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**Macadamia butter — Specification**

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PUBLIC REVIEW

## **Foreword**

Rwanda Standards are prepared by Technical Committees and approved by Rwanda Standards Board (RSB) Board of Directors in accordance with the procedures of RSB, in compliance with Annex 3 of the WTO/TBT agreement on the preparation, adoption and application of standards.

The main task of technical committees is to prepare national standards. Final Draft Rwanda Standards adopted by Technical committees are ratified by members of RSB Board of Directors for publication and gazettment as Rwanda Standards.

DRS 447 was prepared by Technical Committee RSB/TC 006 on *Edible fats and oils*.

### **Committee membership**

The following organizations were represented on the Technical Committee on *Edible fats and oils* (RSB/TC 006) in the preparation of this standard.

Rwanda Standards Board (RSB) – Secretariat

**PUBLIC REVIEW**

## Macadamia butter — Specification

### 1 Scope

This Draft Rwanda Standard specifies the requirements, sampling and test methods for macadamia butter intended for human consumption.

### 2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

AOAC 926.08, *Rapid Determination of Moisture/Solids and Fat in Dairy Products by Microwave and Nuclear Magnetic Resonance Analysis*

AOAC 999.10, *Determination of Lead, Cadmium, Copper, Iron, and Zinc in foods, Atomic Absorption Spectrophotometry after dry ashing*

ISO 1735, *Cheese and processed cheese products — Determination of fat content — Gravimetric method (Reference method)*

ISO 1854, *Determination of fat content — Gravimetric method (Reference method)*

ISO 8197, *Milk and milk products — Sampling inspection by variables*

RS CAC/RCP 1, *Code of practice — General Principles for food hygiene*

RS EAS 38, *Labelling of pre-packaged foods — General requirements*

RS ISO 16649-2, *Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of beta-glucuronidase-positive Escherichia coli — Part 2: Colony-count technique at 44 degrees C using 5-bromo-4-chloro-3-indolyl beta-D-glucuronide*

RS ISO 1738, *Butter — Determination of salt content*

RS ISO 21527-2, *Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of yeasts and moulds — Part 2: Colony count technique in products with water activity less than or equal to 0.95*

RS ISO 3727-3, *Butter — Determination of moisture, non-fat solids and fat contents — Part 3: Calculation of fat content*

RS ISO 3960, *Animal and vegetable fats and oils — Determination of peroxide value — Iodometric (visual) endpoint determination*

RS ISO 4832, *Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of coliforms — Colony-count technique*

RS ISO 4833-1, *Microbiology of the food chain — Horizontal method for the enumeration of microorganisms — Part 1: Colony count at 30 °C by the pour plate technique*

RS ISO 5538, *Milk and milk products — Sampling inspection by attributes*

RS ISO 5985, *Animal feeding stuffs — Determination of ash insoluble in hydrochloric acid*

RS ISO 6579-1, *Microbiology of the food chain — Horizontal method for the detection, enumeration and serotyping of Salmonella — Part 1: Detection of Salmonella spp*

RS ISO 6611, *Milk and milk products — Enumeration of colony — forming units of yeasts and/or moulds — Colony-count technique at 25 °C*

RS ISO 662, *Animal and vegetable fats and oils —Determination of moisture and volatile matter content — Specification*

RS ISO 6888-1, *Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of coagulase-positive staphylococci (Staphylococcus aureus and other species) — Part 1: Technique using Baird-Parker agar medium*

RS ISO 707, *Milk and milk products — Guidance on sampling*

### **3 Terms and definitions**

For the purposes of this standard, the following terms and definitions apply.

#### **3.1**

##### **macadamia butter**

cohesive, comminuted food product prepared from clean, sound shelled macadamia nut by grinding roasted mature kernels of varieties (cultivars) grown from *Macadamia integrifolia*, *Macadamia ternifolia*, *Macadamia tetraphylla*, and their hybrids

#### **3.2**

##### **stabilized macadamia butter**

macadamia butter to which any suitable ingredient(s) has been added to reduce oil-meal separation

#### **3.3**

##### **non-stabilized macadamia butter**

macadamia butter to which no ingredient(s) has been added to reduce oil-meal separation

### 3.4

#### **food grade packaging material**

packaging material, made of substances which are safe and suitable for the intended use and which will not impart any toxic substance or undesirable odour or flavour to the product

### 3.5

#### **roasted macadamia butter**

macadamia butter made from roasted macadamia kernels

## **4 Types of macadamia butter**

Macadamia butter shall be of two types:

- a) stabilized macadamia butter
- b) non-stabilized macadamia butter

## **5 Requirements**

### **5.1 Ingredients**

#### **5.1.1 Essential ingredients**

Macadamia butter shall comprise at least 90 % of macadamia kernels complying with RS 170.

