



DRAFT TANZANIA STANDARD

Almond Flour – Specification

Draft for stakeholders comments

Almond Flour – Specification

0. Foreword

Almond flour is a product obtained from milling of raw/roasted almond kernels. It 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 almond flour produced or traded in the country for human consumption.

In the preparation of this Tanzania standard considerable help was derived from almond 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 methods of test for almond flour obtained from sweet almond kernels of varieties (cultivars) grown from *Prunus amygdalus* Batsch, syn. *Prunus dulcis* (Mill.) intended for human consumption.

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 /ISO 4833-2, *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 /ISO 6579-1, *Microbiology of the food chain — Horizontal method for the detection, enumeration and serotyping of Salmonella- Part 1: Detection of Salmonella spp.*

TZS 538, *Packaging and labeling of foods*

TZS 730- 2 /ISO 16649-2, *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 2426-2/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*

TZS 3136, *Raw almond kernels – Specification*

TZS 799/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

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

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

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

TZS 330, *Cereals — Sampling of milled products*

TZS 3420, *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 apply:

3.1 almond flour

product obtained from milling of raw/roasted almond kernels

3.2 foreign matter

organic or inorganic matter other than almond flour.

4. Requirements

4.1 General requirements

4.1.1 Almond kernels from which the flour is obtained shall comply with TZS 3136.

4.1.2 Almond flour shall be:

- (i) of good quality and free from signs of spoilage
- (ii) free from foreign matter;
- (iii) free from dead or living insects, insect fragments and mites
- (iv) free from foreign odours and undesirable flavour and/or taste;
- (v) of colour characteristics of the raw material;

4.2 Specific requirements

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

Table 1- Specific requirements for almond flour

S/N	Characteristic	Requirement	Test methods
i)	Moisture content, % (m/m) max.	6.5	TZS 1314 – 2
ii)	Free fatty acid, % (m/m) max.	1	TZS 1314 – 4
iv)	Acid insoluble ash (on dry basis) % m/m, max.	0.5	TZS 3420

5. Food Additives

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

6. Hygiene

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

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

Table 2 - Microbiological limits for almond flour

S/N	Microorganism	Limit	Test method
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 ³	TZS 2426-2

7. Contaminants

7.1 Heavy Metal contaminants

Almond flour shall comply with those maximum heavy metal contaminants limits stipulated in Codex Stan 193

7.2 Pesticide residues

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

7.3 Aflatoxins

Aflatoxins levels in almond 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 almond flour

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

8 Sampling and test methods

8.1 Sampling

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

8.2 Test methods

Almond flour shall be tested in accordance with the test methods given in this draft Tanzania standard.

9 Packaging , Markings and Labeling

9.1 Packaging

Almond 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 Markings and labeling

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

- a) Name of the product as 'Almond 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 manufacturing;
- f) Expiry date;
- g) Net weight in Metric unit;
- h) Country of origin;
- i) Storage conditions;
- j) List of ingredients in descending order

9.2.2 The containers shall 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.