PEKILO®

The new standard for the food industry



Application Catalogue

Neutral in taste and colour, high in protein, fungal beta-glucan, and minerals, PEKILO® mycoprotein is the next-generation food ingredient designed for versatility. It supports improved nutritional profiles in end products, offers enhanced formulation flexibility, and contributes to a more reliable and sustainable food system.

PEKILO® is a true drop-in ingredient, designed for seamless integration into existing and novel formulations and processes. Delivered as a shelf-stable powder, it incorporates seamlessly into standard processes and equipment—from pilot kitchens to large-scale food manufacturing—ensuring consistent performance and ease of use at every scale.

This application catalogue is here to inspire you to explore the endless opportunities and provide a practical starting point for working with PEKILO®. Within these pages, you will find three key food categories illustrated through a selection of tested applications, developed and refined by our food scientists. We begin with recipes designed for active nutrition and healthy lifestyles—convenient applications created to keep pace with life on the go. From there, we move into our much-loved dairy alternatives, before finally exploring meat alternatives, where PEKILO brings structure, juiciness and versatility to next-generation formulations. These examples demonstrate how PEKILO® can be used to

- improve texture and structure
- enhance nutritional value
- support cleaner-label formulations
- stay ahead of evolving consumer expectations

PEKILO® is an unique ingredient, not a direct alternative or replacement. Its neutral flavour and colour profile provide an excellent foundation for recipe development, enabling broad versatility across product categories. With its exceptional water- and oil-holding capacity, PEKILO® functions as a natural structural anchor—enhancing heat stability and cooking yields, retaining juiciness, improving emulsion stability, and contributing to superior mouthfeel and overall product performance.

This booklet showcases real-life applications to help you understand how PEKILO® performs in formulation. Use these examples as a foundation for your own development—adapting, scaling, and refining them to meet your specific product needs.

We hope this catalogue sparks new ideas and helps you unlock the full potential of PEKILO®. Enjoy!

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Protein Bites

PEKILO® transforms ordinary snacks into premium, macro-packed fuel designed to support the demands of a non-stop lifestyle in the most convenient way.

- 19 g protein and 17 g fibre in 100 g
- High protein and fibre, boost in beta-glucans
- High zinc, source of copper and phosphorous
- 50% reduction in whey protein content
- No off-flavors

Ingredients

13% PEKILO®
22% Dates
14% Isomalto-oligosaccharide
13% Whey
10% Oat flakes
8% Dry fruits or nuts
8% Chocolate
5% Oil
5% Glycerol
2% Flavouring
0.1% Salt

Instructions

- Liquid ingredients are first combined and mixed until fully homogeneous. Dry ingredients are then gradually added and blended until a uniform, consistent dough is formed.
- Transfer the mixture into a bar-forming unit or extruder, where it is kneaded to remove air pockets and pressed into a dense slab or continuous rope. The formed mass is then passed through a cutting mechanism to slice it into individual bars of the desired weight and length.

Snack Biscuit



PEKILO® snack biscuits are an excellent example of a highly nutritious snack deliciously suited for on-the-go consumers. They are a source of protein and fibre, with a delightfully crumbly, biscuit-like texture that PEKILO® helps enhance.

- 12 g protein and 9 g fibre in 100 g
- Source of protein and and high fibre
- Naturally high in zinc, copper, phosphorus
- Resilient and superior texture is powered by beta-glucans from both fungal and cereal sources

Ingredients

15% PEKILO®
14% Water
14% Wholegrain out flour
13% Rapeseed oil
13% Sugar
12% Oat bran
8% Potato starch
3% Modified starch
3% Glucose syrup
3% Vegetable glycerine
1% Salt
1% Baking powder

Instructions

- Mix the dry ingredients together. Separately, mix the liquid ingredients until the syrup is fully dissolved.
- Gradually incorporate the liquid into the dry mixture, folding gently until the dough is uniform. **Avoid over mixing** – excessive handling releases oat beta-glucan, which can create an undesirable gummy texture.
- Cover and let the dough rest at room temperature for 10–15 minutes.
- Portion into 50 g units, shape and press the dough firmly to ensure dense and even biscuits (thickness around 0.8 cm). Bake in a preheated oven at 160°C for 12 minutes, or until golden brown.
- Let cool for 30 minutes before serving.

