



SOY PROTEIN ISOLATE

Soy protein isolate is the most refined soy protein product, obtained from defatted soybean flakes of Glycine max (L.) Merr. by alkaline extraction, isoelectric precipitation, neutralisation and spray drying. Within the Codex classification of soy protein products it is the isolate grade, with min. 90 % protein on a dry basis (N × 6.25). The product is a light cream to light yellow powder of neutral flavour, with a complete amino acid profile and pronounced water-binding, emulsifying and gelling properties.

APPLICATIONS

Meat, poultry and fish products and their plant-based alternatives, where the isolate binds water and fat, improves yield, sliceability and texture and stabilises emulsions.	Sports and clinical nutrition, dairy alternatives, bakery and functional beverages, where high protein density, neutral flavour and good solubility are required in the finished formulation.
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SOY PROTEIN ISOLATE · PROTEIN MIN. 90 % · NON-GMO

Specification:

IDENTITY, PHYSICAL AND CHEMICAL CHARACTERISTICS

ITEM OF TEST	TEST RESULTS	METHOD / REFERENCE
APPEARANCE	Fine free-flowing spray-dried powder, free from visible foreign matter	Visual; Codex Standard CXS 175-1989, cl. 6.2
COLOUR	Light cream to light yellow	Visual; manufacturer specifications Isolated Soy Protein 90 % and GS 5100
ODOUR, TASTE	Neutral and bland; free from foreign, musty or rancid odours	Organoleptic; manufacturer specification Isolated Soy Protein 90 %
PROTEIN (N × 6.25), dry basis, min.	90 %	Kjeldahl, ISO 20483; Codex Standard CXS 175-1989, cl. 3.2.2 (isolate min. 90 %)
MOISTURE (LOSS ON DRYING), max.	7 %	Oven drying, ISO 6496 / AOAC 925.10; Codex CXS 175-1989 (max. 10 %)
ASH, dry basis, max.	6 %	ISO 5984; Codex Standard CXS 175-1989, cl. 3.2.3 (max. 8 %)
FAT (ETHER EXTRACT), max.	1 %	ISO 6492; Codex Standard CXS 175-1989, cl. 3.2.4 (compatible with GMP)
CRUDE FIBRE, dry basis, max.	0.5 %	ISO 6865; Codex Standard CXS 175-1989, cl. 3.2.5 (isolate max. 0.5 %)
pH, 10 % aqueous dispersion	6.8 – 7.8	Potentiometry; manufacturer specification Isolated Soy Protein 90 %
PARTICLE SIZE, through 100 mesh (150 µm), min.	95 %	Sieve analysis; manufacturer specifications GS 5100 and GS 5300A
NITROGEN SOLUBILITY INDEX (NSI), min.	88 %	AOCS Ba 11-65; manufacturer specification Soy Protein Isolate food grade
WATER-BINDING, typical	1 part protein binds approx. 5.75 parts water	Manufacturer specification GS 5100
OIL-BINDING, typical	1 part protein binds approx. 5.75 parts oil	Manufacturer specification GS 5100
GELATION	As agreed per order; gel-forming and emulsion grades confirmed on customer application samples	Customer agreement
TRYPSIN INHIBITOR ACTIVITY	Controlled in accordance with the intended use; typical below 1.0 mg/g	Codex Standard CXS 175-1989, cl. 3.4; USSEC soy protein isolate fact sheet
ADDITIVES, CARRIERS, PRESERVATIVES	None; single-ingredient product	Reg. (EC) No 1333/2008 (no food additive used)
GENETICALLY MODIFIED ORGANISMS (GMO)	Absent; produced from non-GM, identity-preserved soybeans	Reg. (EC) No 1829/2003, (EC) No 1830/2003

