

TECHNICAL DATA SHEET

Pea Protein

Feed Grade Plant Protein Ingredient for Aquaculture Feed

Product Description

Pea Protein is a feed grade plant protein ingredient manufactured from selected yellow peas through cleaning, milling, separation, concentration, and drying processes. It is supplied as a light yellow to cream-colored powder with good dispersibility and a mild plant odor. The product provides a high level of digestible plant protein and useful amino acids for compound feed, especially aquaculture feed formulations that require partial replacement of fish meal, soybean meal, or other conventional protein sources. Pea Protein is non-animal origin, has low fat content, and can contribute to balanced nutrition, palatability, and stable feed manufacturing performance when used correctly in complete feed or premix systems.

1. Product Identification

Product Name	Pea Protein
Botanical Source	Pisum sativum L. / yellow pea
Grade	Feed Grade
Appearance	Light yellow to cream fine powder
Primary Function	Plant protein source for compound feed and aquaculture feed
Typical Protein Level	55% - 80% or according to contract specification
Solubility / Dispersibility	Partially dispersible in water; process dependent
Origin	Non-animal plant origin



2. Typical Specification

No.	Item	55%	60%	72%	80%
1	Appearance	Powder	POWDER OR GRANULER		Powder
2	Color	Pale yellow	Pale yellow or milky white		Pale yellow
3	Smell	With right smell of the product, no abnormal odor			
4	Impurity	No visible impurity			
5	Moisture	≤10%			
6	Protein (dry basis)	≥55%	≥60%	≥72%	≥80%
7	Ash	≤8%			
8	pH	6-8		6.5-8.5	
9	Gluten	≤20mg/kg			

No.	Item	Test Standard	Unit	Limit/Requirement	Test Result
1	Total Plate Count	GB 4789.2-2016 (I)	CFU/g	≤10000	280
2	Yeast & Molds	GB 4789.15-2016	CFU/g	≤50	<10
3	Coliforms	GB 4789.3-2016 (II)	CFU/g	≤30	<10
4	Salmonella	GB 4789.4-2016	/25g	Negative	Negative
5	E. Coli	GB 4789.3-2016 (II)	CFU/g	Negative	Negative
6	Staph. aureus	GB 4789.10-2016 (II)	CFU/g	Negative	Negative
7	Lead	GB 5009.12-2017(I)	mg/kg	≤1.0	0.038
8	Arsenic	GB 5009.11-2014(I)	mg/kg	≤0.5	0.032
9	Mercury	GB 5009.17-2014(I)	mg/kg	≤0.1	Not Detected
10	Ochratoxin	GB 5009.96-2016 (I)	μg/kg	Negative	Negative
11	Aflatoxins	GB 5009.22-2016 (III)	μg/kg	Negative	Negative
12	Pesticides	BS EN 15662:2008	mg/kg	Not be detected	Not Detected
13	Melamine	US FDA method-LIB No. 4422 LC-MS/MS	μg/kg	200	Not Detected

3. Applications and Benefits

High-quality plant protein source for aquaculture feed

Pea Protein is suitable for aquaculture feed as a concentrated plant protein source in fish and shrimp formulas. It can help reduce dependence on fish meal while maintaining a practical protein contribution in starter, grower, and finishing diets. Its plant origin makes it attractive for formulas designed around sustainable raw materials and stable supply chains. When used with proper amino

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acid balancing, Pea Protein can support normal growth, feed intake, and feed conversion targets in many aquatic species. The ingredient has a relatively clean flavor compared with some plant meals and can be combined with fish meal, soybean products, wheat gluten, corn gluten meal, or single-cell proteins. Inclusion should be adjusted according to species, life stage, digestibility data, pellet type, and the overall amino acid profile of the finished feed.

Support for amino acid balance and formula flexibility

In aquaculture nutrition, Pea Protein provides useful levels of lysine and other essential amino acids, although methionine and some sulfur amino acids may require supplementation depending on the formula target. Its use allows nutritionists to diversify the protein matrix instead of relying on one major raw material. This can improve formulation flexibility when fish meal prices are high or when soybean meal inclusion is limited by anti-nutritional factors, flavor concerns, or processing constraints. Pea Protein can be paired with crystalline amino acids, marine protein hydrolysates, yeast products, and mineral premixes to achieve a balanced complete diet. Because amino acid digestibility may vary with raw material source and processing method, formulators should verify nutritional values through supplier data, local testing, or established feed formulation matrices before large-scale application.