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Puffed cereals



Either a breakfast cereal or a healthy puffed snack to satisfy your cravings in a smart way. Blending PEKILO® with cereals can create a meaningful nutritional shift in this category.

- High protein and fibre
- High in zinc, copper and phosphorus; a source of iron
- Clean label
- Easy drop-in ingredient
- Compatible with a variety of starches and grains

Ingredients

up to 25%	PEKILO®
50%	Rice flour
25%	Waxy potato starch

Instructions

- PEKILO® is compatible with various cereal formulations and starch sources (e.g. rice, potato, oats, maize). Recommended pre-conditioning with ~3% added water to improve processing.
- Process the blend using a twin-screw extruder. As a heat-stable ingredient, PEKILO® performs across a wide temperature range (40–180 °C), with optimal results at 90–110 °C. Die size (1.6–3 mm) determines final puffiness.
- For snacks and breakfast cereals, the coatings vary in colour and flavour (sweet or savoury). Either way, the extrudate maintains its structure during drum coating.

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Tortilla chips

Deliver the satisfying crisp and the flavor you expect, while adding extra protein and fibre to make snacking a bit more balanced.



- 10 g protein and 8 g fibre in 100 g
- Easy-to-claim high protein and fibre
- High in zinc and copper
- Source of phosphorous and iron
- Heat stable ingredient

Ingredients

5%	PEKILO®	1.6%	Salt
60%	Water	0.8%	Oil
33%	Corn flour		

Instructions

- Mix the dry ingredients thoroughly. Add water at 35–40 °C and knead until fully hydrated. Add oil to facilitate the formation of a smooth and even surface.
- Cover the dough with plastic film and allow to rest at room temperature for 30 minutes, to ensure complete hydration. Insufficient hydration may lead to surface cracking during processing.
- Cover the dough with a plastic film and roll it to a thickness of approximately 1 mm. Thicker dough will retain more moisture and may cause excessive puffing during frying. Cut into the desired shapes.
- To minimise air pockets, pre-dry the pieces either in an air dryer at 120 °C for 15 minutes, or on a dry skillet for 15 seconds per side. This step removes moisture without significantly cooking the product.
- Cook the chips byt either deep frying in oil at 150–170 °C for 60 seconds or baking at 190 °C for 5 minutes.

Hard cheese alternative

- 8 g protein and 6 g fibre in 100 g
- Source of protein and high fibre
- PEKILO® as the sole source of protein
- 50% reduction in starch content
- Replacement of saturated fats with healthier oils
- Maintains structure without tearing during slicing.

Ingredients

15%	PEKILO®	1%	Carrageenan
52%	Water	1%	Salt
16%	Rapeseed oil	0.3%	Lactic acid
12%	Modified starch	0.3%	Food colouring (carotenoids)
2%	Cheese flavouring		

Instructions

- Weigh and group all ingredients according to their functional role. Add water and lactic acid to a Thermomixer. Heat to 45 °C at speed 1, add all dry ingredients once the temperature has been achieved. Mix for 30 seconds on speed 1 to ensure initial hydration, then increase to speed 4 for 30 seconds.
- Reduce to speed 2 and incorporate functional ingredients, including PEKILO®, mix for 10 minutes at 45 °C.
- Attach the emulsion cap and emulsify at speed 4 for 2 minutes. Increase to the highest achievable shear (speed 4.5–5.5) and mix for 3 minutes, ensuring the product remains centrally distributed. Pause as needed to scrape the sides and bottom thoroughly.
- Increase the temperature to 85 °C at speed 3. Once the temperature is reached, hold for 3 minutes. During the final minute, pause briefly to scrape the sides and ensure unifrom heating. Immediately transfer the mixture to a container and press firmly. Hardening begins immediately. Allow to rest overnight under refrigeration.

PEKILO®

Fermented dairy alternative

- 5 g of protein and 4 g of fibre in 100g
- High in protein and source of fibre
- Comparable protein content to milk yogurt
- No undesirable off flavours
- PEKILO® does not interfere with the fermentation nor the acidification process.
- Different cultures can be used to obtain different fermented products.
- Neutral colour in the final application



Ingredients

10% PEKILO®	0.8% Pectin
85% Water	0.05% Starter culture
2% Sugar	0.05% Salt
2% Oil	

Instructions:

- Heat water at 45°C with gentle mixing (Thermomix speed 2), add gradually all the dry ingredients until properly hydrated and the oil properly dispersed.
- Process the mixture in a high-pressure homogenizer at 600 bar (60 MPa) to obtain a finer suspension. Pasteurize the suspension to 90-95°C for 5 minutes.
- After the pasteurization, cool the mixture to 30°C and inoculate with Lactococcus lactis ssp. Lactis (*Lactobacillus delbrueckii subsp. bulgaricus* and *Streptococcus thermophilus* can also be used). Ferment the product at 30°C until it reaches its target pH of 4.5 which could last 6 h. Cool the product to stop the fermentation and refrigerate to 4°C.

