

Organic Pea Protein Powder



What is Organic Pea Protein Powder?

Organic pea protein powder isolate is a plant-based protein ingredient extracted from certified organic yellow peas (*Pisum sativum*) using a proprietary cold-water aqueous extraction process — no hexane, no chemical solvents, no heat damage. The starch and fiber fractions are removed, leaving a concentrated, highly bioavailable protein with a neutral-to-mild flavor profile that blends seamlessly into formulations.

Why Pea Protein Leads the Plant-Based Market

Pea protein has become the reference standard for plant-based protein formulation for several measurable reasons:

- **PDCAAS of 0.82-0.89** — the highest among single-source plant proteins (vs. rice at 0.47, hemp at 0.66)
- **Rich in lysine** — a limiting amino acid in many cereals, making pea protein an ideal complement in blended systems
- **Genuinely hypoallergenic** — free from the Big 9 allergens (soy, dairy, gluten, tree nuts, peanuts, shellfish, fish, eggs, sesame)
- **UHT-stable** — maintains functional integrity under ultra-high temperature processing, enabling deployment in shelf-stable beverages
- **Low sodium specification** — our aqueous extraction minimizes sodium-based pH adjusters; $\leq 500\text{mg}/100\text{g}$ available

Production Process – Traceability from Farm to Powder

All raw yellow peas are sourced from certified organic farms under USDA NOP and EU Regulation (EC) No 834/2007. The production chain covers:

1. Organic farm certification audit
2. Incoming raw material mycotoxin + pesticide residue screening
3. Cold aqueous extraction (30–45°C, no solvent)
4. Membrane filtration + centrifugal separation
5. Spray-drying at controlled inlet temperatures ($\leq 180^\circ\text{C}$)
6. Inline microbial monitoring + finished-goods COA
7. Third-party heavy metal verification (Pb, As, Cd, Hg; Prop 65 compliant)

Functional Applications Summary

Application	Recommended Form	Addition Level
Sports Protein Shakes	80% or 85% Isolate	15–30g/serving
Meat Analogues (burger, nugget)	80% Isolate	8–15% of formula
Dairy Alternatives (oat milk, yogurt)	85% Isolate	2–5% of formula
Baked Goods (protein bread, bar)	80% Isolate	3–8% of formula
Infant/Toddler Nutrition*	85% Isolate	Per regulatory limit
Ready-to-Drink (UHT) Beverages	85% Isolate	2–4% of formula

*Subject to local infant formula regulations; confirm with regulatory team before use.

Technical Specifications

Standard Grade Comparison

Parameter	80% Isolate	85% Isolate	Test Method
Protein (dry basis)	$\geq 80.0\%$	$\geq 85.0\%$	Kjeldahl / Dumas
Moisture	$\leq 8.0\%$	$\leq 7.0\%$	AOAC 930.15
Fat	$\leq 5.0\%$	$\leq 4.0\%$	Soxhlet
Ash	$\leq 6.5\%$	$\leq 6.0\%$	AOAC 942.05
Fiber	$\leq 3.0\%$	$\leq 2.5\%$	AOAC 985.29
Carbohydrates	$\leq 5.0\%$	$\leq 4.0\%$	By difference
Sodium	$\leq 500\text{mg}/100\text{g}$	$\leq 400\text{mg}/100\text{g}$	ICP-MS
Particle Size	100–200 mesh	100–200 mesh	Sieve analysis

Parameter	80% Isolate	85% Isolate	Test Method
Color	Light yellow	Light yellow	Visual
Odor	Mild, neutral	Mild, neutral	Sensory
Solubility	≥ 85%	≥ 90%	NSI method

Microbiological Specifications

Parameter	Specification	Test Method
Total Plate Count	≤ 10,000 CFU/g	ISO 4833
Yeast & Mold	≤ 100 CFU/g	ISO 21527
Coliform	≤ 10 CFU/g	ISO 4832
<i>E. coli</i>	Negative/25g	ISO 16654
<i>Salmonella</i>	Negative/25g	ISO 6579
<i>Staphylococcus aureus</i>	Negative/25g	ISO 6888

Heavy Metals & Contaminants

Parameter	Specification	Standard
Lead (Pb)	≤ 0.5 mg/kg	Prop 65 / EU 2021/1323
Arsenic (As)	≤ 0.3 mg/kg	Prop 65
Cadmium (Cd)	≤ 0.1 mg/kg	EU Regulation
Mercury (Hg)	≤ 0.05 mg/kg	Prop 65
Mycotoxins (Total)	≤ 4 µg/kg (AFB1)	EU 2023/915
Pesticide Residues	ND (per EC 396/2005)	Multi-residue GC-MS/MS

Certifications

Certification	Issuing Body	Scope
USDA Organic	USDA NOP (via accredited certifier)	Production + processing
EU Organic	EU Reg. (EC) No 834/2007	Import + sale in EU
Non-GMO Project Verified	Non-GMO Project	Raw material + finished product
Kosher	KSA / OU (lot-specific)	Processing plant
Halal	IFANCA / MUI (lot-specific)	Processing plant
Gluten-Free	GFCO (< 10 ppm gluten)	Finished product testing
FSSC 22000	Bureau Veritas	Manufacturing facility

All certificates available upon request. Lot-specific COAs include certificate numbers and validity dates.

