



PEA PROTEIN ISOLATE

Pea protein isolate is a vegetable protein product obtained from dehulled yellow field peas (*Pisum sativum* L.) by water-based extraction, isoelectric precipitation and spray drying. Starch, soluble sugars and part of the fibre are removed, so that the protein content reaches min. 80 % on a dry basis (N x 6.25). The product is a free-flowing beige to cream powder with a neutral to mildly leguminous taste, high digestibility and a complete essential amino acid profile.

APPLICATIONS

Sports, clinical and functional nutrition: protein powders, ready-to-mix beverages, bars and food supplements, where high protein density and good dispersibility are required.

Plant-based meat and dairy alternatives, bakery and extruded products, where the isolate provides emulsification, structure and a clean-label substitute for animal proteins.

YELLOW PEA PROTEIN ISOLATE · PROTEIN MIN. 80 % · SPRAY-DRIED

Specification:

IDENTITY, PHYSICAL AND CHEMICAL CHARACTERISTICS

ITEM OF TEST	TEST RESULTS	METHOD / REFERENCE
APPEARANCE	Free-flowing spray-dried powder, free from visible foreign matter	Visual; Codex Standard CXS 174-1989, cl. 6.2
COLOUR	Beige to cream, light yellowish	Visual; manufacturer specifications NUTRALYS S85 XF and Pea Protein Isolate 85 %
ODOUR, TASTE	Typical of pea protein, neutral to mildly leguminous; free from foreign, musty or rancid odours	Organoleptic; manufacturer specification Pea Protein Isolate 85 %
PROTEIN (N x 6.25), dry basis, min.	80 %	Kjeldahl, ISO 20483; Codex Standard CXS 174-1989, cl. 3.2.2 (VPP min. 40 %)
MOISTURE (LOSS ON DRYING), max.	10 %	Oven drying, ISO 6496 / AOAC 925.10
ASH, dry basis, max.	6 %	ISO 5984; Codex Standard CXS 174-1989, cl. 3.2.3 (max. 10 %)
FAT (ETHER EXTRACT), max.	1 %	ISO 6492; Codex Standard CXS 174-1989, cl. 3.2.4 (compatible with GMP)
CRUDE FIBRE, dry basis, max.	10 %	ISO 6865; Codex Standard CXS 174-1989, cl. 3.2.5
pH, 10 % aqueous dispersion	6.5 – 7.5	Potentiometry; manufacturer specification PURIS Pea 870
PARTICLE SIZE, through 100 mesh (150 µm), min.	96 %	Sieve analysis; manufacturer specification Pea Protein Isolate 85 %
BULK DENSITY, poured, typical	0.35 – 0.50 g/mL	Poured bulk density; manufacturer specifications PURIS Pea 870 and NUTRALYS S85 XF
NITROGEN SOLUBILITY INDEX (NSI)	On request; determined per lot on customer request	AOCS Ba 11-65
WATER- AND OIL-BINDING, GELATION	As agreed per order; confirmed on customer application samples	Customer agreement
ADDITIVES, CARRIERS, PRESERVATIVES	None; single-ingredient product	Reg. (EC) No 1333/2008 (no food additive used)
GENETICALLY MODIFIED ORGANISMS (GMO)	Absent; produced from conventional yellow field peas	Reg. (EC) No 1829/2003, (EC) No 1830/2003
TREATMENT WITH IONISING RADIATION	Not applied	Directive 1999/2/EC; manufacturer declaration

Compositional requirements follow the Codex General Standard for Vegetable Protein Products CXS 174-1989 (crude protein min. 40 % on dry basis, ash max. 10 %, crude fibre max. 10 %); the protein, moisture, ash, fat, pH and particle-size figures are the specification limits confirmed in the fetched producer specifications for pea protein isolate. Individual parameters may be amended per customer agreement provided that product safety is maintained.

RESIDUE LIMITS

ITEM OF TEST	TEST RESULTS	METHOD / REFERENCE
LEAD (Pb), max.	1.0 mg/kg	BB Chemicals specification; ICP-MS / AAS
ARSENIC (As), max.	1.0 mg/kg	BB Chemicals specification; ICP-MS / AAS
CADMIUM (Cd), max.	0.10 mg/kg	Reg. (EU) 2023/915, entry 3.2.10.2 (proteins from pulses)
MERCURY (Hg), max.	0.03 mg/kg	BB Chemicals specification; cold vapour AAS
HCH (α, β, γ-isomers), max.	0.5 mg/kg	BB Chemicals specification; GC-MS
DDT AND ITS METABOLITES, max.	0.05 mg/kg	BB Chemicals specification; GC-MS
OTHER PESTICIDE RESIDUES	Within the maximum residue levels in force	Reg. (EC) No 396/2005, as amended; GC-MS / LC-MS-MS
AFLATOXIN B ₁ , max.	0.005 mg/kg	BB Chemicals specification; HPLC-FLD
MELAMINE	Not permitted	BB Chemicals specification; LC-MS-MS
RADIONUCLIDES, caesium-137, strontium-90	On request	Gamma / beta spectrometry, on customer request

