• Facilitates buffering of cosmetic formulations
• Hair conditioning and repairing effects	• Stabilises emulsions
• Promotes curl in hair and eye lashes	• Improves adhesion and durability of face powders
• Improves tolerance of skin and eyes to surfactants	• Film-forming activity

Table 1 Functional and technical properties of the test product

Below is the typical amino acid composition (g/100 g) of the test product*								
ca.	2.3 %	Alanine	ca.	2.2 %	Histidine	ca.	12.3 %	Proline
ca.	2.8 %	Arginine	ca.	3.8 %	Isoleucine	ca.	4.8 %	Serine
ca.	3.0 %	Aspartic Acid	ca.	6.9 %	Leucine	ca.	3.2 %	Threonine
ca.	2.0 %	Cystine	ca.	1.2 %	Lysine	ca.	0.8 %	Tryptophan
ca.	37.2 %	Glutamic Acid	ca.	1.5 %	Methionine	ca.	3.5 %	Tyrosine
ca.	3.1 %	Glycine	ca.	5.2 %	Phenylalanine	ca.	4.2 %	Valine