



DRAFT TANZANIA STANDARD

**Blend of skimmed milk and vegetable fat in powdered form —
Specification**

Draft standard for Discussion

0 FOREWORD

A blend of skimmed milk and vegetable fat in powdered form is a product prepared by the partial removal of water from milk constituents with the addition of edible vegetable oil, edible vegetable fat or a mixture thereof, to meet the compositional requirements of this Tanzania Standard.

This Tanzania Standard is prepared to guide the production of and to ensure the safety and quality of a blend of skimmed milk and vegetable fat in powdered form produced and or traded in the country. It is equivalent to Codex Standard 251-2006.

In reporting, the result 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 requirements, sampling and methods of test for blend of skimmed milk and vegetable fat in powdered form intended for direct human consumption or further processing.

2 NORMATIVE 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 109 – Food processing units – Code of hygiene

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

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

TZS 124 – Milk and milk products – Sampling for microbiological examination

TZS 131 – Microbiology – General guidance for enumeration of yeast and moulds – Colony count technique at 25 °C

TZS 125 – Microbiology of food and animal feeding stuffs – Horizontal method for enumeration of coagulase – Positive staphylococci (*Staphylococcus aureus* and other species)

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

TZS 731/ ISO 7251 – Microbiology of food and feeding stuffs – Horizontal method for detection and enumeration of presumptive *Escherichia coli* – Most Probable Number Technique

TZS 635 – Milk and milk products – Guidance on sampling and methods of test

TZS 1147-2 – Milk powders – Methods for the analysis – Part 2: Determination of moisture content (Reference method)

TZS 1147-3 – Milk powders – Methods for the analysis – Part 3: Determination of fat content – Gravimetric method (Reference method)

TZS 1147-5 – Milk powders – Methods for the analysis – Part 5: Determination of nitrogen content – Kjeldahl method

TZS 118/ISO 4833 – Microbiology of food and animal feeding stuffs – Horizontal method for enumeration of micro-organisms – Colony count technique at 30 °C

CODEX STAN 192 - *General standard for food additives*

3.0 TERMS AND DEFINITIONS

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

3.1 Milk retentate

the product obtained by concentrating milk protein by ultra-filtration of milk, partly skimmed milk, or skimmed milk

3.2 Milk permeate

the product obtained by removing milk proteins and milk fat from milk, partly skimmed milk or skimmed milk by ultra-filtration

3.3 Lactose

natural constituent of milk normally obtained from whey with an anhydrous lactose content of not less than 99.0 % m/m on a dry basis

Note: It may be anhydrous or contain one molecule of water of crystallization or be a mixture of both forms.

4. Requirements

4.1 General requirements

4.1.1 Raw materials

Skimmed milk and skimmed milk powders, other non-fat milk solids, and edible vegetable oils/ fats. The following milk products are allowed for protein adjustment purposes:

- a) Milk retentate
- b) Milk permeate and
- c) Lactose

4.1.2 Permitted nutrients

Vitamins and minerals may be added to levels not exceeding those naturally present in milk

4.2 Specific requirements

4.2.1 Specific requirements for blend of skimmed milk and vegetable fat in powdered form shall be as detailed in Table 1.

Table 1 – Specific requirements

S/NO	Component	Requirement	Methods of tests (see clause 2)
1.	Moisture content max. % m/m	5	TZS 1147 – 2
2.	Total fat content min. % m/m	26	TZS 1147 – 3
3.	Protein (MSNF) min.% m/m	34	TZS 1147 – 5

4.2.2 Specific requirements for reduced fat blend of skimmed milk powder and vegetable fat in powdered form shall be as detailed in Table 2.

