



DRAFT TANZANIA STANDARD

Breakfast cereals - Specification

0. Foreword

Breakfast cereal foods can be classified based on either the amount of time required for domestic cooking, the form of the breakfast cereal or the cereal used as a raw material. The types that require no cooking are called ready-to-eat cereals and these are available in a variety of forms. These ready-to-eat cereals are usually consumed with milk or water and with or without added sugar.

Development of this Tanzania standard was necessitated by the need to ensure the safety and quality of breakfast cereal being produced and or marketed in Tanzania as well as for import and export markets.

In preparation of this draft Tanzania standard assistance was drawn from KS523, *Standard for Breakfast cereal*.

In reporting the result of a test or analysis made in accordance with the Tanzania 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 the requirements, methods of sampling and test for flaked/puffed breakfast cereals including muesli and cereal bars, for direct 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.

CAC/GL 23 Guidelines for nutrition and health claims.

CODEX STAN 193, General standard for contaminants and toxins in food and feed

TZS 4 – Rounding off numerical values

TZS 109, Food processing units – Code of hygiene

TZS 117, Food – Handling of samples for microbiological analysis – Code of practice

TZS 122, Microbiology of food and feeding stuffs – Horizontal method for the detection of salmonella spp

TZS 125, 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 – Amendment 1: Inclusion of precision data

TZS 131, Microbiology of food and animal feeding stuffs: General guidance for enumeration of yeasts and moulds – Colony Count technique at 25°C

TZS 268, General atomic absorption spectrophotometric method for determination of lead in food and food stuff

TZS 330, Cereals and pulses — Sampling

TZS 331, Cereals and pulses — Test methods#

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

TZS 729-2 Microbiology of food and animal feeding stuffs –Horizontal method for the enumeration of coliforms – Colony count technique

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

TZS 1316, Spices and Condiments - Determination of total ash

TZS 1317, Spices and Condiments – Determination of acid insoluble ash

TZS 1502 Fruits, vegetables and derived products – Sampling and methods of test Part 14: Determination of arsenic content – Silver diethyldithiocarbamate spectrophotometric method

TZS 1770, Hazard Analysis and Critical Control Point (HACCP) System — Requirements for any organization in the food chain

3.0 Terms and definitions

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

3.1

flaked breakfast cereals

ready to eat breakfast cereals made by pressing cooked grain grits through rollers or by extrusion.

3.2

puffed breakfast cereals

ready to eat cereals made by exploding cooked grains from a pressurized chamber.

3.3

cereal bar

breakfast cereal made of a mixture of different cereal grains which are either flaked or puffed with optional additional ingredients such as dried fruits, nuts, seeds and may be coated with products like chocolates or any to other suitable food coating.

3.4

muesli

loose mixture of rolled cereal grains and other ingredients including dried fruits nuts and seeds.

3.5

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

4.0 General requirements

4.1 The cereal flakes/puffs shall be prepared from clean, sound grains, e.g. corn, wheat or rice, which complies with relevant Tanzania Standards.

4.2 If the cereal flakes/puffs are prepared from cereal flour, the flour used shall be of good quality and complying with relevant Tanzania Standards on various cereal flours.

4.3 The flakes/puffs shall be tender, crispy, and reasonably uniform in size and of characteristic flavor and color. Shall not be soggy.

4.4 The cereal flakes/puffs shall possess a good characteristic taste and odor and shall be free from rancid, musty, sour and other undesirable tastes and odors.

4.5 The flakes/puffs shall be free from insects and foreign matters.

4.6 When immersed in milk or water the product shall absorb the liquid and swell substantially, presenting a pleasant texture and taste. This will not apply to breakfast cereal bars.

4.7 The wheat flaked biscuits shall be of good flavor, color and of uniform size and design within the Group and the product shall not be soggy.