Toxic elements, chlorinated pesticides, aflatoxin B₁ and melamine are BB Chemicals specification values for the product group “isolates, concentrates, hydrolysates and texturates of vegetable proteins”. The cadmium figure is the European maximum level for proteins from pulses set out in Regulation (EU) 2023/915, entry 3.2.10.2. Batch results are reported in the certificate of analysis.

MICROBIOLOGICAL CHARACTERISTICS

ITEM OF TEST	TEST RESULTS	METHOD / REFERENCE
TOTAL PLATE COUNT (TPC), max.	5 × 10 ⁴ CFU/g	BB Chemicals specification; ISO 4833-1
YEASTS AND MOULDS, each, max.	100 CFU/g	BB Chemicals specification; ISO 21527-2
COLIFORM BACTERIA	Not permitted in 0.1 g	BB Chemicals specification; ISO 21528-2 (Enterobacteriaceae)
Escherichia coli	Not detected in 1 g	ISO 16649-2; manufacturer specification NUTRALYS S85 XF
Staphylococcus aureus	Not permitted in 0.1 g	BB Chemicals specification; ISO 6888-1
Salmonella spp.	Not permitted in 25 g	BB Chemicals specification; ISO 6579-1

The limits above are BB Chemicals specification values tested by the ISO reference methods stated; Regulation (EC) No 2073/2005 contains no specific food safety criterion for this product category. Sample preparation of the initial test solution according to ISO 6887-4.

Botanical name: Pisum sativum L. (yellow field pea) CN / HS code: 3504 00 90 (TARIC 3504 00 90 91) Regulatory status: food ingredient, vegetable protein product under Codex CXS 174-1989; not a food additive under Reg. (EC) No 1333/2008 Appearance: free-flowing spray-dried powder, beige to cream Allergen status: pea is not listed in Annex II to Reg. (EU) No 1169/2011; declaration of the botanical origin in the ingredient list is recommended	Applications: sports and clinical nutrition, food supplements, meat and dairy alternatives, bakery, functional beverages Packaging: multi-ply paper bags with polyethylene liner, 20 / 25 kg net; other packaging by agreement Storage & transport: cool, dry, clean and well-ventilated premises in unopened original packaging, protected from sunlight, moisture and odorous materials Shelf life: 24 months from production in unopened original packaging
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COMPLIANCE & DOCUMENTATION

- The product meets the compositional requirements of the Codex General Standard for Vegetable Protein Products CXS 174-1989 and the hygiene requirements of Regulation (EC) No 852/2004 on the hygiene of foodstuffs, and is labelled in accordance with Regulation (EU) No 1169/2011.
- Contaminant levels comply with Regulation (EU) 2023/915, including the maximum level of 0.10 mg/kg cadmium for proteins from pulses (entry 3.2.10.2).
- Pesticide residues comply with Regulation (EC) No 396/2005 and its amendments; a residue declaration per consignment is available on request.
- Non-GMO within the meaning of Regulations (EC) No 1829/2003 and (EC) No 1830/2003; the raw material is conventional yellow field pea and no labelling obligation for genetically modified food arises.
- Pea is not a listed allergen under Annex II to Regulation (EU) No 1169/2011; the botanical origin should nevertheless be declared in the ingredient list of the final product, as recommended in producer specifications.
- Not treated with ionising radiation within the meaning of Directive 1999/2/EC; free from added colours, preservatives and carriers.
- Kosher and halal statements, allergen and pesticide declarations, third-party audit certificates of the producing plant and a certificate of analysis with batch-specific results accompany each consignment.

References: Codex General Standard for Vegetable Protein Products CXS 174-1989, fao.org; Commission Regulation (EU) 2023/915, consolidated text, eur-lex.europa.eu; PURIS Pea 870 finished product specification, knowde.com; Roquette NUTRALYS S85 XF pea protein specification sheet, knowde.com.

This specification is issued for information purposes and does not constitute a warranty. Batch-specific values are confirmed in the certificate of analysis accompanying each consignment.