

## OPTIPEP 90 DH 4 INSTANT

## TECHNICAL SPECIFICATION

**Product Description** Optipep 90 DH 4 Instant is an enzyme hydrolysed Whey Protein Isolate providing a high quality source of peptides. It is lightly hydrolysed offering a low bitter flavour profile and is suitable for use in enhanced nutritional and functional applications. This ingredient has been instantised to improve its solubility and dispersibility in water.

**Ingredient Listing** Hydrolysed Whey Protein Isolate (Emulsifier: Soy Lecithin)

Chemical	Specification	Typical	Test Method
Protein (TN x 6.41*) (% dry basis)	89.0 Min	90.0	Kjeldahl
Total Nitrogen (% TN)	13.0 Min	14.0	Kjeldahl
Moisture (%)	6.0 Max	5.0	Oven
Fat (%)	1.5 Max	1.3	NIR
Ash (%)	4.0 Max	3.0	Furnace 550°C
Lactose (%)	0.2 Max	<0.1	Calculated
pH	6.0 Min	6.4	10% Aq Soln

\* Kjeldahl Factor adjusted for changes in Nitrogen : Protein ratio due to the degree of hydrolysis

### Microbiological

Standard Plate Count (SPC)	50,000 / g Max	<10,000 / g Max	ISO 4833:2003
Coliforms	<10 / g	<10 / g	IDF73B:1998
E.coli	<10 / g	<10 / g	US-EPA approved method Federal Register / Vol. 67, No. 209. Journal of Food Protection 51:402-404
Staph. aureus	<10 / g	<10 / g	IDF145A:1997
Salmonella	Neg / 25.0g	Neg / 25.0g	ISO6579:2002
Yeast & Moulds	50 / g Max	<10 / g	ISO 6611:2004

### Physical

Scorched Particles	Disc B or better	Disc A	ADPI Bulletin 916
Bulk Density	0.40 ± 0.10 g/cc	0.40	IDF134:1996
Appearance		Homogenous, free-flowing powder	Visual
Colour		Creamy white	Visual
Organoleptic		Typical, free from off-flavour	Taste

### Mineral Profile

Calcium (mg/100g)	400 - 600	500	Atomic Spectroscopy
Sodium (mg/100g)	120 - 250	170	Atomic Spectroscopy
Potassium (mg/100g)	400 - 600	500	Atomic Spectroscopy
Magnesium (mg/100g)	50 - 120	60	Atomic Spectroscopy
Phosphorous (mg/100g)	100 - 300	200	Atomic Spectroscopy
Chloride (mg/100g)	<50	<50	Titration

### Hydrolysis Characteristics

Degree of Hydrolysis (%)	4.0 ± 2	4.0	TNBS Assay
AN/TN (%)	6.0 - 12.0	9.2	Calculated
Molecular Weight Profile	>10,000	Daltons (%) 72	Size Excl. Chromatography
	5,000 - 10,000	Daltons (%) 3	Size Excl. Chromatography
	2,000 - 5,000	Daltons (%) 4	Size Excl. Chromatography
	1,000 - 2,000	Daltons (%) 3	Size Excl. Chromatography
	500 - 1,000	Daltons (%) 4	Size Excl. Chromatography
	<500	Daltons (%) 14	Size Excl. Chromatography
Average Molecular Weight		Daltons 15,011	Calculation

**Typical Nutritional Information**

Amino Acid Profile	(g per 100g Powder)	(g per 100g Protein)
Leucine	9.68	10.75
Isoleucine	5.00	5.56
Valine	4.91	5.46
<i>Total Branched Chain Amino Acids</i>	<i>19.59</i>	<i>21.77</i>
Aspartic Acid	11.48	12.76
Glutamic Acid	16.71	18.57
Serine	5.24	5.82
Glycine	1.70	1.89
Histidine	1.48	1.65
Arginine	1.91	2.12
Threonine	7.22	8.02
Alanine	5.31	5.90
Proline	5.85	6.50
Tyrosine	2.82	3.13
Methionine	2.22	2.47
Cystine	2.41	2.68
Phenylalanine	3.04	3.38
Lysine	9.06	10.06
Tryptophan	1.96	2.18

**Protein Utilisation\***

PER	3.5
BV	104
PDCAAS	0.98
Digestibility	98 % - 100 %

\* As per scientific literature

**Fatty Acid Profile**

Saturates (%)	<0.5
Mono-unsaturates (%)	<0.5
Polysaturates (%)	<0.5
Cholesterol (mg/100g)	5

**Carbohydrates**

Lactose (%)	<0.20
Glucose (%)	<0.10
Sucrose (%)	<0.10

Energy	372 Kcal / 1557 KJ
Fibre	Nil

**Diet Suitability**

This product is suitable for individuals with the following dietary requirements: Kosher, Halal, Vegetarian, Ovo-Lacto Vegetarian, Coeliacs, Diabetics, GMO Free, Nut/Seed free.

**Storage**

Store under clean, cool, dry conditions not exposed to direct sunlight or strong odours and avoiding direct contact with walls and floors. Recommended shelf life is 24 months.

**Packaging**

Packed in 20 kg multi-wall paper-sacks with polythene liners. Each sack will be heat sealed. The product will be palletised and shrink wrapped.

**Labelling**

The following will be printed in large blue writing on white sacks. "Optipep", Manufactured by Carbery Food Ingredients and processor EU number.

**Coding**

Each sack will be individually coded by an automatic ink jet system to ensure traceability.