



Chocolate Macadamia Spread

Macadamia
kernel style

7/8
or Paste



Concept
Macadamia
chocolate spread



Processing method
Shear or mill



Thermal treatment suitability
Yes



Nut raw/roasted
Raw



Shelf life
Long



**Nut recommended
usage rate (%)**

50-55% paste for smooth version

45-50% paste with 10-15%
style 7 kernel for the chunky version

CHOCOLATE MACADAMIA SPREAD

Chocolate macadamia spread is a premium variation of traditional chocolate spreads, combining the rich, creamy texture of chocolate with the distinctive, buttery flavour of macadamias. Chocolate hazelnut spreads are popular for their convenience and rich taste, however, the addition of macadamias introduces a new level of luxury and complexity. Known for their creamy, slightly sweet and mildly nutty flavour, macadamias pair exceptionally well with chocolate, offering a sophisticated alternative to more commonly used nuts.

Macadamias are available in various formats, from whole kernel to meal, enabling the creation of both smooth and chunky chocolate macadamia spreads. Smooth spreads are finely ground and emulsified, resulting in a creamy, uniform texture with an even distribution of macadamia throughout. This makes them ideal for applications requiring a silky consistency, such as baking, frosting or spreading on baked goods.

Chunky spreads contain macadamia pieces creating a textured, crunchy product. These spreads cater to consumers seeking a more layered eating experience and are ideal as toppings for toast, pancakes or desserts where a satisfying crunch is desired.



Formulation

SMOOTH CHOCOLATE MACADAMIA SPREAD

Ingredient	Description	ADDITION RATE (%)	
		Dark Chocolate Macadamia Spread	Milk Chocolate Macadamia Spread
Macadamia	Kernel style 7 or 8 (raw), milled in-house to paste, or pre-processed paste	51.50	53.50
Golden syrup	Golden syrup	28.20	28.20
Cocoa powder	Dark cocoa powder, 10-12% cocoa fat	4.00	2.00
Cocoa butter	Deodorised cocoa butter	15.00	15.00
Diglyceride	Mono-diglyceride, E 471	0.80	0.80
Hi-fibre WF*	Vegetable fibres	0.50	0.50
Total		100.00	100.00

* Hi-fibre WF is sourced from HIFOOD

CHUNKY CHOCOLATE MACADAMIA SPREAD

Ingredient	Description	ADDITION RATE (%)
		Short shelf life
Macadamia	Kernel style 7 or 8 (raw), milled in-house to paste, or pre-processed paste	48.00
Macadamia	Kernel style 7 (raw)	15.00
Sugar	Soft icing sugar	28.20
Chocolate	95% cocoa dark chocolate block	8.00
Diglyceride	Mono-diglyceride, E 471	0.80
Total		100.00

Processing flowchart

SMOOTH CHOCOLATE MACADAMIA SPREAD PROCESSING FLOWCHART



CHUNKY CHOCOLATE MACADAMIA SPREAD 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 chocolate macadamia spread:** 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 chocolate macadamia spread:** 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:** Raw macadamias are recommended, as no notable physio-chemical differences have been observed between raw and roasted macadamias in this application.

Recommended macadamia dosages

- **Smooth chocolate macadamia spread:** Use 50–55% raw macadamia paste.
- **Chunky chocolate macadamia spread:** Use 45–50% raw macadamia paste combined with 10–15% style 7 raw macadamia kernel to achieve a balanced spreadable texture with crunchy nut pieces.
- **Dosage considerations:** These recommendations are based on achieving a distinct macadamia flavour and a spreadable product texture. Macadamia content can be adjusted based on ingredient selection, desired sensory profile and cost considerations.

Macadamia treatment and evaluations

- There is no distinguishable flavour difference between raw and roasted macadamias in this application.
- All macadamias in the smooth version and a portion of macadamias in the chunky version are milled or sheared into a paste. This application lends itself to using smaller macadamias (style 7 or 8) or pre-processed paste.
- The chocolate flavour is more pronounced in the smooth macadamia chocolate spread version, while the distinctive macadamia flavour is amplified in the chunky version when biting into the nut pieces.
- Using deodorised cocoa butter assists with balancing the chocolate and macadamia flavours in the smooth chocolate spread product.
- Texture can be modified by adjusting the ratio of macadamias to cocoa butter or chocolate, where an increase in cocoa butter or chocolate results in a thicker spread, and a decrease produces a thinner consistency.

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 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 to 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

- White chocolate macadamia spread
- Milk chocolate macadamia spread with shredded coconut
- Dark chocolate macadamia spread with chilli
- White chocolate macadamia spread with mango/strawberry/raspberry

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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