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DRAFT TANZANIA STANDARD

Frozen fruits — Specification

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TANZANIA BUREAU OF STANDARDS

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0 Foreword

This Tanzania Standard was published under the authority of the Board of Directors of Tanzania Bureau of Standards.

Tanzania Bureau of Standards (TBS) is the statutory national standards body for Tanzania established by the Standards Act Cap. 130.

Tanzania Standards are developed through Technical Committees that are representative of key stakeholders including government, academia, consumer groups, private sector and other interested parties. The Technical Committees work under the supervision of Divisional (sectoral) Committees. The Standards are developed in accordance with the Guide and Procedure for Development of Tanzania Standards and TZS 0, *Guide for presentation of Tanzania Standards*.

Tanzania Standards are subject to review, to keep pace with science and technological advances. Users of the Tanzania Standards are therefore expected to ensure that they always have the latest versions of the standards they are implementing.

This Tanzania Standard was developed under the supervision of Agriculture and Food Divisional Standards Committee [AFDC]. The Technical Committee responsible for the standard is AFDC 12, Processed fruits and vegetables products

The reporting of 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, shall be done in accordance with TZS 4.

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Frozen fruits — Specification

1. Scope

This Tanzania standard specifies the requirements, sampling and test methods for frozen fruits 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.

CAC/RCP 8, *Recommended international code of practice for the processing and handling of quick frozen Foods*

CXS 192, *General Standard for Food Additives*

CXS 193, *General Standard for Contaminants and Toxins in Food and Feed*

TZS 109, *Food processing and manufacturing units -Code of hygiene -General*

TZS 118, *Microbiology of food and animal feeding stuffs - Horizontal method for the enumeration of microorganisms - Colony-count technique at 30 ^{o}C*

TZS 119, *Microbiology of food and animal feeding stuffs - Horizontal method for detection and enumeration of coliforms - Most probable number technique*

TZS 125, *Microbiology of food and animal feeding stuffs - Horizontal method for the enumeration of coagulase-positive staphylococci (Staphylococcus aureus and other species) - Part 2: Technique using rabbit plasma fibrinogen agar medium*

TZS 131, *Microbiology of food and animal feeding stuff - General guidance for enumeration of yeasts and moulds - Colony count technique at 25 ^{o}C*

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

TZS 538, *Pre -packaged food labelling - General requirements*

TZS 1581-1, *Fruits, vegetables and derived products - Determination of cadmium content - Part 1: Method using graphite furnace atomic absorption spectrometry*

3 Terms and definitions

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

3.1
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product prepared from fresh, clean, sound, and mature fruits, subjected to freezing (≤ -18 °C) in appropriate equipment and complies with the conditions specified in this standard.

4 Requirement

4.1.1 Frozen fruits shall be prepared from fruits complying with the relevant Tanzania standard.

4.1.2 Frozen fruits shall:

a) be fresh, mature, firm before thawing and soft after thawing;

b) be presented as whole, halved, sliced or cut

c) free from foreign flavour and odour;

d) have a characteristic colour of the fruit;

e) clean, practically free from sand and grit and free from other foreign material;

f) practically free from stalks, parts of stalks, calyces, leaves and other extraneous vegetable material; and

g) sound, practically free from mould, insect bites and other blemishes;

4.1.3 The temperature shall be -18°C (0°F) at the thermal centre of the frozen fruit.

5 Food additives

Frozen fruits may contain food additive in accordance with CXS 192.

6. Hygiene

6.1 Frozen fruits shall be processed in premises and an environment that is hygienically maintained and shall be handled in accordance with the requirements stipulated in TZS 109.

6.2 Frozen fruits shall be handled in conditions that will maintain the safety and quality during transportation, storage and distribution up to and including the time of final sale.

6.3 During storage, transportation, distribution and retail, frozen fruits shall also be handled in accordance with CAC/RCP 8.

6.4 Frozen fruits shall conform to the microbiological limit specified in Table 1 when tested in accordance with the test methods specified therein.

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Table 1 — Microbiological limit for frozen fruits

SNo	Microorganism	Limit	Test method
i.	Total plate count, *cfu/g*, max.	10^4	TZS 118
ii.	Coliforms, cfu/g, max.	Absent	TZS 119
iii.	Yeast and moulds, cfu/g, max	10^3	TZS 131
iv.	*Staphylococcus aureus*, in 1 g	Absent	TZS 125
v.	*Salmonella spp in 25 g*	Absent	TZS 122

7 Contaminants

7.1 Frozen fruits shall not contain heavy metal contaminants above the levels given in Table 2 when tested in accordance with the test methods specified therein.

Table 2— Maximum limits of heavy metal contaminants in frozen fruits

S/No.	Heavy Metal	Maximum level, mg/kg	Test methods
i.	Lead	0.2	TZS 268
ii.	Cadmium	0.05	TZS 1581-1

7.2 Pesticide residues

Frozen fruits shall comply with those maximum residue limits established by the Codex Alimentarius Commission for this product.

8 Sampling and tests method

8.1 Sampling

Sampling of frozen fruits shall be done in accordance with TZS 163.

8.2 Test methods

Frozen fruits shall be tested in accordance with test methods described in this Tanzania standard

9 Packaging, marking and labelling

9.1 Packaging

Frozen fruits shall be packaged in containers made from food grade material and sealed in a manner that will safeguard the hygienic, safety, nutritional and organoleptic properties of the product.

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9.2 Marking and labelling

In addition to the requirements specified under TZS 538, each container of frozen fruits shall be labelled legibly and indelibly with the following information:

a) The name of the product as “x frozen” “frozen x” where x is the name of the fruit;

b) Name and address of the manufacturer;

c) Brand or trade name;

d) Batch or code number;

e) Country of origin;

f) List of ingredients in descending order;

g) Date of packing;

h) Expiry date;

i) The net content;

j) Storage conditions; and

k) Instructions for use

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Bibliography

CXS 61:1981, *Codex Standard for quick-frozen raspberries*, and CXS 52:1981, *Codex Standard for quick-frozen strawberries*, published by the Codex Alimentarius Commission.

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