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Protein pudding

- Glossy, smooth and spoonable texture
- High-protein and source of fibre
- PEKILO® addition prevents syneresis
- Reduction of starch without effect in the texture
- Clean label (carrageenan no needed for texture formation)

Ingredients

7%	PEKILO®
78%	Water
6%	Sugar
3%	Potato starch
2.5%	Fat reduced cocoa powder
1.5%	Oil
1.5%	Dark chocolate
0.1%	Salt

Instructions

- Heat the water and oil at 55°C with gentle mixing (Thermomix speed 2), add gradually all the dry ingredients until properly hydrated and the oil is properly dispersed.
- Pasteurize the suspension to 90–95°C for 5 minutes to control viscosity. Add the chocolate and mix until fully melted. Process the mixture in a high-pressure homogenizer at 500 bar (50 MPa). Pour the product into the final package and cool it at 4°C. Let the product rest for 24h for the retrogradation of the starch.

Protein drink

- High-protein and source of fibre
- Clean label (carrageenan not needed for texture formation)
- Partial replacement of dairy ingredients (casein & whey)
- 3% more fibre compared to a conventional product
- No effect on the colour
- Thermal stability

Ingredients

8.5%	PEKILO®
86%	Water
5%	Milk powder
0.3%	Sweetener
0.4%	Caramel flavoring

Instructions

- Heat water at 40°C with gentle mixing (Thermomix speed 2), add PEKILO® and continue mixing for 10 more minutes.
- Homogenize the blend with a high-pressure homogenizer (HPH) at 500 bar (50 MPa). Transfer the mix to the Thermomix and add the milk protein and sweetener, continue mixing for 15 minutes at 40°C. Homogenize again through the HPH at 240 bar (24MPa).
- Transfer the blend to the Thermomix and add the flavoring, mix for 2 minutes and pasteurize at 90–95°C for 5 minutes.
- Cool the blend as quickly as possible below 10°C using ice-water bath. Transfer the product into a clean sanitized container and refrigerate at 4–6°C.

Textured vegetable proteins (TVP)

- 66 g of protein and 17 g of fibre in 100 g
- 50% replacement of plant-based protein isolate
- 50% reduction in sodium content



Ingredients

up to 50%	PEKILO®
50%	Pea protein isolate

PEKILO® has been thoroughly tested across a range of product types and blend formulations. For TVP production, it has been evaluated in multiple trials with pea protein isolate, soy protein isolate and faba bean flour.

No special process modifications are required for extrusion. PEKILO® is heat-stable and performs reliably under the high pressures and temperatures used in extrusion, with successful testing at up to 180°C.

Different screw configurations have also been tested, showing that PEKILO® is not limited to a single extrusion design. This allows the final product to be tailored to different application needs, including small and medium mince formats. The resulting samples were evaluated in a variety of applications, such as burger patties, meatless balls and taco fillings, where they delivered excellent textural performance.

Wet-extruded pulled vegemeat

- 29–35 g of protein and 4–6 g of fibre in 100 g
- 12–18% replacement of protein isolate
- Reduction in sodium content
- No effect on saltiness perception
- Retention of protein content



Ingredients

12–18% PEKILO®
82–88% Pea/soy protein isolate

PEKILO® has been tested with soy and pea protein isolates in wet extrusion. When blended with soy protein, PEKILO® can replace up to 18% of the isolate; when blended with pea protein, the recommended replacement level is up to 12%.

The blend was processed using a twin-screw extruder with a cooling die, which is typical for this application. Despite PEKILO®'s high water-holding capacity, no water adjustment was required during extrusion. Process temperatures varied across the barrel sections, with a maximum tested temperature of 150 °C.

The final product can be seasoned with different flavours, such as chicken, tuna or pork, and prepared as desired.

Note: If a softer texture is desired for tuna-style applications, higher inclusion level of PEKILO® is recommended.