

DRAFT TANZANIA STANDARD

Cassava sorghum composite flour — Specification

Draft for Comments Only

TANZANIA BUREAU OF STANDARDS

0. Foreword

Cassava sorghum composite flour is locally produced and some is being imported. The demand for the cassava sorghum composite flour is increasing thus, the need to ensure the safety and quality of the product produced and/or marketed for local consumption and export market.

In developing this standard assistance was drawn from stakeholders who provided necessary information and samples.

In reporting the result of a test or analysis made in accordance with this standard, if the final value observed or calculated, is to be rounded off, it shall be done in accordance with TZS 4 (See clause 2).

1 Scope

This Tanzania standard prescribes requirements, sampling and test methods for cassava sorghum composite flour 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.

TZS 4, Rounding off numerical values

TZS 109, Food Processing units- Code of hygiene

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 125-3 / ISO 6888-3, Microbiology of food and animal feeding stuffs — Horizontal method for the enumeration of coagulase-positive staphylococci (*Staphylococcus aureus* and other species)- Part 3: Detection and MPN technique for low numbers

TZS 330 (EAS 900), Cereals and Pulses – Sampling

TZS 465 (3rd Ed), Dried cassava chips — Specification

TZS 466(3rd Ed), Cassava flour — Specification

TZS 472: 2010 (3rd Ed), Cassava and cassava products — Determination of total cyanogen's — Enzymatic assay method

TZS 538 /EAS 38, Labelling of pre-packaged foods — General requirements

TZS 731/ ISO 7251, Microbiology of food and animal feeding stuffs- Horizontal method for the detection and enumeration of presumptive *Escherichia coli*- Most probable number technique

TZS 765, Sorghum flour – Specification

TZS 799 (3rd Ed)/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 961/ISO 1666, Starch- Determination of moisture content - Oven-drying method

TZS 1581-2, Determination of cadmium content – Method flame atomic absorption spectrometry

TZS 2044/ISO 5985, Animal feeding stuffs – Determination of ash insoluble in hydrochloric

TZS 2426-1/ ISO 21527-1, Microbiology of food and animal feeding stuffs - Horizontal method for the enumeration of yeasts and moulds - Part 1: Colony count technique in products with water activity greater than 0.95

ISO 9648, Sorghum — Determination of tannin content

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

CODEX STAN 193, Codex general standards for contaminants and toxins in food and feed

3 Terms and definitions

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

3.1

cassava sorghum composite flour

flour obtained by blending flours from dried cassava and sorghum
or flour obtained by milling cassava chips or grits and /sorghum grains or milling cassava flour and sorghum grains, or cassava chips or grits and sorghum flour

3.2

foreign matter

inorganic matter such as sand, glass, metal, stones, clay, mud and organic matter such as chaff, straw, weed seeds, live insects, insect fragments and rodent hairs

3.3

food grade material

material that will not transfer non-food chemicals into the food and contains no chemicals which would be hazardous to human health

4 Requirements

4.1 General requirements

4.1.1 Cassava sorghum composite flour shall be produced from cassava flour, grits and/or chips complying with TZS 466 and/or TZS 465, respectively and sorghum grains or flour complying with TZS 765.

4.1.2 Cassava sorghum composite flour shall be

- (a) homogeneous in particle size and colour;
- (b) practically free of filth and foreign matter;
- (c) free from rancid, objectionable odours or flavours

4.2 Specific requirements

4.2.1 Particle size

Testing for particle size shall be done in accordance with ISO 3588. Particle size for fine flour 100% shall pass through 0.5 mm sieve and for medium flour 100% shall pass through 1 mm sieve.

4.2.2 Cassava sorghum composite flour shall conform to the compositional quality requirements shown in Table 1.

Table 1 — Compositional requirements of cassava sorghum composite flour

S/NO	Characteristics	Limits	Methods of test
1	Crude fibre content, % by mass on dry matter basis, max.	5	ISO 5498
2	Acid insoluble ash, % by mass, max.	0.4	TZS 2044
3	Moisture content, % by mass, max.	12.5	TZS 961
4	Potential cyanide, mg/kg, max	10	TZS 472
5	Tannin content, % by mass, max.	0.3	ISO 9648

5 Hygiene

Cassava sorghum composite flour shall be prepared and handled in a hygienic manner in accordance with TZS 109 and shall conform to microbiological limits specified in Table 2.

Table 2 — Microbiological limits for cassava sorghum composite flour

S/N	Micro-organism(s)	limits	Method of test
1	<i>Escherichia coli</i> , cfu/g,	absent	TZS 731

2	<i>Salmonella</i> spp per 25g,	absent	TZS 122-1
3	Yeasts and moulds, cfu/g, max.	10 ⁴	TZS 2426-1
4	<i>Staphylococcus aureus</i> cfu/g max	10 ²	TZS 125-3

6 Contaminants

Cassava sorghum composite flour shall not contain any metal contaminants in excess of levels specified in Table 3.

Table 3 – Limits for heavy metal contaminants in cassava sorghum composite flour

S/NO	Characteristics	Maximum (mg/kg)	Method of Test
1.	Lead (Pb)	0.2	TZS 1502
2.	Cadmium (Cd)	0.2	TZS 1581-2

6.1 Pesticide residues

Cassava sorghum composite flour shall conform to maximum residue limits for pesticide residues established by the Codex Alimentarius Commission for this commodity.

6.2 Mycotoxins

Table 4 – Limits for mycotoxin in cassava sorghum composite flour

S/NO	Characteristics	limits	Methods of test
1	Aflatoxin Total, ppb, max	10	TZS 799
2	Aflatoxin B ₁ , ppb,max	5	
3	Fumonisin, ppm max	2	

7 Packing, marking and labelling

7.1 Packing

Cassava sorghum composite flour shall be packed in suitable food grade materials.

7.2 Marking and labelling

In addition to the requirements of TZS 538; the following labeling requirements shall apply and shall be legibly and indelibly marked

- the common name of the food to be declared on the label shall be 'Cassava sorghum composite flour (Indicate particle size fine/medium)';
- the net weight;
- the name and physical address of the manufacturer / distributor;

- d) the country of origin;
- e) batch number;
- f) date of manufacture
- g) Expiry date
- h) storage conditions
- i) instructions on disposal of used package
- j) The language on the label shall be Swahili and/or English Another language may be used depending on the designated market.

8 Sampling and test

8.1 Sampling

Sampling of cassava sorghum composite flour shall be done according to TZS 330.

8.2 Test

Testing of cassava sorghum composite flour shall be done according to test methods prescribed in this standard.

NOTE: The TBS Standards Mark of Quality may be used by the manufacturers only under license from TBS. Particulars of conditions under which the license are granted may be obtained from TBS.