GENERAL REQUIREMENTS:

Natural Macadamia nut kernel extracted from non-genetically modified (hereafter referred to as non-GMO) varieties.
All processing, storage and transportation is done in accordance with the requirements of the South African National Standard (hereafter referred to as SANS) 10049:2019: Food Hygiene Management and SANS 10330:2020: Requirements for a Hazard Analysis Critical Control Point (HACCP) system.
Lots will be reasonably uniform in shape, colour, and size.
However, because this is a natural non-GMO agricultural product, the product is subject to natural variation in colour and shading. Please refer to picture 1, as a typical representation of this product.

PACKING:

The product will be placed in a modified atmospheric condition (hereafter referred to as MAP) and each carton will be Nitrogen/CO_2 flushed and vacuum packed (-25kPa to -50kPa) in food-grade, polymer bags in cartons of 25lbs/11.34kg.
Indicative Nitrogen/CO_2 transmission rate: polymer bags Max 0.1cm^3/m^2/day T=25°C, RH=75% at 1 bar. Indicative oxygen transmission rate: 38cm^3/m^2/24h T=23ºC, RH=50% at 1bar. Indicative water vapour transmission rate: 3,0 g/m^2/24h T=25ºC, RH=90% at 1 bar.

Each packaging unit will be identifiable by a barcoded label containing the brand name, product name, product style, date of packing, product grade, nett weight, batch code and a QR code.

The QR code serves as resource for additional information, usage statement and to enable customers to contact Mayo Macs (SA) Pty. Ltd. via the referenced web pages for any reason.

https://rb.gy/htgg5i

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PROCESSING AIDS:
Food-grade salt (NaCl) is used in the maturity separation process.
Peroxy Acetic/peracetic acid is used as a food-grade surface disinfectant.
Food-grade Carbon dioxide/Nitrogen is used in the MAP process.

Physical Requirements	**Value**	**Dimension**	**Tolerance**	**Method**
Whole Kernels	70	%w/w	Min	Visual
Halves and Pieces	30	%w/w	Max	Visual
Size (Wholes)	≥13	mm		Sieving
Size (Halves and Pieces)	≥13	mm		Sieving
Particles and Dust (<2mm)	0.2	%w/w	Max	Sieving
Blemishes and Defects				
Impacted shell (≥2mm)	2	%w/w	Max	Visual
Onion ring	2	%w/w	Max	Visual
Basal discolouration				
791-Spot				
Shrivelled/Immature kernel				
Mould	None	%w/w	Max	Visual
Insect Damage	1	%w/w	Max	Visual
Insect Infestation	None		Max	Visual
Foreign material				
e.g. Glass/metal	None		Visual & Metal Detector	
Nut Shell Pieces >2mm in Average Diameter	1/100kg		Max	Visual

Product specific declarations:	
1. Size:	All sizes referred to are the average diameters obtained by using sieves with round holes with product moving over these screens during the size classification process.
2. Impacted shell:	Impacted shell is defined as Macadamia shell fragments ≥2mm in average diameter which are imbedded into the surface of the kernel because of the cracking process.

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Picture 1: Typical representation of Style 2(70%) Macadamia kernel

Microbiological Requirements	**Value**	**Dimension**	**Tolerance**	**Method**
Total Aerobic Plate Counts	20 000	Cfu/g	Max	ISO4833
Yeast & Mould	20 000	Cfu/g	Max	ISO21527
Coliforms	300	Cfu/g	Max	ISO4832
Escherichia coli	Not detected			ISO16649
Staphylococcus aureus	10	Cfu/g	Max	ISO6888
Salmonella spp.	Not detected	Not detected/375g	Max	ISO6579
Listeria monocytogenes	Not detected	Not detected/25g	Max	ISO11290-1
Although the product is only released on independent ISO 17025 accredited laboratory testing results, using accredited testing methods, the product has not been processed to control *Salmonella*. This product must be processed to a validated 5-log killstep for this target microorganism prior to consumption.				

Chemical Requirements	**Value**	**Dimension**	**Tolerance**	**Method**
Peroxide Value	3.0	Meq/kg fat	Max	AOCS
Free Fatty Acids	0.5	%	Max	AOCS
Aflatoxin B1, B2, G1, G2	4.0	µg/kg	Max	AOAC
Aflatoxin B1	2.0	µg/kg	Max	AOAC
Moisture	2.0	%	Max	AOAC

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Organoleptic Requirements	
Appearance	Sensibly uniform, natural cream colour kernels without objectionable discolouration, surface oil or hollow centres. Some natural colour variation is normal and is to be expected.
Flavour/Odour	Characteristically fresh Macadamia kernel without off odours and stale, rancid, or foreign flavours. Kernels must not develop off flavours after roasting.
Texture	Crunchy, firm, not pliable or leathery.
Shelf Life 18 Months from date of packing for raw Macadamia kernels, provided that the product is handled and stored in accordance with the specified storage conditions.	
Allergens Macadamia nut kernel, tree nut allergen.	
Intended use In compliance with the Preventive Controls for Human Food: Regulation (21 CFR Part 117), Mayo Macs (SA) (Pty) Ltd. has completed a hazard analysis and have identified micro-organisms – including but not limited to – *Salmonella* as a hazard requiring preventative control. The Buyer agrees that it does not require Mayo Macs (Pty) Ltd. to implement preventative controls for this identified hazard. The Buyer agrees to accept full responsibility for processing all product using a validated 5-log kill step to control this identified hazard prior to making it available for consumption.	

STORAGE GUIDLINES:

Macadamia kernels are a perishable food product and should therefore be handled with the care expected for food products.
If stored/handled incorrectly, Macadamia oil inside the kernel could become rancid affecting shelf-life, quality and potentially food safety. The product should be stored in its original unopened packaging in a cool (Maximum 25°C), dry (±50% RH), well-ventilated area, away from direct sunlight, free from dust, taint, insects/pests and/or vermin infestation.

The product should be regularly checked for any change in quality.

Mayo Macs SA (Pty) Ltd cannot guarantee the shelf-life of any product re-packed/stored or handled outside of its direct control.

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