The grade designation follows the Codex General Standard for Soy Protein Products CXS 175-1989, which classifies soy protein products by crude protein on a dry basis as flour (50 – 65 %), concentrate (65 – 90 %) and isolate (min. 90 %), with moisture max. 10 %, ash max. 8 % and crude fibre max. 0.5 % for the isolate. Tighter limits shown here are the specification values confirmed in the fetched producer specifications. 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.	0.2 mg/kg	Reg. (EU) 2023/915, entry 3.2.11.3 (soya beans, 0.20 mg/kg)
MERCURY (Hg), max.	0.03 mg/kg	BB Chemicals specification; cold vapour AAS
HCH (α, β, γ-isomers), max.	0.2 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.	2.0 µg/kg	Reg. (EU) 2023/915, entry 1.1.5 (processed products from oilseeds); HPLC-FLD
AFLATOXINS, sum of B ₁ , B ₂ , G ₁ , G ₂ , max.	4.0 µg/kg	Reg. (EU) 2023/915, entry 1.1.5; HPLC-FLD
OCHRATOXIN A, max.	5.0 µg/kg	Reg. (EU) 2023/915, entry 1.2.8 (soybeans); HPLC-FLD
MELAMINE	Not permitted	BB Chemicals specification; LC-MS-MS
RADIONUCLIDES, caesium-137, strontium-90	On request	Gamma / beta spectrometry, on customer request
GENETICALLY MODIFIED SOYA	Absent; non-GM raw material, no authorisation or labelling obligation triggered	Reg. (EC) No 1829/2003, (EC) No 1830/2003; real-time PCR screening

Toxic elements, chlorinated pesticides and melamine are BB Chemicals specification values for the product group “isolates, concentrates, hydrolysates and texturates of vegetable proteins”. The cadmium, aflatoxin and ochratoxin A values are the European maximum levels of Regulation (EU) 2023/915 for soybeans and for processed products from oilseeds; the GMO-free status is documented under Regulations (EC) No 1829/2003 and (EC) No 1830/2003. 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 GS 5100
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: Glycine max (L.) Merr.	Applications: meat, poultry and fish products, meat and dairy alternatives, sports and clinical nutrition, bakery, functional beverages
CN / HS code: 3504 00 90	Packaging: multi-ply paper bags with polyethylene liner, 20 / 25 kg net; other packaging by agreement
Regulatory status: food ingredient, soy protein isolate under Codex CXS 175-1989; not a food additive under Reg. (EC) No 1333/2008	Storage & transport: cool, dry, clean and well-ventilated premises in unopened original packaging, protected from sunlight, moisture and odorous or volatile materials
Appearance: fine free-flowing powder, light cream to light yellow	Shelf life: 18 months from production in unopened original packaging
Allergen status: soybeans and products thereof are a listed allergen under Annex II, item 6, of Reg. (EU) No 1169/2011 and must be declared	

COMPLIANCE & DOCUMENTATION

- The product meets the compositional requirements for the isolate grade of the Codex General Standard for Soy Protein Products CXS 175-1989 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 cadmium max. 0.20 mg/kg for soya beans (entry 3.2.11.3), aflatoxin B₁ max. 2.0 µg/kg and total aflatoxins max. 4.0 µg/kg for processed products from oilseeds (entry 1.1.5) and ochratoxin A max. 5.0 µg/kg (entry 1.2.8).
- Pesticide residues comply with Regulation (EC) No 396/2005 and its amendments; a residue declaration per consignment is available on request.
- Produced from non-genetically-modified soybeans; the product is not subject to authorisation or GMO labelling under Regulations (EC) No 1829/2003 and (EC) No 1830/2003, and identity-preserved documentation with PCR test reports is available on request.
- Soybeans and products thereof are listed in Annex II to Regulation (EU) No 1169/2011 and must be declared as an allergen in the ingredient list of the final product.
- 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 non-GMO 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 Soy Protein Products CXS 175-1989, fao.org; Commission Regulation (EU) 2023/915, consolidated text, eur-lex.europa.eu; Specification of Soy Protein Isolates GS 5100 and GS 5300A, profoodinternational.com; USSEC Soy Protein Isolate fact sheet 2025, ussec.org.

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.