



Macadamia Paste

Macadamia
kernel style

7/8
or Paste



Concept
Macadamia paste



Processing method
Shear or mill



Thermal treatment suitability
Yes



Nut raw/roasted
Roasted



Shelf life
Long



**Nut recommended
usage rate (%)**

70-100% paste for smooth version

Minimum 60% paste and 22%
style 7 kernel for chunky version

MACADAMIA PASTE

Nut pastes are widely used across the food industry, valued for their versatility, rich flavour, adaptable texture and nutritional benefits. From bakery fillings and confectionery centres to spreads, sauces and plant-based formats, they add depth and functionality to a wide range of applications.

Macadamia paste’s naturally high oil content delivers a smooth, buttery texture and luxurious mouthfeel, making it ideal for premium formulations. Its mild, slightly sweet flavour complements both sweet and savoury products without overpowering other ingredients.

Macadamias can be processed into either a smooth or chunky paste to suit different textural and application needs. A smooth paste offers a creamy, spreadable consistency, while a chunky paste, featuring small pieces of kernel, adds a subtle crunch and extra creaminess, creating a distinctive and indulgent sensory experience.



Formulation

SMOOTH MACADAMIA PASTE

		ADDITION RATE (%)
Ingredient	Description	Short shelf life
Macadamia	Kernel style 7 or 8 (roasted), milled in-house to a smooth paste, or pre-processed paste	73.90
Coconut oil	Hydrogenated coconut oil	25.00
Salt	Fine cooking salt	0.30
Diglyceride	Mono-diglyceride, E 471	0.80
Total		100.00

CHUNKY MACADAMIA PASTE

		ADDITION RATE (%)	
Ingredient	Description	Original Macadamia Paste	Salted Maple Macadamia Paste
Macadamia	Kernel style 7 or 8 (roasted), milled in-house to a coarse paste, or pre-processed paste	70.40	65.50
Macadamia	Kernel style 7 (roasted)	28.00	22.00
Glycerides	Mono-diglycerides, E 471	0.80	0.80
Hi-fibre WF*	Vegetable fibres	0.50	0.50
Sugar	Soft icing sugar	-	8.00
Salt	Fine cooking salt	0.30	0.70
Maple syrup	Maple syrup	-	2.50
Total		100.00	100.00

* Hi-fibre WF is sourced from HIFOOD

Processing flowchart

SMOOTH MACADAMIA PASTE PROCESSING FLOWCHART



CHUNKY MACADAMIA NUT PASTE PROCESSING FLOWCHART



Shelf life

The product is designed to be shelf-stable with a 6-month shelf life at ambient temperature. To achieve the desired shelf life, water activity must be maintained below 0.65. In addition, pasteurisation is recommended to ensure a minimum 5-log reduction of pathogens. The recommended pasteurisation process is 100°C for 15 minutes, though adjustments can be made based on ingredient properties and the manufacturer's HACCP plan and capabilities.



Note: All guidelines presented are for research purposes and provide indicative data on achievable product shelf life pertaining to the formulation, packaging and processes provided. Commercial manufacturers are responsible for validating the product shelf life and processing parameters using their specific equipment and operating conditions.

Recommended macadamia formats

- **Smooth macadamia paste:** Macadamias are incorporated in a paste form. This can be achieved by using pre-processed macadamia paste or in-house milling of style 7/8 macadamia kernel into a paste format before incorporating with other ingredients.
- **Chunky macadamia paste:** A combination of macadamia paste (either pre-processed or milled in-house from style 7/8 kernel) and style 7 macadamia kernel is used to achieve a spreadable texture with crunchy pieces.
- **Raw versus roasted:** Roasted paste or kernel are recommended to achieve a caramel colour and amplify the macadamia taste.

Recommended macadamia dosages

- **Smooth macadamia paste:** The ingredient ratio can be adjusted to achieve the desired texture. A higher proportion of macadamia paste and less hydrogenated coconut oil will result in a thinner texture. A thicker texture can be achieved by including a minimum of 25% hydrogenated coconut oil.
- **Chunky macadamia paste:** Macadamia content can be adjusted based on ingredient selection, desired sensory profile and cost considerations. A minimum of 60% roasted macadamia paste combined with 22% roasted style 7 macadamia kernel will provide a balanced spreadable texture with crunchy nut pieces.

Macadamia treatment and evaluations

- Roasted macadamias are recommended to achieve a rich caramel colour and distinctive roasted macadamia flavour.
- Chunky macadamia paste: When milling style 7/8 kernel or using pre-processed paste, ensure a slightly coarse texture to achieve a thick, spreadable consistency. Avoid over-processing, as excessively fine milling can result in a runny texture and reduced viscosity in the final product.
- Pure, smooth macadamia paste is quite runny due to its high fat content, which provides an effective drizzle, but is not ideal for a spread application. To enhance the spreadable texture, the incorporation of solidified oils or fats is recommended. Hydrogenated coconut oil is a suitable choice, offering a neutral flavour profile without introducing allergens. Depending on formulation requirements, other oils or fats such as cocoa butter, palm oil, hydrogenated vegetable oils and solid fats may also be considered.
- If the product developer's goal is to achieve a product with minimal ingredients and a strong macadamia flavour profile, this is more readily achieved in the chunky format.

Manufacturing considerations

- The product can be manufactured in a kettle with a high-shear blade or using a mill.
- Ingredient selection must be carefully matched to the processing method to ensure product stability. Solid ingredients are preferred over liquid ingredients for maintaining stable emulsions under heat and intensive mixing.
- Ball-milling is the most effective method for grinding particulates into a smooth, fine texture.
- High shear processing may not eliminate all the grittiness in the product. To enhance smoothness, liquid ingredients such as sugar syrups can be incorporated, but care should be taken to prevent oil splitting. This can be achieved by optimising shearing speed, processing time and the rate of addition. The use of finely ground solid ingredients should also be considered.
- If thermal processing is applied, the product should be rapidly cooled to ambient temperature with continuous agitation to minimise the risk of oil separation. If thermal processing is not feasible, the use of pasteurised macadamias is recommended, along with the strict implementation of Good Manufacturing Practices (GMP) throughout production.
- The inclusion of emulsifiers is necessary to maintain physical stability and reduce oil separation through the shelf life. Glycerides (E 471) or sunflower lecithin (E 322) are recommended for use in this application.
- Texture modifying agents such as Hi-fibre WF are used as a natural stabiliser to increase viscosity and further improve emulsion stability throughout the shelf life, particularly when liquid ingredients are incorporated.

Alternative flavour suggestions

- Smooth lavender macadamia paste
- Smooth miso macadamia paste
- Smooth spiced chai macadamia paste
- Chunky Biscoff® inspired macadamia paste
- Chunky salted maple macadamia paste
- Chunky salted caramel macadamia paste
- Chunky wattle seed macadamia paste

Regulatory compliance check

All ingredients are permissible in Australia at the recommended levels. For specific international markets, please refer to the relevant regulatory standards in your country to ensure compliance and make any necessary adjustments to the additives used.



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