Applications & Formulation Guidance

Primary Application Areas

Application	Why Pea Protein Works	Typical Addition
Sports Nutrition (RTD/Shake/Bar)	High BCAA, fast digestion, neutral flavor, UHT-stable	20-30g/serving
Plant-Based Meat (Burger/Nugget/Sausage)	High water-holding capacity, texturization with extrusion	8-15% of blend
Dairy Analogues (Yogurt/Cheese)	Gelling properties, neutral background flavor	2-6% of blend
Infant / Toddler Nutrition	Hypoallergenic, high lysine, regulatory compliance possible	Per label spec
Baked Goods (Protein Bread/Bar/Cookie)	Heat-stable, mixes with flour, non-greasy	3-8% of weight
Pasta & Noodles	Protein enrichment without color impact	5-10% of flour
UHT Liquid Beverages	Superior heat stability vs. most plant proteins	2-4% of total
Animal Feed / Pet Food	Hypoallergenic, high digestibility	5-15% of recipe

Formulation Tips

- **Flavor Masking:** Mild vanilla, oat, or cocoa notes pair well; avoid high-acid (<pH 4.0) systems without emulsifier support
- **Blending:** Pea + rice (70:30) creates a complete amino acid profile; pea + sunflower (80:20) adds methionine coverage
- **Texture:** In meat analogs, use cold-hydration 30 min before extrusion; protein becomes tacky and binds at >70°C
- **UHT Stability:** Preheat to 65°C before UHT homogenization to prevent protein aggregation

FAQ

Q1: Does your Organic Pea Protein have a noticeable beany aftertaste?

A: Our cold aqueous extraction process operates at 30–45°C and uses no chemical solvents, which substantially reduces the concentration of saponins and other off-flavor compounds associated with legumes. In independent sensory panels, our 85% isolate consistently scores below threshold for "beany" perception at inclusion rates up to 25g per serving. For additional flavor neutralization, we can supply a debittered variant on request (MOQ 500kg).

Q2: What is the difference between your 80% and 85% Isolate grades?

A: Both are classified as isolates (>80% protein). The 85% grade undergoes additional membrane filtration to further reduce carbohydrates, ash, and sodium content. It is preferred for: (1) infant and clinical nutrition where macro precision matters, (2) high-transparency nutrition labels where lower carb counts are commercially important, and (3) UHT beverages where the lower ash content improves heat stability. The 80% grade is more cost-effective for sports bars, baked goods, and meat alternatives where the extra protein density is less critical.

Q3: How does Organic Pea Protein compare to Whey in PDCAAS and DIAAS?

A: Organic pea protein isolate achieves a PDCAAS of 0.82–0.89 (vs. whey at 1.0) and a DIAAS of 0.82 (measured in rats; human DIAAS data show 0.67–0.82 depending on reference population). While pea protein's methionine is limiting relative to whey, the practical performance difference in muscle protein synthesis is minimal at adequate total protein intake ($\geq 1.6\text{g/kg/day}$). Academic literature (van Vliet et al., 2015; Babault et al., 2015) confirms comparable lean mass gains between pea isolate and whey isolate in resistance-trained subjects.

Q4: Is this product suitable for infant formula?

A: The 85% Isolate can be considered as a protein source in toddler (12–36 months) formulations under EU Regulation 609/2013. For standard infant formula (0–12 months), pea protein is not currently included in the EU positive list for infant formula protein sources. Customers formulating for infant nutrition must independently verify regulatory status in their target market and may require additional clinical safety substantiation.

Q5: What is the minimum order quantity (MOQ) and lead time?

A: Standard MOQ is 500kg (one pallet, 25kg kraft bags). For custom specifications (debittered, specific mesh size, specific sodium threshold), MOQ is 1,000kg. Standard production lead time is 7–14 business days from confirmed PO. Sea freight samples (500g) are available within 3–5 business days with courier tracking. Private-label packaging is available from 2,000kg.

Q6: Can pea protein be used in a Prop 65-compliant product sold in California?

A: Yes. Our Organic Pea Protein Isolate is third-party tested by SGS/Eurofins and meets Prop 65 thresholds for all four regulated heavy metals (Pb \leq 0.5mg/kg, As \leq 0.3mg/kg, Cd \leq 0.1mg/kg, Hg \leq 0.05mg/kg). Lot-specific third-party Prop 65 certificates are available upon request and are provided as standard with all California-destined shipments.

Packaging & Storage



Packaging Options

Format	Net Weight	Material	MOQ	Use Case
Kraft paper bag (inner PE liner)	25 kg	Food-grade PE + kraft	1 pallet (500kg)	Standard B2B
White woven PP bag	25 kg	FDA PP + PE liner	1 pallet (500kg)	Export standard
Fiber drum	25 kg	HDPE + lid	1 pallet (500kg)	High-moisture regions
IBC tote (bulk)	500 kg	Food-grade HDPE	1 unit	Industrial processing
Custom private-label bag	500g / 1kg / 5kg	Customer spec	2,000kg	Retail / Amazon

Storage Conditions

- **Temperature:** Store at \leq 25°C (77°F)
- **Humidity:** Relative humidity \leq 60%
- **Light:** Avoid direct sunlight exposure
- **Shelf Life:** 24 months from production date in original sealed packaging

- **After Opening:** Re-seal immediately; consume within 3 months; do not store in metal containers

Shipping Notes

- Standard palletization: 20 x 25kg bags / pallet; stretch-wrapped
- FCL (20ft): ~14 metric tons
- FCL (40ft): ~28 metric tons
- Country of Origin: China (HS Code: 3504.00.9000)
- FSVP / FDA registration documentation available for US imports

For more information, please visit our website:

<https://www.organic-way.com/products/organic-pea-protein-powder/>