#### **5.1.2 Optional ingredients**

In addition to the essential ingredients, optional ingredients may be added and shall comply with relevant standards. They include but not limited to the following:

- a) edible salt (sodium chloride) complying with RS EAS 35;
- b) sugars complying with relevant national standards;
- c) honey complying with RS 164; and
- d) Edible oils and fats complying with RS EAS 321 or named specific standard.

### **5.2 General requirements**

Macadamia butter shall:

- a) be free from testa and shells;
- b) be free from any foreign matter;
- c) have colour characteristic of the type of macadamia kernels and the food additives used;
- d) have an aroma and flavour typical of the type of macadamia kernels used;
- e) spread easily; and
- f) have no noticeable oil separation in the stabilized type.

### 5.3 Specific requirements

Macadamia butter shall comply with the requirements given in Table 1 when tested in accordance with the methods specified therein.

**Table 1 — Specific requirements for macadamia butter**

S/N	Characteristic	Requirements	Test method
i.	Moisture content %, m/m, max	3	RS ISO 662
ii.	Peroxide value, meq/kg, max.	4.0	RS ISO 3960
iii.	Fat content (on dry weight basis), %	45-55	RS ISO 3727-3
iv.	Free fatty acid as oleic acid % m/m, max	1	ISO 729
v.	Salt <sup>a</sup> as NaCl, %, (m/m), max.	2	RS ISO 1738
vi.	Acid insoluble ash %, (m/m), max.	1	RS ISO 5985
<sup>a</sup> only applies to salted macadamia butter			

## 6 Hygiene

**5.1** Macadamia butter shall be produced, processed, handled and stored in accordance with RS CAC/RCP 1

**5.2** Macadamia butter shall not exceed the microbiological limits given in Table 2 when tested in accordance with the methods specified therein.

**Table 2 — Microbiological limits for macadamia butter**

S/N	Microorganism	Maximum limit	Test method
i.	Total Plate Count, cfu/g	10 <sup>3</sup>	RS ISO 4833-1
ii.	<i>E. coli</i> cfu/g	Absent	RS ISO 16649-2
iii.	Total Coliforms, cfu/g	<10	RS ISO 4832



iv.	<i>Salmonella spp</i> , 25g	absent	RS ISO 6579-1
v.	<i>Staphylococcus aureus cfu/g</i>	absent	RS ISO 6888-1
vi.	Yeast and mould cfu/g	10	RS ISO 21527-2

## 7 Contaminants

### 7.1 Pesticide residues

Macadamia butter shall comply with those maximum residue limits established by the Codex Alimentarius Commission

### 7.2 Mycotoxins

Total Aflatoxin shall not exceed 10 µg/kg while aflatoxin B1 shall not exceed 5 µg/kg when tested in accordance with RS ISO 16050.

## 8 Food additives

Food additives which may be used in macadamia butter shall comply with RS CODEX STAN 192.

## 9 Packaging

Macadamia butter shall be packaged in containers made from food grade packaging material and sealed in a manner that will safeguard the hygienic, nutritional and organoleptic properties of the product.

## 10 Labelling

In addition to the requirements of RS EAS 38, the following information shall be legibly and indelibly labelled:

- a) name of the product "macadamia butter";
- b) type of macadamia butter "stabilized" or "non- stabilized";
- c) list of ingredients in descending order;
- d) batch number;
- e) manufacture date;
- f) expiry date;
- g) name, physical address, contact of manufacturer;
- h) storage conditions;

- i) instructions for use;
- j) country of origin; and
- k) food additives if used

## **11 Sampling**

Sampling shall be done in accordance with ISO 5555.

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