

**RWANDA  
STANDARD**

**DRS  
418**

First edition

2019-mm-dd

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**Pumpkin seed flour — Specification**



Reference number

DRS 418: 2019

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## **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 418 was prepared by Technical Committee RSB/TC 038, *Processed fruits and vegetables*.

## **Committee membership**

The following organizations were represented on the Technical Committee on Processed fruits and vegetables (RSB/TC 038) in the preparation of this standard.

JD LIUAR

National Agricultural Export Development Board (NAEB)

NETRAPI Ltd

Nyarutarama Incubation Center

Shekina Enterprise

TUZAMURANE Cooperative

ZIMA Enterprise

Rwanda Standards Board (RSB) – Secretariat

# Pumpkin seed flour— Specification

## 1 Scope

This Draft Rwanda Standard specifies the requirements, sampling and test methods for pumpkin seed flour intended for human consumption.

This Draft Rwanda Standard is not applicable to pumpkin pulp flour.

## 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 2001.13, *Determination of Vitamin A (Retinol) in Foods*

AOAC 923.03, *Ash of Flour (Direct Method)*

EAS 901, *Cereals and pulses — Test methods*

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

RS CODEX STAN 192, *General standard for food additives*

RS CODEXSTAN 193, *Codex general standards for contaminants and toxins in food and feed*

RS EAS 38, *Labelling of Pre-packaged Foods*

RS ISO 16050, *Foodstuffs — Determination of aflatoxin B1 and the total content of aflatoxins B1, B2, G1 and G2 in cereals, nuts and derived products — High-performance liquid chromatographic method*

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 21527-2, *Microbiology of food and animal feedstuffs — 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 24333, *Cereals and cereal products — Sampling*

RS ISO 24557, *Pulses — Determination of moisture content — Air oven method*

RS ISO 5498, *Agricultural food products — Determination of crude fibre content — General method*

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.*

### 3 Terms and definitions

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

#### 3.1

##### **pumpkin**

cultivar of a squash plant, most commonly of *Cucurbita pepo*.

#### 3.2

##### **pumpkin seed**

edible seed of a pumpkin or certain other cultivars of squash. The seeds are typically flat and asymmetrically oval, has a white outer husk, and is light green in color after the husk is removed

#### 3.3

##### **pumpkin seed flour**

flour obtained by grinding dried pumpkin seed into fine powder

#### 3.4

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

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

### 4 Requirements

#### 4.1 Raw materials

The product shall be made from sound quality pumpkin seeds.

#### 4.2 General requirements

Pumpkin seed flour shall be:

- a) fit for human consumption;
- b) of characteristic colour, odour and taste conforming of the pumpkin seeds from which it was prepared;
- c) clean, safe, of good quality and free from signs of spoilage;
- d) free from insects, larvae, fungal infestation, rodent contamination, dirt and other extraneous matter; and
- e) free from foreign and extraneous matter.

### 4.3 Specific requirements

Pumpkin seed flour shall comply with the specific requirements given in Table 1 when tested in accordance with test methods specified therein.

**Table 1 — Specific requirements for Pumpkin seed flour**

S/N	Characteristics	Requirement	Test method
i.	Moisture content, % m/m, max	11.0	RS ISO 24557
ii.	Crude fiber, % m/m, max	4.0	RS ISO 5498
iii.	Total ash, %, max	6.0	AOAC 923.03
iv.	Acid insoluble ash, % m/m, max	0.1	RS ISO 5985
v.	Vitamin A ( $\mu\text{g}/100\text{ g}$ ) min	262	AOAC 2001.13
vi.	Residues through 1000 micron sieve, % m/m max	0.5	EAS 901

## 5 Food additives

Food additives which may be used in the manufacture of Pumpkin seed flour shall comply with RS CODEX STAN 192.

### 5.1 Hygiene

6.1 Pumpkin seed flour shall be processed, packaged, stored and distributed in accordance with the hygienic requirements stipulated in RS CAC/RCP 1.

6.2 Pumpkin seed flour shall not exceed the microbiological limits in Table 2 when tested in accordance with test methods specified therein.

**Table 2 — Microbiological limits for Pumpkin seed flour**

S/N	Microorganisms	Limit	Test method
i.	Total Plate Count cfu/g, max	$10^3$	RS ISO 4833-1
ii.	<i>Escherichia coli</i> , cfu/ g max.	Absent	RS ISO 16649-2
iii.	<i>Salmonella spp</i> in 25 g max.	Absent	RS ISO 6579-1

iv.	<i>Staphylococcus, cfu/g, max.</i>	Absent	RS ISO 6888-1
v.	Yeasts and moulds, cfu/g, max.	10 <sup>2</sup>	RS ISO 21527-2

## 6 Contaminants

### 6.1 Pesticides residues

Pumpkin seed flour shall comply with the maximum residue limits for pesticides established by the Codex Alimentarius Commission

### 6.2 Heavy metals

Pumpkin seed flour shall not contain any metal contaminants in excess of the levels established in RS CODEX STAN 193.

### 6.3 Mycotoxins

Pumpkin seed flour shall not exceed mycotoxin limits in Table 3 when tested in accordance with test methods specified therein.

**Table 3—Mycotoxin limits for Pumpkin seed flour**

S/N	Type of aflatoxin	Maximum limit (µg/kg)	Test method
i.	Total aflatoxins	10	RS ISO 16050
ii.	Aflatoxin B <sub>1</sub>	5	

## 7 Packaging

Pumpkin seed flour shall be packaged in food grade materials which will safeguard the hygienic, nutritional, technological, and organoleptic qualities of the product.

## 8 Labelling

In addition to the requirements of RS EAS 38, each pack of Pumpkin seed flour shall be legibly and indelibly marked with the following:

- a) name of the product shall be "Pumpkin seed flour ";
- b) name and physical address of the manufacturer/ packer and/or distributor;
- c) date of manufacture and packing;
- d) best before date;



- e) country of origin;
- f) list of ingredients;
- g) net content;
- h) lot/ batch number;
- i) if used, food additives shall be declared;
- j) statement "Human food";
- k) storage conditions; and
- l) instructions for use.

## **9 Sampling**

Sampling shall be done in accordance with RS ISO 24333.

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