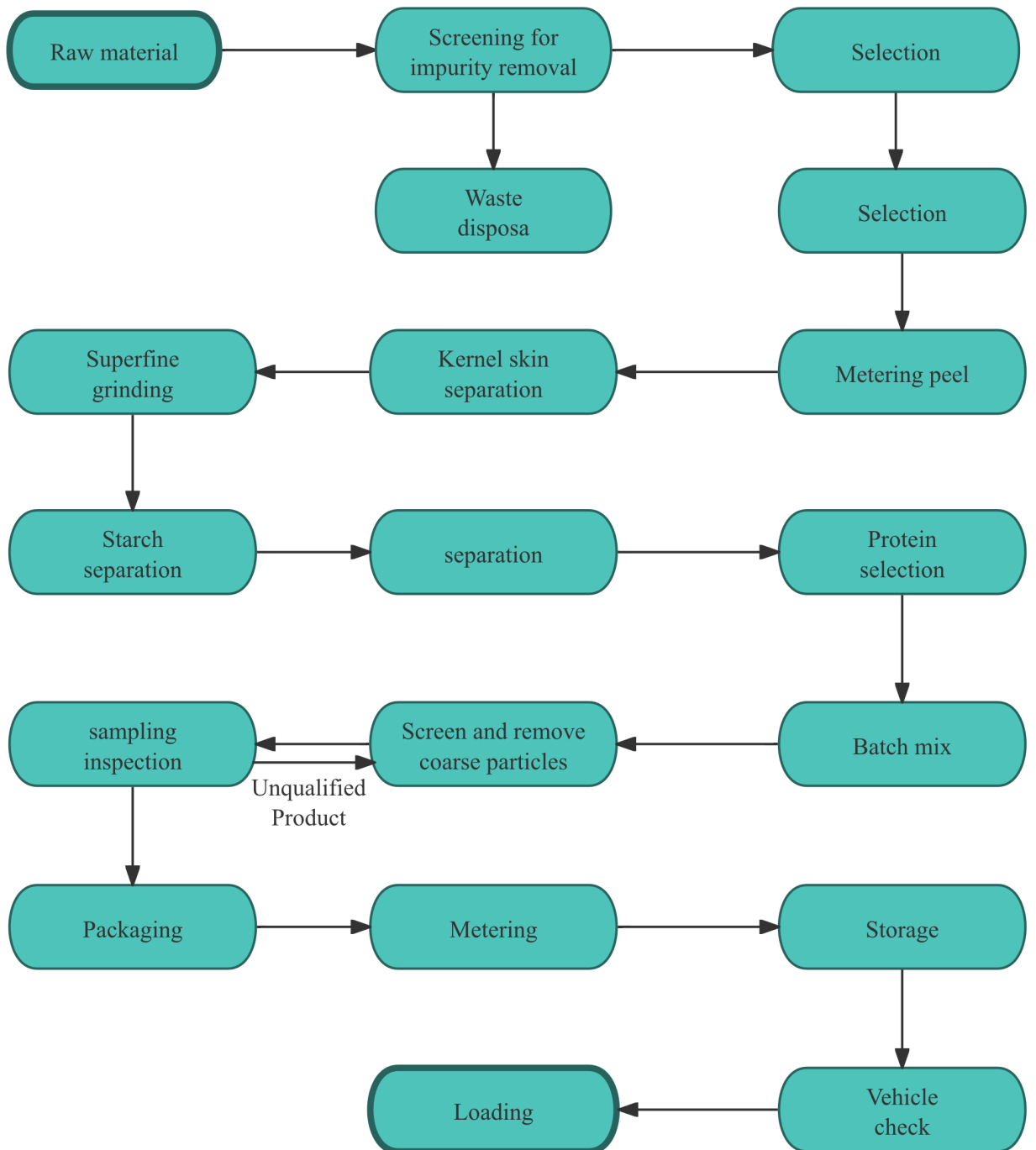
Good processing performance in extruded and pelleted aquatic feed

Pea Protein can be used in extruded floating feed, sinking feed, and conventional pelleted aquatic feed when particle size and moisture are properly controlled. The fine powder form mixes well with cereals, binders, oils, vitamins, minerals, and other protein ingredients, helping achieve uniform nutrient distribution before conditioning or extrusion. During feed processing, it may contribute to pellet structure and surface quality, especially when used together with starch sources and appropriate binders. For aquatic applications, water stability remains important; therefore, inclusion should be evaluated under the intended extrusion parameters, die design, drying conditions, and oil coating process. The product should be stored dry and handled to avoid moisture pickup, caking, or microbial risk. Trial production is recommended before changing inclusion levels in commercial formulas.