Table 2: Specific requirements

S/NO	Component	Requirement	Methods of tests (see clause 2)
1.	Moisture content max. % m/m	5	TZS 1147 – 2
2.	Fat content , % m/m	>1.5 and <26	TZS 1147 – 3
3.	Protein (MSNF) min.% m/m	34	TZS 1147 – 5

5 Food additives

Only those food additives listed below may be used and only within limits specified level

Stabilizers

- 331(i) Sodium dihydrogen citrate
- 331(iii) Trisodium citrate

332(i) Potassium dihydrogen citrate
332(ii) Tripotassium citrate
508 Potassium chloride
509 Calcium chloride

Acidity regulators

This requirement “4400 mg/kg, singly or in a combination as phosphorous” shall be applied from 339(i) to 452(v)

339(i) Sodium dihydrogen phosphate
339(ii) Disodium hydrogen phosphate
339(iii) Trisodium phosphate
340(i) Potassium phosphate
340(ii) Dipotassium hydrogen phosphate
340(iii) Tripotassium phosphate
341(i) Calcium dihydrogen phosphate
341(ii) Calcium hydrogen phosphate
450(i) Disodium diphosphate
450(ii) Trisodium diphosphate
450(iii) Tetrasodium diphosphate
450(v) Tetrapotassium diphosphate
450(vi) Dicalcium diphosphate
450(vii) Calcium dihydrogen diphosphate
451(i) Pentasodium triphosphate
451(ii) Pentapotassium triphosphate
452(i) Sodium polyphosphate
452(ii) Potassium polyphosphate
452(iii) Sodium calcium polyphosphate
452(iv) Calcium polyphosphate
452(v) Ammonium polyphosphate
500(i) Sodium carbonate Limited by GMP
500(ii) Sodium hydrogen carbonate Limited by GMP
500(iii) Sodium sesquicarbonate Limited by GMP
501(i) Potassium carbonates Limited by GMP
501(ii) Potassium hydrogen carbonate Limited by GMP

Emulsifiers

322 Lecithins Limited by GMP
471 Mono- and diglycerides of fatty acids Limited by GMP

Anticaking agents

170(i) Calcium carbonate Limited by GMP
504(i) Magnesium carbonate Limited by GMP
530 Magnesium oxide Limited by GMP
551 Silicon dioxide, amorphous Limited by GMP
552 Calcium silicate Limited by GMP
553(i) Magnesium silicate, synthetic Limited by GMP
553(iii) Talc Limited by GMP
554 Sodium aluminosilicate Limited by GMP
556 Calcium aluminum silicate Limited by GMP
559 Aluminum silicate Limited by GMP
341(iii) Tricalcium phosphate 4400 mg/kg, singly or in combination as phosphorous
343(iii) Trimagnesium phosphate 4400 mg/kg, singly or in combination as phosphorous

Antioxidants

300 Ascorbic acid, L- 500 mg/kg, as ascorbic acid

301 Sodium ascorbate, L- 500 mg/kg, as ascorbic acid
 304 Ascorbyl palmitate, 80 mg/kg, singly or in combination as ascorbyl Stearate
 305 Ascorbyl stearate, 80 mg/kg, singly or in combination as ascorbyl Stearate

319 Tertiary butylhydroquinone, 100 mg/kg singly or in combination. Expressed on fat or oil basis

320 Buthylated hydroxyanisole, 100 mg/kg singly or in combination. Expressed on fat or oil basis

321 Buthylated hydroxytoluene, 100 mg/kg singly or in combination. Expressed on fat or oil basis

6 Contaminants

6.1 Pesticide residues

Product shall comply with maximum limit residues set by Codex Alimentarius Commission.

6.2 Veterinary drugs residues

Product shall comply with maximum limit residues for antibiotics and other veterinary drugs set by Codex Alimentarius Commission.

6.3 Heavy metals

When tested in accordance with AOAC 999.10, the level of Lead (Pb) shall not exceed 0.02 mg/kg.

6.4 Mycotoxins

When tested in accordance with ISO 14501, the level of aflatoxin M1 shall not exceed 0.50 µg/kg.

7 Hygiene

7.1 It is recommended that the product covered by the provisions of this Tanzania Standard be prepared and handled in accordance with the appropriate sections of the TZS 109 and TZS 112.

