



## Wheat Gluten Hydrolysate

### PRODUCT DESCRIPTION

The Wheat Gluten Hydrolysates belongs to the Hydrolyzed Vegetal Protein (HVP) group of products of Costantino Food and Beverage Hydrolysates production. HVP families have been developed by Costantino along the years to optimize the use of the vegetal proteins in multiple food applications. This group of product can delivery both nutritional functions and simultaneously technical properties. Purity and clarity of the products are the result of an continuous improvement in the selection and optimization of the best supply chain and a stable and capable process.

Wheat Gluten Hydrolysates is the result of the skill of Costantino in the selection of the best optimized Wheat protein source in combination with an hydrolysis able to deliver the optimized performance in term of structure and, thanks to its taste almost neuter allow nutritional contribution to the food and beverage formulations. The Wheat Protein Hydrolysate can be filtered and concentrated before spray drying to obtain the best clarity and purified product for these applications. Wheat Hydrolysate is so particularly efficient where an high protein content is require in combination with medium level of hydrolysis to enhance molecular weight distribution for this application. As many Costantino products customization of this product is available for eventual fine tuning of the chemical properties to fit the customers optimal needs.

### SUGGESTED USE

Wheat protein used as food supplement are particularly required and appreciated because they are Lactose and Cholesterol free. Vegan diet can easily use this ingredient where a careful combination of vegetal protein source is used to replace animal protein. Generally usable in every formulation to deliver structural properties as whipping agent alone or in combination with other vegetal proteins. They can also be used in bakery formulations to enhance structure and water balance of the mixture

### STORAGE & SHELF LIFE

Protein hydrolysates are hygroscopic and can absorb odors. Temperatures below 30°C, relative humidity below 65%, and odor free environment are recommended.

Avoid direct sunlight.

Expiry date: 2 years from the date of manufacture in the original sealed packaging kept in a dry area, ideally between 8 and 30°C.

### PACKAGING

The standard packaging is a 25 kg cardboard box which contains the product within an inner polyethylene liner bag. No staples or metallic fasteners are used:

- Custom packaging available.
- Delivered with Certificate of Analysis.

The information contained herein is based on internal testing performed at A.Costantino & C. S.p.A. and is to the best of our knowledge true and accurate at present time. All data represents typical analyses provided as a general guide and not to be taken for exact specifications. No warranty nor any liability, implied or otherwise, is assumed with them. Users are directed to perform their tests to determine suitability and performance for specific purposes.

The information and results contained in this technical data sheet are susceptible to modification at any time, without warning.

### TYPICAL PHYSICAL & CHEMICAL PROFILE

Color	Yellowish to light brown
Taste	Characteristic
Total Nitrogen on DM	>12.0% w/w
Proteins on DM (TN x 6.25)	≥68%
Ashes	≤8%
pH (2% sol.)	4.0-6.0
Texture	Powder

### NUTRITIONAL LABELLING (g/100 g of product)

Proteins	68.6
Carbohydrates	16.1
Total fats	4.8
of which saturated (%)	18.9%
Fibers	1.2
Sugars	1.8
Salt	0.128
Caloric value (energy)	384 kcal/1627 kJ

### AVAILABLE ON REQUEST

#### MICROBIOLOGICAL ANALYSIS

Total Bacterial Count	Gram-negative	<i>Salmonella</i> spp
Bile-tolerant Bacteria		<i>S.aureus</i>
<i>E. coli</i>		Yeasts and Moulds

#### AMINOACID PROFILE

#### HYDROLYSIS PROFILE

Molecular Weights distribution	Average MW
Degree of hydrolysis	

#### OTHER ANALYSIS

Heavy Metals	Allergens
Carbohydrates	Fat
Salts and Ashes	Solubility

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### Examples of Costantino Food and Beverage Product Applications (available)

APPLICATION	PROTEINS USED	FUNCTIONAL USE	QUANTITY USED	EXAMPLE	CLAIM
Chocolate Bar (Orange and Mint flavor)	Pea, Rice and Casein Hydrolyzed and whole blend	Increase Nutritional level Increase Protein content for sport application	Add up to 25% to the original recipe to reach more than 30% of total protein level.		Vegan High protein
Chocolate Candy	Pea, Rice and Casein Hydrolyzed	Diet pleasure support	Add up to 15%		Vegan High Protein
Protein Bars	Pea, Rice and Hemp Hydrolyzed and whole blend	Increase Nutritional level for sport nutrition	Add Up to 25% to reach more than 30% of total protein level.		Vegan High Protein Soft Texture
Chocolate Cream	Casein Hydrolyzed	Whipping agent for Clean Label	Replace monodiglycerides, dosage from 0,1-0,3%		Clean Label Improve spreadability/texture
Protein Pasta and noodles	Pea and Rice Hydrolyzed and whole blend	Sport nutrition pasta and noodles	Add up to 35% to the original recipe		Vegan High Protein
Ice Cream	Casein Hydrolyzed, Rice Hydrolyzed	Whipping agent for Clean Label Ice cream	Replace monodiglycerides, dosage from 0,1-0,3%		Clean Label Improve overrun
Diet Sachet	Pea, Rice and Casein Hydrolyzed blend	Protein delivery	6 grams/sachet on total 8 grams sachet dose		Vegan High Protein
Meat and Ham based products	Hydrolyzed pork collagen	Water retention and product slice ability, technical aerologic properties	5% of the total water added		Clean Label No added polyphosphates
Crackers	Pea and Rice Hydrolyzed, Yeast hydrolyzed	Add nutritional content, add Tiamine level for baby formulations	Add up to 10% to the original recipe		Vegan Soft Texture High Protein
Soft and hard capsules and tablets	Bovine, chicken and fish collagen hydrolysate	Bones and joints nutrition, nutraceuticals	% added to the recipe depending on the application		High Protein

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### Examples of Costantino Food and Beverage Product Applications (under development)

APPLICATION	PROTEINS USED	FUNCTIONAL USE	QUANTITY USED	EXAMPLE	CLAIM
Breakfast Cereals	Pea and Rice Hydrolyzed and whole blend	Add nutritional content	Add up to 8% to the original recipe		High Protein
Bread and Grissini	Rice Hydrolyzed and whole blend	High protein products for diet support	Add Up to 25% to reach more than 30% of total protein level.		High Protein
Sport Drink	Rice Hydrolyzed	Add nutritional content	Add up to 8% to the original recipe		High Protein
Biscuits and Cookies	Pea protein hydrolyzed and whole blend	Increase Nutritional level Organic Label	Add up to 8% to the original recipe		High Protein Improve Texture
Vegetal Burgers	Soy, Pea and Rice Hydrolyzed and whole blend	Water retention, ad nutritional content, savory	% added to the recipe depending on the application		Vegan High Protein
Pizza dough	<b>Pea, Rice and Wheat Hydrolyzed and whole blend</b>	<b>Structure of the dough, crispy and softening effects</b>	<b>Add up to 5-8% to the original recipe</b>		<b>Improve texture</b>
Vegetal and Vegan soups	Soy, Pea and Rice Hydrolyzed and whole blend	Water retention, ad nutritional content, savory	% added to the recipe depending on the application		Vegan High Protein
Vegan Torrone	Pea and Rice Hydrolyzed blend	Egg protein replacement for vegan market	Add up to 3-5% to the original recipe		Vegan