



KELYAMIN

Wheat Amino acids & Peptides for Hair Care

Identification	INCI name	CAS #		
	Hydrolyzed wheat protein	70084-87-6		
		94350-06-8		
	Composition %	Liquid P222135	Liquid P222130	Powder P122130
	Aqua	to 100	to 100	< 10
	Hydrolyzed wheat protein	22 – 26	22 – 26	> 90
	Potassium sorbate	-	< 1	-
	Phenoxyethanol	-	< 1	-
	Sodium benzoate	< 1	-	-

Description KELYAMIN is a water soluble wheat protein hydrolysate with high purity, obtained by the action of a selected enzyme pool which yields a high level of free amino acids and short peptides. This ingredient is specifically featured for hair care and hair hygiene products.

Benefits:

- Repairs damaged hair keratin
- Helps to retain moisture on hair surface
- Prevents hair swelling and keratin solubilisation in waving and colouring treatments
- Reduces hair color loss from shampoo washing
- Reduces surfactant irritancy of detergent formulations

Appearance Liquid: clear amber solution with faint characteristic odour.
Powder: light white-yellow powder with faint characteristic odour.

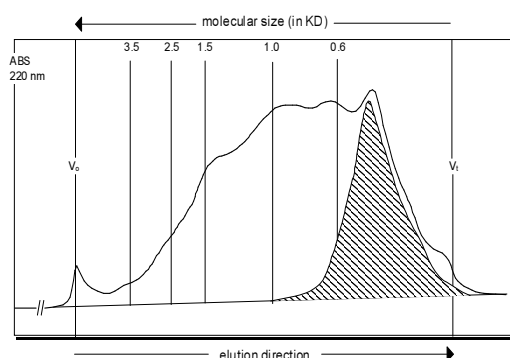
Available types	Liquid	Liquid	Powder	Analytical method
Product code	P222130	P222135	P122130	
Technical specifications				
Residue on drying	22.0 - 26.0%	22.0 - 26.0%	> 90%	18 h, 105 °C
Nitrogen content	2.5 - 2.8%	2.5 - 2.8%	10.5 - 12.5% (on dried substance)	Kjeldahl
Protein content	14.0 - 16.0%	14.0 - 16.0%	60.0 - 75.0% (on dried substance)	Kjeldahl
pH	4.0 - 5.0	4.0 - 5.0	4.0 - 5.0 (aq. sol. 10%)	Potenzimetria
Ash	< 2.0%	< 2.0%	< 8.0%	6 h, 600 °C
Microbial count	< 100 cfu/g	< 100 cfu/g	< 500 cfu/g	MM02
Mould and yeast	< 10 cfu/g	< 10 cfu/g	< 10 cfu/g	MM02
Typical data				
Free amino groups	abt. 200 mmol Leucine eq/100g protein			TNBS reaction
Free amino acids	20 - 30% w/w on protein substance			
Molecular weight	about 500 Da			Gel Filtration Chromatography

Typical amino acid composition of wheat protein (g/100g)

ASP + ASN	3.0	GLU + GLN	37.2	VAL	4.2
LEU	6.9	ILE	3.8	PHE	5.2
TYR	3.5	TRP	0.8	PRO	12.3
MET	1.5	CYS	2.0	LYS	1.2
ARG	2.8	HIS	2.2	GLY	3.1
ALA	2.3	SER	4.8	THR	3.2

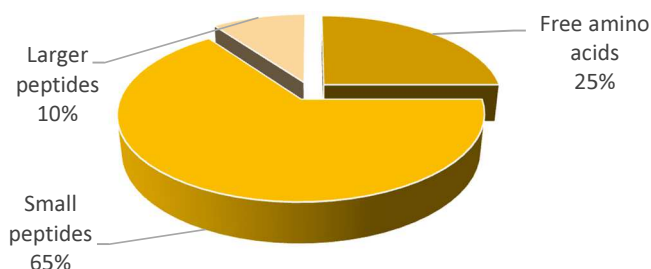
Typical molecular weight distribution

(the highlighted grey area corresponds to the elution of free amino acids)