6.2 The product on testing shall not exceed microbiological limits given in Table 3.

Table 3 — Microbiological limits

S/NO	Microorganism	Limit	Methods of tests
1.	Total plate Count, cfu/g, max	5 x 10 ⁴	TZS 118
2.	Coliform, cfu/g	Absent	TZS 119
3.	<i>Salmonella</i> spp. /25g	Absent	TZS 122
4.	<i>Escherichia coli</i> , cfu/g	Absent	TZS 731
5.	<i>Staphylococcus aureus</i> , cfu/g	Absent	TZS 125
6.	Yeast and mould, cfu/g, max	10	TZS 131

8 Sampling

Sampling of the product covered under this Tanzania Standard shall be done according to TZS 124 and TZS 635

9 Packing, marking and labeling

If the product covered under this Tanzania Standards use artificial sweetener as an additive, provision for packing, marking and labeling shall be as detailed in annex A of this Tanzania Standard and the level of use shall be as shown in Codex Stan 192

8.1 Packing

Product covered under this Tanzania Standard shall be packed in materials that are food grade and that shall not impart any toxic substance or undesirable smell or taste to the product.

8.2 Marking and labeling

8.2.1 In addition to marking and labelling requirements prescribed in TZS 538, Blend of skimmed milk and vegetable fat in powdered containers shall be also legibly and indelibly marked with the following:

The following particulars shall be clearly labeled on each container:

a) Name of the food. Shall be:

- i. Blend of Skimmed Milk and Vegetable Fat in Powdered Form; or
- ii. Reduced Fat Blend of Skimmed Milk and Vegetable Fat in Powdered Form.

b) Declaration of total fat content

Shall be declared as a percentage by mass or volume. A statement shall appear on the label as to the presence of edible vegetable fat and/or edible vegetable oil and the common name of the vegetable from which the fat or oil is derived shall be included in the name of the food or as a separate statement.

c) Declaration of milk protein

Shall be declared as a percentage by mass or volume.

d) List of ingredients

Complete list of ingredients shall be declared.

e) Advisory Statement

A statement "NOT SUITABLE FOR INFANTS" and its Kiswahili equivalent "HAYAFAI KWA WATOTO WACHANGA" shall appear on the label to indicate that the product should not be used as a substitute for infant formula.

f) Net content

g) Name, physical and postal address of the manufacturer or packer

h) Country of origin

i) Date of manufacture and expiry

j) Brand name of the product

k) Storage condition

l) Batch or code number

m) 8.2.2 The containers may also be marked with the TBS Standards Mark of Quality.

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.

**Annex A
(Normative)
Packaging, marking and labeling**

A.1 Packaging

Blend of skimmed milk and vegetable fat in powdered form shall be packed in suitable food grade containers, which are inert, moisture proof and hermetically sealed. Where packaging is done in cans, they shall be lacquered. The can shall have a plastic lid after the hermetic seal to ensure good hygienic conditions after opening the can during usage.

- a) The containers shall be filled under strict hygienic conditions
- b) If the product is packed in sachets, the sachets shall also be labeled.
- c) Labeling shall be made to the main containers if used.

A.2 Marking and labeling

The following information shall appear legibly on each container or label:

- a) The “common name” of the product shall reflect the sugar free nature of the product.
- b) Name, postal and physical address of the manufacturer or packer
- c) List of ingredients in descending order, including specific names of additives and/or the International numbering (INS)
- d) Net mass in g or kg
- e) Batch identification number in code or in clear
- f) Date of manufacture and expiry or best before date
- g) Country of manufacture
- h) Storage condition
- i) Trade or brand name
- j) Instruction on how to prepare/use
- k) A statement “THIS PRODUCT IS PROHIBITED FOR CHILDREN UNDER 5 YEARS OF AGE” and the statement shall be written in Kiswahili as follows, “BIDHAA HII, HAIRUHUSIWI KUTUMIWA NA WATOTO CHINI YA MIAKA 5”.
- l) A statement that shall prominently feature on the label that the drink contains an artificial Sweetener.

NOTE — If the blend of skimmed milk and vegetable fat in powdered form to which aspartame or any other approved artificial sweetener has been added is displayed for retail sale other than in a package, there must be displayed in connection with the product in standard 50 % of the label size, a statement that the product contains an artificial sweetener together with the statement “Phenyketonuric: contains Phenylalanine

- m) The language on the label shall be in “Kiswahili” or English. A third language may be used depending on the designated market.
- n) The use of pictorials or any other misrepresentation of the product on the label is **prohibited**.