



## DRAFT TANZANIA STANDARD

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### Pumpkin Seeds Flour – Specification

DRAFT FOR STAKEHOLDERS COMMENTS

## Pumpkin Seeds Flour – Specification

### 0 Foreword

Pumpkin seed flour is a product derived from finely ground raw/roasted pumpkin seeds. Pumpkin seeds flour is nutritionally dense containing a host of vitamins, minerals and other health essentials such as protein and fiber. It is mainly used in food industry especially in bakery industries and can be mixed with different food products such as vegetable sauces, porridge, smoothies and shakes for added nutritional value and delicious nutty flavor.

This Tanzania standard lays down specifications aiming at ensuring the safety and quality of pumpkin seeds flour produced or traded in and outside the country for human consumption.

In preparation of this Tanzania standard considerable help was derived from pumpkin seeds flour processors within the country.

In reporting the results of a test or analysis made in accordance with this Tanzania Standard, if the final value observed or calculated is to be rounded off, it shall be done in accordance with TZS 4.

### 1 Scope

This Tanzania Standard specifies the requirements, sampling and test methods for pumpkin seeds flour intended for human consumption or for other use in the food industry.

### 2 Normative references

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

TZS 4, *Rounding off numerical values*

TZS 109, *Food processing units – Code of hygiene – General*

TZS 118-1, *Microbiology of the food chain - Horizontal method for the enumeration of microorganisms - Part 2 Colony count at 30 °C by pour plate technique*

TZS 122-1 *Microbiology of the food chain — Horizontal method for the detection, enumeration and serotyping of Salmonella- Part 1: Detection of Salmonella spp.*

TZS 330, *Cereals — Sampling of milled products*

TZS 538, *Packaging and labeling of foods*

TZS 730- 2, *Microbiology of food and animal feeding stuffs – Horizontal method for the enumeration of -b-glucuronidase-positive Escherichia coli – Part 2 – Colony-count technique at 44 °C using 5-bromo-4-chloro-3-indolyl-b-D-glucuronide*

TZS 799 *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*

TZS 1314 – 2, *Oilseeds – Determination of moisture and volatile matter content*

TZS 1314 – 4, *Oilseeds – Determination of acidity of oils*

TZS 2426-2 *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*

TZS 2499, *Pumpkin seeds – Specification*

TZS 2624, *Oilseeds Residues - Determination of total ash*

TZS 3242, *General standard for contaminants and food additives*

AFDC 19(1317) CD2 - *Oilseed Residues — Determination of Ash Insoluble in Hydrochloric Acid*

### 3 Terms and definitions

For the purposes of this Tanzania Standard, the following terms and definitions shall apply:

#### 3.1 pumpkin seed

edible seed of a pumpkin (*Cucurbita pepo*)

#### 3.2 pumpkin seed flour

product obtained from coarse milling whole raw/roasted pumpkin seeds.

#### 3.3 roasted pumpkin seeds

pumpkin seeds which have been subjected to heat until cooked

#### 3.4 foreign matter

all organic or inorganic matter other than pumpkin seeds flour.

### 4.0 Requirements

#### 4.1 General requirements

4.1.1 Pumpkin seeds from which the flour is obtained shall comply with TZS 2499.

4.1.2 Pumpkin seeds flour shall be safe, of good quality and free from signs of spoilage

4.1.3 Pumpkin seeds flour shall be free from foreign matter;

4.1.4 Pumpkin seeds flour shall be free from dead or living insects, insect fragments and mites

4.1.5 Pumpkin seeds flour shall be free from foreign odours and undesirable flavour and/or taste;

#### 4.2 Specific requirements

Pumpkin seeds flour shall comply with specific requirements given in Table 1 when tested in accordance with the methods specified therein;

**Table 1- Specific requirements for pumpkin seeds flour**

S/N	Characteristic	Requirement	Test methods
i)	Moisture content, % (m/m) max.	6.5	TZS 1314 – 2
ii)	Acidity of extracted fat, mg KOH/g, max.	4.0	TZS 1314 – 4
iii)	Total ash%, max.	8.0	TZS 2624
iv)	Acid -insoluble ash (on dry basis) % m/m, max.	1.0	AFDC 19 (1317) CD 2

## 5 Food Additives

The use of food additives in pumpkin seeds flour shall comply with the latest Codex Stan 192.

## 6 Hygiene

6.1 Pumpkin seeds flour shall be processed, handled and stored in accordance with TZS 109.

6.2 Pumpkin seeds flour shall comply with microbiological limits given in Table 2 when tested in accordance with the methods specified therein;

**Table 2 - Microbiological limits for pumpkin seeds flour**

S/N	Microorganism	Limit	Test method
i	Total Plate Count (TPC), cfu/g max.	10 <sup>4</sup>	TZS 118-1
ii	<i>Salmonella</i> spp per 25 g	absent	TZS 122-1
iii	<i>Escherichia coli</i> cfu/g	absent	TZS 730-2
iv	Yeast and moulds, cfu/g, max.	10 <sup>3</sup>	TZS 2426-2

## 7 Contaminants

### 7.1 Heavy Metal contaminants

Pumpkin seeds flour shall comply with those maximum heavy metal contaminants limits stipulated in TZS 3242.

### 7.2 Pesticide residues

Pumpkin seeds flour shall comply with those maximum residue limits as established by Codex Alimentarius Commission online database for pesticide residues for this commodity.

### 7.3 Mycotoxin

Pumpkin seeds flour shall conform to those maximum mycotoxin limits established by the Codex alimentarius Commission.

#### 7.3.1 Aflatoxin

In particular aflatoxin level in pumpkin seeds flour shall not exceed maximum limits as given in Table 3 when tested in accordance with test method specified therein:

**Table3: Maximum limits for aflatoxins in pumpkin seeds flour**

S/N	Aflatoxin	Maximum Limit (µg/kg)	Test method
i	Total Aflatoxin (B1,B2,G1,G2)	10	TZS 799
ii	Aflatoxin B1	5	

## **8 Sampling and test methods**

### **8.1 Sampling**

Sampling of pumpkin seeds flour shall be done in accordance with TZS 330.

### **8.2 Test Methods**

Pumpkin seeds flour shall be tested in accordance with the test methods given in this Tanzania standard.

## **9 Packing , Marking and Labeling**

**9.1 Packing** Pumpkin seeds flour shall be packaged in containers made from food grade packaging material and sealed in a manner that will safeguard the hygienic, safety, nutritional and organoleptic properties of the product.

### **9.2 Marking and labeling**

**9.2.1** In addition to the labelling requirements given in TZS 538, packages/containers of pumpkin seeds flour shall be labelled legibly and indelibly with the following information:

- a) Name of the product as 'Pumpkin seeds flour';
- b) Trade name or brand, if any;
- c) Name, physical address of the manufacturer and/or packer;
- d) Batch or lot number;
- e) Date of manufacturer;
- f) Expiry date;
- g) Net weight in Metric unit;
- h) Country of origin;
- i) Storage conditions;
- j) List of ingredients in descending order, including the specific name of additives;
- k) Instructions on disposal of used packages

**8.2.2** Language on the label shall be in Kiswahili or Kiswahili and English. A second language may be used depending on the designated market.

**8.2.3** The containers may also be marked with the TBS Standards Mark of Quality.

NOTE – The TBS Standards Mark of Quality shall be used by the manufacturers only under licence from TBS. Particulars of conditions under which the licences are granted, may be obtained from TBS.