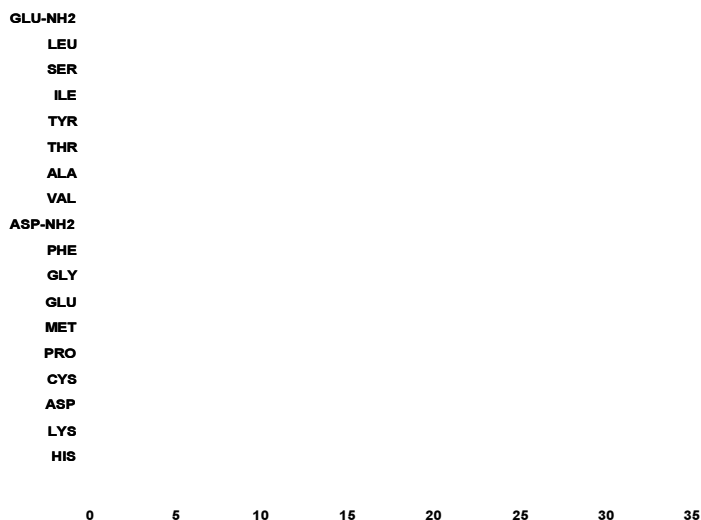
Gel filtration chromatography

PROTEIN SUBSTANCE - MOLECULAR WEIGHT COMPOSITION



Typical composition of free amino acids (g/100g)

FREE AMINO ACIDS - % COMPOSITION



The enzymatic process at low temperature and neutral pH prevents deamidation of released Glutamine (abt. 30% of total free amino acids in KELYAMIN) and Asparagine. Deamidation easily occurs by chemical hydrolysis of proteins, especially with mineral acids, yielding Glutamic and Aspartic acid. As the isoionic value of Glutamine and Asparagine is far higher than related acids their ability to link to hair keratin is superior. The special hydrolysis process provides a balanced blend of free amino acids and small peptides with a high penetration into the hair strand and a film-forming effect that offer a synergic hair substantivity.

Miscibility and compatibility

KELYAMIN is miscible in any proportion with water. It is generally compatible with surfactants, electrolytes, cationic polymers and most of vegetable extracts that contain also tannin. Changes in the original colour of KELYAMIN solutions can occur at extreme pH values and in presence of oxidisers.

Solubility

The solubility in hydro-alcoholic mixtures is indicated in the table (20°C, pH 6):

Kelyamin % (w/w)		EtOH/H ₂ O (v/v)				
Liquid	Powder	10/90	25/75	50/50	60/40	70/30
1	0.2	+	+	+	+	+
2.5	0.5	+	+	+	+	+/-
5	1	+	+	+	+/-	-

(+ clear solution, +/- slight opalescence, - cloudiness)

Applications and suggested doses

KELYAMIN exhibits excellent substantivity and a film-forming effect both in leave-on and rinse-off applications.

Suggested doses are indicative:

	Liquid	Powder
Shampoos	1 – 5 %	0.3 – 1.2 %
Rinse – off conditioners	2 – 8 %	0.5 – 2 %
Leave – on conditioners	0.5 – 4 %	0.2 – 1 %
Hydroalcoholic lotions	1 – 10 %	0.3 – 2.5 %
Styling gels and mousses	0.5 – 4 %	0.2 – 1 %

Available technical documentation

KELYAMIN safety and applicative dossier includes the following technical documentation available upon request:

Safety tests:

- Primary skin irritation
- Skin Irritant Potential Cytotoxicity in vitro test
- Skin sensitising in vitro test

Efficacy tests:

- Hair substantivity
- Hair protection properties
- Hair hydrating properties
- Hair color protection

MSDS**Storage and stability**

The product has to be stored in a cool place, protected from heat and direct sunlight. In original unopened packages and suitable storage conditions the liquid type is microbiologically and chemically stable for at least 6 months, the powder type for at least one year.

Non warranty

The information and recommendations in this data sheet are to the best of our knowledge reliable. Users should however make their own tests to determine the suitability of this product for their own particular purpose and to avoid the infringement of any patent.

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