



DRAFT TANZANIA STANDARD

Butter – Specification

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0 FOREWORD

Butter is an important fat food item obtained by churning milk cream which has been separated from warm milk. Butter consists of unaltered fat globules moisture droplets imbedded in a continuous phase of butterfat. Textural properties are largely dependent on the proportion of liquid to solid fat in the continuous phase.

This standard has been prepared to ensure safety and quality of butter produced or traded in the country.

In the preparation of this Tanzania standard considerable assistance was drawn from EAS 22:2007, *Butter – Specification*; published by the East African Community.

In reporting, the results 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).

1.0 SCOPE

This Tanzania standard specifies requirements, methods of sampling and test for butter of dairy animal origin intended for human consumption.

2.0 REFERENCES

For the purpose of this Tanzania standard, the following references shall apply. 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 76 – Methods for determination of Arsenic

TZS 109 – Food processing units – code of hygiene

TZS 112 – Milk – Production, processing, transportation and distribution – code of hygiene.

TZS 118 – Microbiology of food and animal feeding stuffs – Horizontal method for enumeration of microorganisms – Colony count technique at 30 °C.

TZS 119 – Microbiology – General guidance for the enumeration of *coliforms* – Most Probable Number technique (MPN).

TZS 122 – Microbiology of food and animal feeding stuffs – Horizontal method for the detection of *Salmonella spp.*

TZS 124 - Milk and milk products – sampling for microbiological examination.

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 - General guidance for enumeration of yeast and moulds – Colony count technique at 25 °C.

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

TZS 253 – Butter – Method of sampling and test.

TZS 731 – Microbiology of food and feeding stuffs – Horizontal method for detection and enumeration of presumptive *Escherichia coli* – Most Probable Number Technique

Codex Stan 193 – Codex General Standard for Contaminants and Toxins in Food and Feed

ISO 3727-3:2003 – Butter -- Determination of moisture, non-fat solids and fat contents -- Part 3: Calculation of fat content.

ISO 8294 - Animal and vegetable fats and oils -- Determination of copper, iron and nickel contents -- Graphite furnace atomic absorption method

ISO 12193 - Animal and vegetable fats and oils -- Determination of lead by direct graphite furnace atomic absorption spectroscopy

CAC/MRL 2 – Maximum Residue Limits (MRLs) and Risk Management Recommendations (RMRs) for Residues of Veterinary Drugs in Foods.

3.0 TERMS AND DEFINITIONS

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

3.1 butter

fatty product obtained by churning milk fat or milk cream, principally in the form of an emulsion of the type water-in-oil.

3.2 fat content

the percentage by mass obtained by subtracting the water content and the solids-not fat content from 100.

4.0 REQUIREMENTS

4.1 General requirements

4.1.1 Raw materials

Milk or cream obtained from milk of dairy animal origin.

4.1.2 Permitted ingredients

- a) Sodium chloride/ salt.
- b) Cultures of harmless (non-pathogenic) lactic acid producing bacteria.
- c) Potable Water.
- d) Neutralizing salts – Sodium orthophosphate, Sodium carbonate, Sodium bicarbonate, Sodium hydroxide and Calcium hydroxide should be added at the maximum level of 2 g/kg singly or in combination expressed as anhydrous substances. The addition of these salts is restricted for pH adjustment.

4.1.3 Butter shall;

- a) be of characteristic flavour, colour, free from taint and rancidity.
- b) be firm, neither greasy nor oily at 25 °C and showing granular texture on breaking.
- c) not be watery.

4.2 Specific requirements

The specific requirement for butter shall be as prescribed in Table 1.

Table 1: Specific requirements for butter

S/No.	Characteristic	Requirement	Method of test (see clause 2)
1)	Milk fat, percentage by mass, Min	80	ISO 3727-3
2)	Milk solids-not fat content, percentage by mass, Max	2	ISO 3727-3
3)	Moisture content, percentage by mass, Max	16	TZS 253
4)	Salts, percentage by mass percentage by mass, Max	2	TZS 253
5)	pH	6.6 – 7.0	Annex A

4.3 Food additives

Food additives if used shall conform to the requirements prescribed in the Codex Stan 192.

5.0 CONTAMINANTS**5.1 Metal contaminants.**

Butter shall not contain any metal harmful to human health and when tested, the heavy metal limits shall not exceed the levels specified in Table 2.

Table 2: Metal contaminant limits for butter

S/No.	Contaminant	Maximum limit	Test method
1)	<i>Iron</i> (Fe), mg/kg	0.2	ISO 8294
2)	<i>Copper</i> (Cu), mg/kg	0.05	ISO 8294
3)	<i>Lead</i> (Pb), mg/kg	0.1	ISO 12193
4)	<i>Arsenic</i> (As), mg/kg	0.1	TZS 76

5.2 Pesticides and veterinary drug residues

Pesticides and Veterinary drug residues in butter shall conform to the maximum residual limits (MRLs) for pesticides and veterinary drug residues as prescribed in the CAC/MRL2.

5.3 Aflatoxin M1

Raw milk shall not contain aflatoxin M1 more than 0.5 µg/kg when tested in accordance with ISO 14674.

6.0 HYGIENE

6.1 Butter shall be prepared under strict hygienic conditions according to TZS 109 and TZS 112 (See clause 2).

6.2 Sample of butter tested shall not contain microbiological count more than the level prescribed in Table 3.

Table 3: Microbiological limits for butter

S/No.	Microorganisms	Limit	Methods of test (see clause 2)
i)	Total count, <i>cfu/g</i> , max	10 ⁵	TZS 118
ii)	<i>Escherichia coli</i> , <i>cfu/g</i>	Absent	TZS 731
iii)	<i>Salmonella spp</i> per 25g, <i>cfu/g</i>	Absent	TZS 122
iv)	<i>Yeast and Moulds</i> , <i>cfu/g</i> , max	10	TZS 131

7.0 SAMPLING AND TESTS

7.1 Sampling

Sampling of butter shall be done according to TZS 124 (see clause 2).

7.2 Tests

Testing of butter shall be done according to test methods prescribed in Tables 1, 2 and 3.

8.0 PACKAGING, MARKING AND LABELLING

8.1 Packaging

8.1.1 Butter shall be packed in approved clean and safe food grade containers recommended for butter packaging.

8.1.2 For retail market, the mass of butter in the presentation container shall be at intervals of 10g for packages below 100g and at intervals of 50g above 100g – 1kg and thereafter by steps of 1 kg.

8.2 Marking and labelling

In addition to marking and labelling requirements prescribed in TZS 538, butter containers shall be also legibly and indelibly marked with the following:

- a) Name of the product “butter”
- b) Country of origin
- c) Statement to indicate whether it is salted or unsalted
- d) Net content in metric units
- e) Manufacturing date
- f) Expiry date
- g) Nutritional information
- h) Storage condition
- i) List of ingredients
- j) The name and address of the manufacturer, packer, distributor, importer, exporter or vendor. The language on the label shall be “Kiswahili” or Kiswahili and English. Additional language may be used depending on the designated market.

8.3 The container may also be marked with TBS Certification Mark.

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

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