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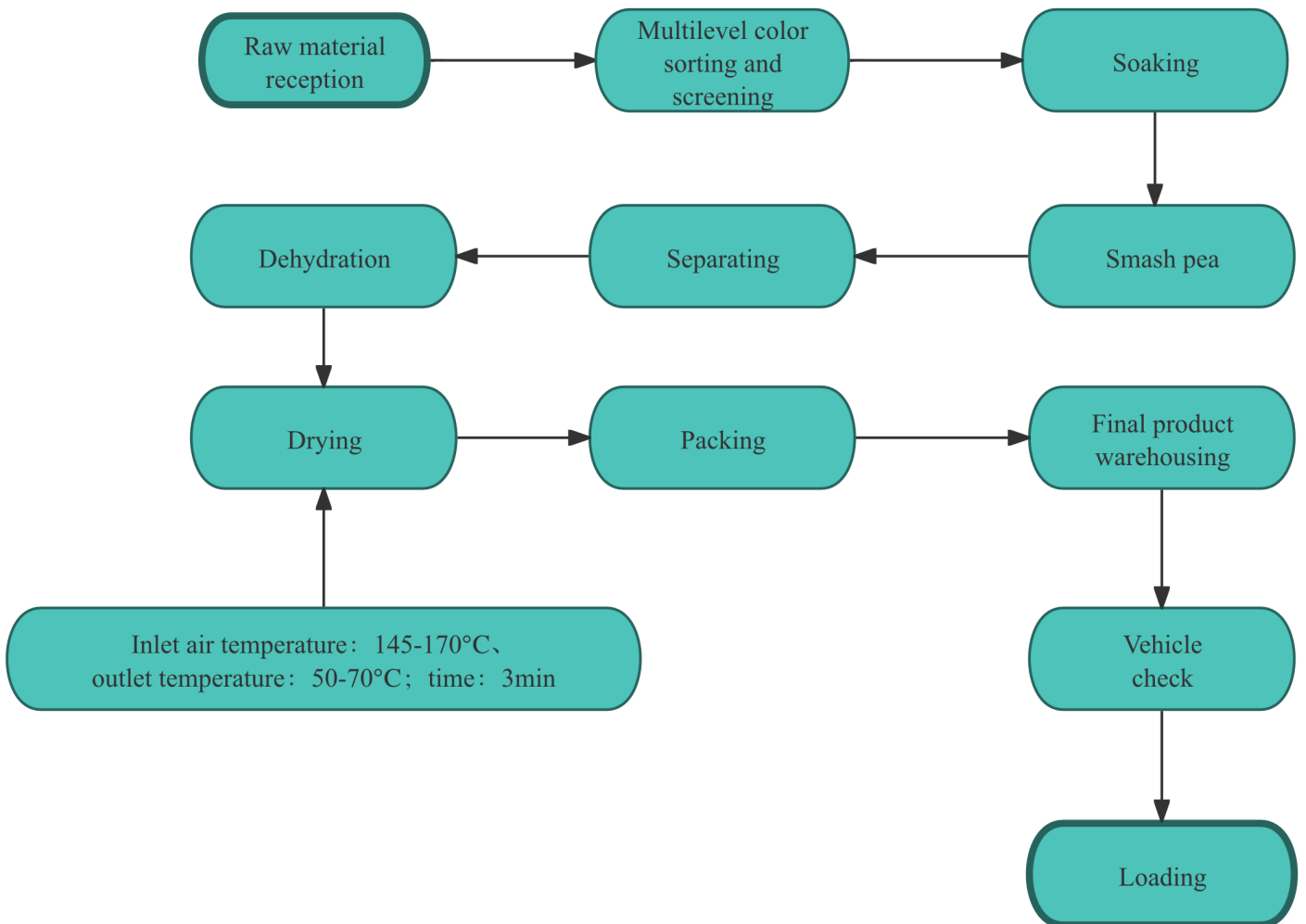
Flow Chart
Pea Protein 55%





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Flow Chart Pea Protein 72%





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Flow Chart Pea Protein 80%