4.8 The clauses 4.3, 4.4, 4.5, 4.6 and 4.7 shall be determined by sensory evaluation panels.

5.0 Specific requirements

The cereal flakes/puffs and flaked cereal biscuits (ready-to-eat) shall comply with the requirements given in Tables 1

Table 1: Specific requirements for breakfast cereals

S/N	Parameter	Limits		Test method
1	Moisture (Max) % m/m	Muesli	12	TZS 331

		Others	7.5	Clause 5
		Cereal bars	14	
2	Protein min.) N x 6.25 % m/m		5.0	TZS 331 Clause 4
3	Total Fat Max% m/m	Corn flakes/puff	4	ISO 11085
		Muesli Cereal bars	14	
		Others	8	
4	Total Ash Max% m/m		6	TZS 1316
5	Acid Insoluble Ash Max% m/m		0.2	TZS1317
6	Total Fibre Max% m/m		12	ISO 5498

6.0 Hygiene

6.1 It is recommended that the produce covered by the provisions of this Standard be prepared and handled in accordance with TZS 109 and TZS 1770.

6.2 The produce should comply with any microbiological criteria established in accordance with TZS 117

6.3 To the extent possible in good agricultural practice, the products shall be free from objectionable mater.

6.4 Microbiological requirement

The flaked/puffed cereals shall comply with the microbiological limits given in Table 2.

Table 2 — Microbiological Limits for breakfast cereals

S/N	Parameter	Limits (Max)	Test method
1	Coliform bacteria cfu/g	10	TZS 729-2
2	<i>Salmonella sp.</i> 25g	absent	TZS 122
3	<i>Escherichia coli</i> cfu/g	absent	TZS 730
4	<i>Staphylococcus aureus</i> /25 g	absent	TZS 125
5	Yeast and moulds cfu/g	< 50	TZS 131

7.0 Contaminants

7.1 Pesticide residues

Flaked/puffed cereals shall comply with those pesticide residue limits established by the Codex Alimentarius Commission for this commodity.

7.2 Heavy metals

Flaked/puffed cereals shall be free from heavy metals in amounts which may represent a hazard to health. If present, they shall not exceed the limits established in Table 3.

Table 3 — Heavy metal contaminants limits

S/N	Heavy metals	Limits (max) in ppm	Test method
1	Arsenic (As),	0.1	TZS 1502
2	Lead (Pb),	0.2	TZS 268
4	Cadmium (Cd)	0.1	TZS 1490

7.3 Mycotoxin

Flaked/puffed cereals shall comply with the maximum limits for mycotoxins given in Table 4 when tested in accordance with the test methods prescribed therein.

Table 4 — Mycotoxin limits for breakfast cereals

S/N	Mycotoxin	limit (max)	Test method
i.	Total aflatoxins µg/kg	10	TZS 331/EAS 901 Clause 9
ii.	Aflatoxin B ₁ , µg/kg	5	

8.0 Packing, marking and labelling

8.1 The breakfast cereals shall be packed in well-sealed moisture proof food grade containers, which will protect the product from deterioration in quality and safety throughout the shelf life.

8.1.2 The fill of the container shall be packaged in accordance to the Weights and Measures of the relevant country regulation.

8.2 Marking and Labelling

8.2.1 Labelling of retail containers

In addition to the requirements in TZS 538, each package shall be legibly and indelibly labelled with the following on the container:

- a) (i) product name as “flaked/puffed cereals”, muesli and cereal bars
(ii) the cereal used for preparation of the breakfast cereal shall be declared before the product name.
- b) name, address and physical location of the producer/packer/importer;
- c) Brand name/ trade name;
- d) Country of origin
- e) lot/batch/code number;
- f) net weight, in metric units;
- g) Date of manufacture;
- h) Expiry date
- i) storage condition;
- j) instructions for use and disposal of used package;
- k) the declaration “Food for Human Consumption”

8.2.2 Labelling of non-retail containers

Information detailed in 9.1 shall be given either on the container or in accompanying documents, except that the name of the product, lot identification and the name and address of the processor or packer as well as storage instructions, shall appear on the container.

However, lot identification and the name and address of the processor or packer may be replaced by an identification mark provided that such a mark is clearly identifiable with the accompanying documents.

8.3 The use of pictorials or any other misrepresentation of the product on the label is prohibited.

8.4 Each container may be marked with the TBS standards mark of quality.

8.5 Nutrition and Health claims

Any Health and/or Nutrition claim on breakfast cereal products shall conform to the provisions of CAC/GL 23

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

9. Sampling

Sampling shall be done in accordance with the TZS 330.